PROPOSED RIVIERA TUNGSTEN PROJECT MAGISTERIAL DISTRICT OF PIKETBERG WESTERN CAPE PROVINCE

DRAFT SCOPING REPORT

REFERENCE NUMBER: WC 30/5/1/2/2/10110 MR

JANUARY 2019

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EXECUTIVE SUMMARY

The Applicant, Bongani Minerals (Pty) Ltd, applied for environmental authorisation to mine tungsten and molybdenum from a 531.4405 ha area that extends over Portion 1 of Farm 297 RD, Portion 6 (Remaining Extent) of the farm Namaquasfontein 76 RD, and Portion 21 of the farm Namaquasfontein 76 RD.

Upon commencement, the proposed project will trigger listed activities in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended 2017) 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 that informs the competent authority (Department of Mineral Resources) when considering the environmental authorisation. This report, the Draft Scoping Report, forms part of the departmental requirements, and presents the first report of the EIA process.

The Applicant held a prospecting right (WC 30/5/1/1/2/10197 PR) over the proposed mining right application area for tungsten (W) ore, molybdenum (Mo) ore, rare earths, copper ore, zinc ore, gold ore and silver ore that lapsed in December 2018. Owing to the prospecting outcome, the applicant applied for a mining right for the winning of tungsten and molybdenum.

Should the MR be issued and the mining of tungsten and molybdenum be allowed, the Riviera Tungsten project will comprise of activities that can be divided into 3 key phases namely the:

(1) *Site establishment/construction phase* which will involve the demarcation of the site boundaries and required buffer no-go zones pertaining to existing infrastructure and areas of significant importance (such as but not limited to watercourse, wetlands, Critical Biodiversity Areas (CBA) and/or Ecological Support Areas (ESA)) identified during the environmental impact assessment. Site establishment will further necessitate the clearing of vegetation, stripping and stockpiling of topsoil, and establishing site infrastructure.

(2) *Operational phase* that is presently expected to be executed in two phases starting with opencast mining that will progress to underground mining through the use of incline shafts. Excavated material will be processed to produce APT that will in turn be transported from site to an offsite metallurgical plant at Saldanha Bay, from where the sealable products will be exported via the multi-purpose terminal of Saldanha Bay Harbour.

(3) *Decommissioning phase* which will involve the rehabilitation, sloping and landscaping of all affected areas, the replacement of topsoil, and the removal of all infrastructure no longer needed by the landowners. The right holder will further be responsible for the seeding of all rehabilitated areas. Once the full mining area is rehabilitated, the mining right holder will be required to submit a closure application to the Department of Mineral Resources in accordance with section 43(4) of the MPRDA, 2002. The Closure Application will be submitted in terms of Regulation 62 of the MPRDA, 2002, and Government Notice 940 of NEMA, 1998.

Site Alternatives

Site Alternative 1 entails the proposed mining of an area within the boundaries of the above mentioned properties. Should additional viable site alternatives be identified during the EIA process, the project team will heed the suggestions and investigate the possibility of implementation thereof.

Project Alternatives

Project Alterative 1 entails the extraction of the tungsten-molybdenum resource in two phases through opencast- and underground mining operations. Processing of excavated material on site to produce APT that is transported to the Saldanha Bay metallurgical plant, and the export of the final product via the Saldanha Bay harbour. Additional project alternatives can be considered during the EIA process as supplementary information is obtained from the specialist studies, contributed by the stakeholders and I&AP's, and adjusted by the project team.

Technology/Design Alternatives

Technology/design principles will be considered by the Applicant and project team during the EIA process.

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. In the event that the no-go alternative is implemented the land use of the area will remain that of agriculture, conservation, livestock farming and tourism with the tungsten resources unmined. Amongst others, the socio-economic impact of mining on current, and future agriculture and tourism 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.

Public participation process

During the initial public participation process the stakeholders and I&AP's were informed of the project by means of background information documents that were sent directly to the contact persons. Due to the compulsory exclusion period over the holidays, the 30-days commenting period was extended with commenting/registration welcome from 10 December 2018 to 5 February 2019. An advertisements was placed in Die Burger, with on-site notices placed in noticeable areas.

In accordance with the timeframes stipulated in the EIA Regulations, 2014 (as amended by GNR 326 effective 7 April 2017) the Draft Scoping Report (this report) was compiled to allow perusal of the report by the I&AP's and stakeholders listed above. A 30 day commenting period will be allowed for perusal of the documentation by the I&AP's and stakeholders which will expire 12 February 2019. Comments received on the Draft Scoping Report will be incorporated into the Final Scoping Report to be approved by the DMR.

Scoping Report

The scoping report identifies the potential positive and negative impacts that the proposed activity and alternatives will 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. Various alternatives (project, technology, design etc.) that will in turn dictate the design and layout of the proposed project as well as hone the proposed mining method.
2. Upon deciding on the preferred alternatives, the applicability of the listed activities identified in terms of the NEMA EIA Regulations, 2017 will be confirmed and aligned with the most recent proposal.
3. 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.
4. 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.
5. The findings, recommendations and management measure proposed in the specialist reports will be assessed during the EIA process and incorporated into the DEIAR. The following specialists were appointed as part of the project team:
   - Agricultural Impact Assessment (Mr. J Lanz);
   - Air, Dust and Noise Impact Study (Enviroworks);
   - Ecological Study (Enviro-Niche Consulting);
   - Engineering Services Report;
   - Freshwater Ecological Assessment (Scientific Aquatic Services);
   - Heritage Impact Assessment (Mr. FP Coetzee);
   - Hydrogeological Assessment (GHT Consulting Scientists);
   - Palaeontological Impact Assessment (Dr. H Fourie);
   - Socio-economic Impact Assessment (Enviroworks); and
   - Traffic Impact Assessment (BVI Consulting Engineers).
6. The impact of the proposed project on the physical-, biological-, and human environments will be assessed.
7. Mitigation measures will be proposed to control, modify, remedy or stop the impacts associated with the proposed activity on the surrounding environment.
8. Any additional requirements submitted by the DMR will be incorporated into the DEIAR and treated accordingly.

Registered I&AP's and stakeholders will be provided with a copy of the Draft Scoping Report for their perusal, while the rest of the stakeholders and I&AP's (unregistered) will be notified of the availability of the DSR should they be interested. An electronic copy of the document will be available on the Greenmined website, and a hard copy of the document (DSR) will be placed at the Piketberg Public Library and the Redelinghuys Public Library for public perusal. Additional comments will be added to the Final Scoping Report to be submitted to the DMR for approval. 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 DMR in terms of the National Environmental Management Act, 1998 in respect of listed activities that have been trigger by this application will be used to assess the information with regard to the proposed mining project.

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LIST OF ACRONYMS

AGM	Late-stage Aphanitic Granite-monzogranite
APT	Ammonium Paratungstate
ASTM	American Society for Testing and Materials
BID	Background Information Document
BLM	Bergrivier Local Municipality
BLSA	BirdLife South Africa
BMG	Biotite Monzogranite
CARA	Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983)
CBA	Critical Biodiversity Areas
CRR	Comments and Response Report
CWCBR	Cape West Coast Biosphere Reserve
DEA&DP	Department of Environmental Affairs and Development Planning
DEIAR	Draft Environmental Impact Assessment Report
DMR	Department of Mineral Resources
DoA	Department of Agriculture
DSR	Draft Scoping Report
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EBEDAG	Elands Bay Environment and Development Action Group
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIS	Ecological Importance and Sensitivity
EMPR	Environmental Management Programme
ESA	Ecological Support Areas
EWT	Endangered Wildlife Trust
FEIAR	Final Environmental Impact Assessment Report
FSR	Final Scoping Report
HAS	Hazardous Substances Act, 1973 (Act No 15 of 1973)
HIA	Heritage Impact Assessment
HWC	Heritage Western Cape
I&AP	Interested and Affected Party
IDP	Integrated Development Plan
LED	Local Economic Development
LUPA	Land Use Planning Act, 2014 (Act No 13 of 2014)
HSA	Mine Health and Safety Act, 1996 (Act No 29 of 1996)
JPTT	Joint Planning Task Team
Mo	Molybdenum
MPE	Moutonshoek Protected Environment

MPRDA	Minerals and Petroleum Resources Development Act, 2002 (Act No 28 of 2002)
MR	Mining Right
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:PAA	National Environmental Management: Protected Areas Act, 2003 (Act No 57 of 2003)
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)
PA1	Project Alternative 1
PCB's	Polychlorinated Biphenyls
PCO	Pest Control Officer
PE	Protected Environment
PES	Present Ecological State
PPE	Personal Protection Equipment
PR	Prospecting Right
PSDF	Provincial Spatial Development Framework
QMP	Early Quartz Monzonite Porphyry
ROM	Run of Mine
SA1	Site Alternative 1
SAMRAD	South African Mining Mineral Resources Administration System
SANParks	South African National Parks
SANS	South African National Standards
SLP	Social and Labour Plan
TIA	Traffic Impact Assessment
W	Tungsten
WCBR	Western Cape Biosphere Reserve
WCDM	West Coast District Municipality
WESSA	Wildlife and Environment Society of South Africa

mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

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

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

NAME OF APPLICANT: Bongani Minerals (Pty) Ltd

TEL NO: 060 785 2780

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POSTAL ADDRESS: Suite 51, Private Bag X3018, Strand, 7139

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FILE REFERENCE NUMBER SAMRAD: WC 30/5/1/2/2/10110 MR

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.

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SCOPING REPORT

2) CONTACT PERSON AND CORRESPONDENCE ADDRESS

a) Details of: Greenmined Environmental

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 aforementioned Act. Bongani Minerals (Pty) Ltd (hereinafter the "Applicant") appointed Greenmined Environmental (Pty) Ltd (hereinafter "Greenmined") to undertake the study needed. Greenmined has no vested interest in Bongani Minerals (Pty) Ltd or the proposed project and hereby declares its independence as required by the EIA Regulations, 2014 (as amended 2017).

i) The EAP who prepared the report

Name of the Practitioner: Ms. Christine Fouche (Senior Environmental Consultant)

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. Fouche 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. Fouche has thirteen years' experience in doing Environmental Impact Assessments and Mining Applications in South Africa. See a list of past project attached as **Appendix 2**.

b) Description of the property

Farm Name:	⁎ Portion 1 of Farm 297 RD; ⁎ Portion 6 (Remaining Extent) of the farm Namaquasfontein 76 RD; ⁎ Portion 21 of the farm Namaquasfontein 76 RD.
Application area (Ha)	531.4405 ha
Magisterial district	Piketberg
Distance and direction from nearest town	The proposed Riviera Tungsten project is located in the Moutonshoek Valley (also known as the Krom Antonies River Valley), ±53 km north-west of Piketberg by road. Redelinghuys is situated about 40 km north-west of the proposed mining area.
21 digit Surveyor General Code for each farm portion	⁎ C05800000000029700001 ⁎ C05800000000007600006 ⁎ C05800000000007600021

c) Locality map

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

The requested map is attached as **Appendix 3**.

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, Bongani Minerals (Pty) Ltd, applied for environmental authorisation to mine tungsten and molybdenum from a 531.4405 ha area that extends over Portion 1 of Farm 297 RD, Portion 6 (Remaining Extent) of the farm Namaquasfontein 76 RD, and Portion 21 of the farm Namaquasfontein 76 RD.

Should the Applicant be issued with a mining right (MR) and the project commence, the principal mining activities is expected to include the following:

- Site establishment;
- Stripping and stockpiling of topsoil;
- Overburden stripping and stockpiling to access the ore;
- Opencast mining;
- Underground mining;
- Transporting and stockpiling of run of mine (ROM);
- Processing of ROM and production of ammonium paratungstate (APT);

- Transport of APT to Saldanha metallurgical plant;
- Sloping and landscaping upon closure of the operation; and
- Replacing the topsoil and vegetating the disturbed areas.

Presently the preliminary layout of the mining area is expected to include the following:

- Opencast pit with access to decline shafts;
- Overburden rock stockpiles;
- Processing plant;
- ROM stockpiles;
- A slimes dam;
- Offices and ablutions;
- Maintenance and store rooms;
- Laboratory;
- Explosives magazine;
- APT product warehouse;
- Water storage;
- Diesel depot; and
- Internal roads.

Upon commencement, the proposed project will trigger listed activities (see Table below) in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) and the Environmental Impact Assessment Regulations 2014 (as amended 2017) 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 that informs the competent authority (Department of Mineral Resources) when considering the environmental authorisation.

See attached as **Appendix 4** a copy of the preliminary site layout plan and -schematic representation of the proposed mining activities.

Table 1: Listed and specified activities triggered by the associated mining activities.

NAME OF ACTIVITY (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.)	**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
Application for a mining right.	531.4405 ha	X	GNR 324 LN 3 Activity 4, 12, 18 GNR 325 LN 2 Activity 15, 17 GNR 327 LN 1 Activity 14, 22, 24, 28, 56
Demarcation of the site with visible beacons.	531.4405 ha	N/A	N/A
Site establishment.	±62 ha	N/A	N/A
Pre-stripping of top layer and stockpiling of topsoil.	±62 ha (Infrastructure) ±400 m (Opencast pit)	X	GNR 324 LN 3 Activity 12 GNR 325 LN 2 Activity 15, 17 GNR 327 LN 1 Activity 28
Overburden stripping to access the ore and stockpiling.	±400 m (Opencast pit) ±47.83 ha (Stockpile area)	X	GNR 325 LN 2 Activity 17
Opencast mining	±400 m (Opencast pit)	X	GNR 325 LN 2 Activity 17
Underground mining	No additional surface footprint	X	GNR 325 LN 2 Activity 17
Stockpiling and transporting of ROM	±3 ha (Processing area)	X	GNR 324 LN 3 Activity 4, 18 GNR 327 LN 1 Activity 24, 56
Processing of ROM and production of APT	±3 ha (Processing area)	X	GNR 325 LN 2 Activity 17 GNR 327 LN 1 Activity 14
Transport of APT to Saldanha metallurgical plant	±11 km (Mining area to R366)	X	GNR 324 LN 3 Activity 4, 18 GNR 327 LN 1 Activity 24, 56
Sloping and landscaping upon closure of the site	±350 ha	X	GNR 327 LN 1 Activity 22
Replacing the topsoil and vegetating the disturbed area	±350 ha	X	GNR 327 LN 1 Activity 22

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 TO THE DISCOVERY OF TUNGSTEN WITHIN THE MOUTONSHOEK VALLEY

(Information extracted from the Scoping Report for the Proposed Riviera Tunsten Open-Cast Mining Project, Withers Environmental Consultants, 2009)

Union Carbide Corporation was a major producer and supplier of tungsten and derivative products to end-user manufacturing industries during the 1970's. The corporation owned and managed two mines in the USA and one in Brazil, which neared the end of life of mine by 1975. A decision was accordingly made to explore for tungsten in North America, South Africa, Australia and Brazil.

In 1975, fifty grains of scheelite (ore of tungsten) were recorded (against a regional background of 0 grains) in a single sample taken from the Krom Antonies River. In 1979 Union Carbide, entered into a joint venture agreement with Anglo American, which culminated in the utilization of a combination rotary/diamond drill rig to test for alluvial scheelite and to obtain samples of the underlying bedrock. Exploration intersected a highly altered granite with visible grains of interstitial scheelite, molybdenite, pyrite, pyrrohite and chalcopyrite. By 1980 five shallow bedrock identification holes had outlined the sub-outcropping extent of the granite over an area of 1km^2 and confirmed that mineralization was pervasive (Walker 1994). Walker (1994) regarded the combination of greisen, skarn and extensive hydrothermal alteration and mineralization at Riviera as unique. The Riviera Tungsten mineralisation or ore body occurs as a concentrate associated with the granite and as a disseminated body associated with ancient alluvial deposits. The whole ore body is located on Portion 1 of Farm 297, Portion 6 (Remaining Extent) of Namaquasfontein and Portion 21 of Namaquasfontein 76.

PROJECT PROPOSAL

The Applicant held a prospecting right (WC 30/5/1/1/2/10197 PR) over the proposed mining right application area for tungsten (W) ore, molybdenum (Mo) ore, rare earths, copper ore, zinc ore, gold ore and silver ore that lapsed in December 2018. Owing to the prospecting outcome, the applicant applied for a mining right for the winning of tungsten and molybdenum.

Should the MR be issued and the mining of tungsten and molybdenum be allowed, the Riviera Tungsten project will comprise of activities that can be divided into 3 key phases (discussed in more detail below) namely the:

(4) *Site establishment/construction phase* which will involve the demarcation of the site boundaries and required buffer no-go zones pertaining to existing infrastructure and areas of significant importance (such as but not limited to watercourse, wetlands, Critical Biodiversity Areas (CBA) and/or Ecological Support Areas (ESA)) identified during the environmental impact assessment. Site establishment will further necessitate the clearing of vegetation, stripping and stockpiling of topsoil, and establishing site infrastructure.

(5) *Operational phase* that is presently expected to be executed in two phases starting with opencast mining that will progress to underground mining through the use of incline shafts. Excavated material will be processed to produce APT that will in turn be transported from site to an offsite metallurgical plant at Saldanha Bay, from where the sealable products will be exported via the multi-purpose terminal of Saldanha Bay Harbour.

(6) *Decommissioning phase* which will involve the rehabilitation, sloping and landscaping of all affected areas, the replacement of topsoil, and the removal of all infrastructure no longer needed by the landowners. The right holder will further be responsible for the seeding of all rehabilitated areas. Once the full mining area is rehabilitated, the mining right holder will be required to submit a closure application to the Department of Mineral Resources in accordance with section 43(4) of the MPRDA, 2002. The Closure Application will be submitted in terms of Regulation 62 of the MPRDA, 2002, and Government Notice 940 of NEMA, 1998.

As mentioned earlier, should the project be authorised the layout of the mining area is expected to consist of the following:

- Opencast pit with access to decline shafts;
- Overburden rock stockpiles;
- Processing plant;
- ROM stockpiles;
- A slimes dam;
- Offices and ablutions;
- Maintenance and store rooms;
- Laboratory;
- Explosives magazine;
- APT product warehouse;
- Water storage;
- Diesel depot; and
- Internal roads.

PHASES OF THE PROJECT

(1) Site Establishment / Construction phase:

Site establishment entails the demarcation of mining boundaries, clearance of vegetation (where necessary), and stripping and stockpiling of topsoil to establish mining related infrastructure, stockpile areas and the excavation zone as detailed below:

- Demarcation of mining boundaries:

  Pursuant to receipt of an Environmental Authorisation (EA) and Mining Right (MR), and prior to site establishment, the boundary of the mining area has to be demarcated. Project specific areas to

be demarcated within the boundary of the mining footprint will include, but not be limited to, all "no-go" buffer zones identified during the EIA process, stockpile areas, the excavation, processing area (including offices, storage, and workshops), water storage and slimes dam, and the buffer associated with the explosives magazine.

- Clearing of vegetation:

Swartland Shale Renosterveld, Leipoldtville Sand Fynbos, Piketberg Sandstone Fynbos, Piketberg Quartz Succulent Shrubland, Cape Lowland Alluvial Vegetation, and Cape Lowland Freshwater Wetlands are potential vegetation types which are present alternatively may be present on site. The footprint area of the proposed mining right extends over an area extensively altered for agricultural purposes and although the natural vegetation was removed from the foremost portion of the earmarked footprint, areas with natural occurring vegetation are still present. In the circumstance the removal of vegetation (altered/natural) will be necessary to access the resource.

Dr PJ du Preez was commissioned to undertake a detailed ecological assessment with regard to the terrestrial fauna and flora of the study area as part of the EIA process. The flora-part of the study will assess 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 mining footprint area, instruct on the management of red data species, identify the presence and distribution of threatened plants present in the study area supporting indigenous vegetation in the highly disturbed Krom Antonies River Valley, determine the impact that the proposed mining activity will have on the conservation status of natural vegetation in the mining area, and propose management and mitigation measures for identified impacts. The report will form part of the draft environmental impact assessment report (DEIAR) to be circulated for public comment in due course. The intention is to minimize the removal of natural vegetation, and to in the end restore the footprint area to land suitable for agricultural/conservation purposes upon lapse of the mining right.

- Topsoil Stripping:

It is proposed that topsoil removal will be restricted to the exact footprint of areas required during the operational phase of the activity. The topsoil will be stockpiled at a designated signposted area within the mining boundary to be replaced during the rehabilitation of the area. It will be part of the obligations 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. 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 1.5 m in height in order to preserve micro-organisms within the topsoil, which can be lost due to compaction and lack of oxygen.

- Access Roads:

Presently it is proposed that access to the earmarked properties will be from the existing DR02172, currently used by landowners and the public to access the valley. Within the mining boundary, the Applicant will strive to make use of the existing farm roads as far as possible, however some new roads, or upgrading of existing roads will be required. Haul roads will be extended as opencast mining progresses, and will be rehabilitated as part of the final reinstatement of the area. Road and traffic related detail will be discussed in the engineering services report that will form part of the DEIAR.

BVI Engineering was contracted to undertake a traffic impact assessment (TIA) to identify the potential impact that the proposed activity may have on the study area. The TIA will include traffic counts, analysis of date, scenario data, a conclusion and recommendations to mitigate identified impacts and be included in the DEAIR.

- Establishment of Site Infrastructure:

The detail with regard to site infrastructure and the supporting services will be discussed in the engineering services report that will form part of the DEIAR. Currently, the proposed site infrastructure to be established within the mining footprint area is expected to consist of:

- Cleaners, roughers, storage equipment and buildings associated with the processing activities;
- Crusher infrastructure;
- Explosives magazine;
- Fencing of designated areas;
- Internal access and haul roads;
- Offices and ablution facilities;
- Parking and laydown areas;
- Security building;
- Slimes dam;
- Stores and workshops; and
- Water storage infrastructure.

(2) Operational phase:

The proposed mining method to be implemented (subject to approval of the MR) will be executed in two phases. The first phase will focus on pre-stripping the top layer material, of which the topsoil will be stored separately for rehabilitation, then overburden stripping to access the ore body, and then 20 m of opencast mining (±400 m) on the shallowest region of the ore body (dome shaped deposit). The mining technology to be used during years 1-4 (phase 1) will include drilling and blasting with associated truck and shovel operations.

Phase 2 will commence after the initial opencast mining, and entail decline shafts to be mined from the existing pit both north and south, as well as an eventual west expansion later in the life of mine. Plant slimes and sand will be used as backfill when applicable. When mining proceed to the decline shafts drilling, blasting and a load and haul operation will be maintained, with machinery reducing in size due to height restrictions. The mining operation is proposed to extend to a depth of 220 m maximum. Except for drilling and blasting that will work day shift, all mining operations will be run on a 24 hour 7 days a week schedule.

All excavated material (run of mine / ROM) will be trucked to a ROM stockpile in front of the primary crusher or tipped directly into the crusher itself. At the processing plant the excavated material will be crushed through a jaw crusher and then screened. Upon being milled the material will be spiralled, de-slimed, dewatered, and vibrated to produce a concentrate that will contain the tungsten and molybdenum. This concentrate will be floated to produce a high grade concentrate that will undergo an acid leach to produce a saleable product called APT (ammonium paratungstate). APT is a white crystalline salt of ammonium and tungsten produced when tungsten is separated from its ore. The APT will be transported from the mining area to a metallurgical plant in the industrial development zone of Saldanha Bay Harbour, where further beneficiation can be applied if needed. The tungsten and molybdenum products from the proposed mining operation will be exported via the multi-purpose terminal in Saldanha bay.

Currently it is proposed that ±350 ha of the 531.44 ha mining right area will be altered by the proposed mining activity. The total life of mine of the project is expected to be 21 years from start of project and 15 years from start of production, and the applicant will apply for the mining right to be valid for a 30-years period.

As mentioned earlier, currently the mining activities are expected to entail the following:

- Site establishment;
- Stripping and stockpiling of topsoil;
- Overburden stripping and stockpiling to access the ore;
- Opencast mining;
- Underground mining;
- Transporting and stockpiling of run of mine (ROM);
- Processing of ROM and production of ammonium paratungstate (APT);
- Transport of APT to Saldanha metallurgical plant;
- Sloping and landscaping upon closure of the operation; and
- Replacing the topsoil and vegetating the disturbed areas.

(3) Decommissioning phase:

The closure objectives will be detailed in the Environmental Impact Assessment Report and Environmental Management Programme, to be submitted as part of the application process for approval by the Department of Mineral Resources. 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 weed / alien clearing.
- All unwanted infrastructures, equipment, and other items used during the mining 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 mining 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 weeds and 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).
- Final rehabilitation shall be completed within a period specified by the Regional Manager.

Once the full mining area was rehabilitated the mining right holder is required to submit a closure application to the Department of Mineral Resources 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 2: 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**
Bergrivier Municipality By-Law relating to Municipal Land Use Planning, 2018. Bergrivier Municipality Integrated Development Plan, 2017 - 2022. Bergrivier Spatial Development Framework, 2012 - 2017. Bergrivier Municipality Ward Plan, Ward 5, 2017 - 2022.	The project proposal will take the requirements of the Bergrivier municipal bylaws and management policies into account.
Cape Nature and Environmental Conservation Ordinance, 1974 (Ordinance No. 19 of 1974).	Assessment of biophysical environment and current land use.
Conservation of Agricultural Resources Act, 1983 (Act No. 43 of 1983). Subdivision of Agricultural Land Act, 1970 (Act No. 70 of 1970).	Assessment of biophysical environment and current land use.
Convention on Wetlands of International Importance Especially as Waterfowl Habitat.	Verlorenvlei has been listed as RAMSAR site No. 525 in June 1991; Wetlands International Site Reference No.: 1ZA009. The RAMSAR status of Verlorenvlei takes president and accordingly directs the mining project proposal.
Hazardous Substances Act, 1973 (Act 15 of 1973)	The mitigation measures proposed for the project take into account the HAS, 1973.
Land Use Planning Act, 2014 (Act No. 13 of 2014) Western Cape Land Use Planning Act, 2014 (Act No. 3 of 2014)	The proposed project requires a land development application to Provincial Government (DEA&DP) in terms of Section 53 of the Land Use Planning Act, 2014. The above mentioned

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
	rezoning application will be submitted in due course.
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 take into account the MHSA, 1996.
Mineral and Petroleum Resources Development Act, 2002 (Act No 28 of 2002) read together with applicable amendments and regulations thereto.	Application for a mining right. Reference number: WC30/5/1/2/2/10110 MR
National Environmental Management Act,1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2014 (as amended by GNR 326 effective 7 April 2017): ℵ GNR 324 Listing Notice 3 Activity 4 ℵ GNR 324 Listing Notice 3 Activity 12 ℵ GNR 324 Listing Notice 3 Activity 18 ℵ GNR 325 Listing Notice 2 Activity 15 ℵ GNR 325 Listing Notice 2 Activity 17 ℵ GNR 327 Listing Notice 1 Activity 14 ℵ GNR 327 Listing Notice 1 Activity 22 ℵ GNR 327 Listing Notice 1 Activity 24 ℵ GNR 327 Listing Notice 1 Activity 28 ℵ GNR 327 Listing Notice 1 Activity 56	Application for environmental authorisation. Reference number: WC30/5/1/2/2/10110MR
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 take into account 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.

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**
National Environmental Management: Protected Areas Act, 2003 (Act No. 57 of 2003). NEM:PAA: Norms and standards for the management of protected areas in South Africa, 2016.	The Moutonshoek Protected Environment was promulgated 20 April 2018. The protected status of Moutonshoek Valley will be considered during the EIA process.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) read together with applicable amendments and regulations thereto: ⁎ Category A Activity 1 NEM:WA, 2008: National norms and standards for the storage of waste (GN 9260).	An application for a waste licence accompanied the EA application submitted to the DMR. Reference number: WC30/5/1/2/2/10110MR The mitigation measures proposed for the site take into account the NEM:WA, 2008.
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 take into account 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).	A water use licence application will be submitted to the Department of Water and Sanitation in terms the National Water Act, 1998 (Act No. 36 of 1998).
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-,

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
	construction-, operational- and decommissioning phases.
Western Cape Biodiversity Spatial Plan.	Assessment of biophysical environment.
Western Cape Noise Control Regulations (PN 200/2013), June 2013.	Noise generated by the project must adhere to the Western Cape Noise Control Regulations.

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).

Tungsten is considered a strategic metal by China and the European Union, and was confirmed in 2018 by the United States Department of the Interior as a 'critical commodity'. Strategic metals, also known as critical metals, technology metals, or minor metals, are elements that are necessary for technological and industrial processes, but are in short supply and have no known alternatives. Strategic metals can be found in most consumer electronics products, medical equipment, jet engines, semiconductors, LEDs, as alloying agents in numerous metal products, and many more applications. Definitions of what constitutes the "strategic metals" vary and sometimes overlap, often encompassing a variety of metals considered "critical" to the world economy.

Tungsten (W) is known for its strength and high melting point. It is used in electrical, heating, and welding applications, aerospace and defence applications, and in light bulbs, heating elements, and rocket engine nozzles. Tungsten is also used in electrodes because of its conductive properties, and its strength makes it a common metal alloy.

The Applicant held a prospecting right (WC 30/5/1/1/2/10197 PR) over the proposed mining right application area for tungsten (W) ore, molybdenum (Mo) ore, rare earths, copper ore, zinc ore, gold ore and silver ore. Owing to the outcome of the prospecting operation, the applicant identified the need to apply for a mining right for the winning of tungsten and molybdenum.

The proposed labour component of the operation is approximately 211 employees including management. The operation will contribute to the local economy of the area, both directly and through the multiplier effect that its presence creates. Equipment and supplies will be purchased locally, and wages will be spent at local businesses, generating both jobs and income in the area. In addition thereto the implementation of the Social

and Labour Plan (which is obligatory for a mining right holder) will contribute positively to the socio-economic environment of the local community.

Enviroworks was appointed to undertake a socio-economic study that will contextualise the project in the broader economy of Piketberg with specific reference to the Moutonshoek Valley and the need and desirability of the mine in the context of the Provincial Spatial Development Framework (PSDF), local structure and the IDP of the Bergrivier Municipality. The outcome of the socio-economic study will be added to, and considered in the DEAIR.

g) Period for which the environmental authorization is required

The Applicant requested that the Environmental Authorisation (EA) be valid for the duration of the mining right (at least 30 years).

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

Site Alternative 1 (SA1) (Preferred Site Alternative): Site Alterative 1 entails the proposed mining of an area that extends over 531.44 ha within the boundaries of the following GPS coordinates:

Table 3: GPS coordinates of the proposed mining footprint area.

SITE ALTERNATIVE 1 (PREFERRED AND ONLY SITE ALTERNATIVE)		
NO	**DEGREES MINUTES SECONDS (DMS)**	**DECIMAL DEGREES (DD)**
A	32º41’07.36”S; 18º43’26.55”E	-32.68538°S; 18.72404ºE
B	32º42’11.53”S; 18º43’35.50”E	-32.70320ºS; 18.72653ºE
C	32º42’12.01”S; 18º43’30.66”E	-32.70334ºS; 18.72518ºE
D	32º42’45.46”S; 18º43’35.32”E	-32.71263ºS; 18.72648ºE
E	32º43’00.71”S; 18º43’42.75”E	-32.71686ºS; 18.72854ºE
F	32º43’03.20”S; 18º43’45.68”E	-32.71756ºS; 18.72936ºE

SITE ALTERNATIVE 1 (PREFERRED AND ONLY SITE ALTERNATIVE)		
NO	**DEGREES MINUTES SECONDS (DMS)**	**DECIMAL DEGREES (DD)**
G	32º43'39.12"S; 18º43'46.03"E	-32.72753ºS; 18.72945ºE
H	32º43'14.81"S; 18º42'41.84"E	-32.72078ºS; 18.71162ºE
J	32º43'13.74"S; 18º42'33.54"E	-32.72048ºS; 18.70932ºE
K	32º43'09.68"S; 18º42'30.71"E	-32.71936ºS; 18.70853ºE
L	32º43'12.62"S; 18º42'27.27"E	-32.72017ºS; 18.70757ºE
M	32º43'06.35"S; 18º42'21.63"E	-32.71843ºS; 18.70601ºE
N	32º42'53.17"S; 18º42'28.09"E	-32.71477ºS; 18.70780ºE
P	32º41'48.19"S; 18º42'55.56"E	-32.69672ºS; 18.71543ºE
Q	32º41'44.04"S; 18º43'10.22"E	-32.69557ºS; 18.71951ºE
R	32º41'11.02"S; 18º43'10.04"E	-32.68640ºS; 18.71946ºE

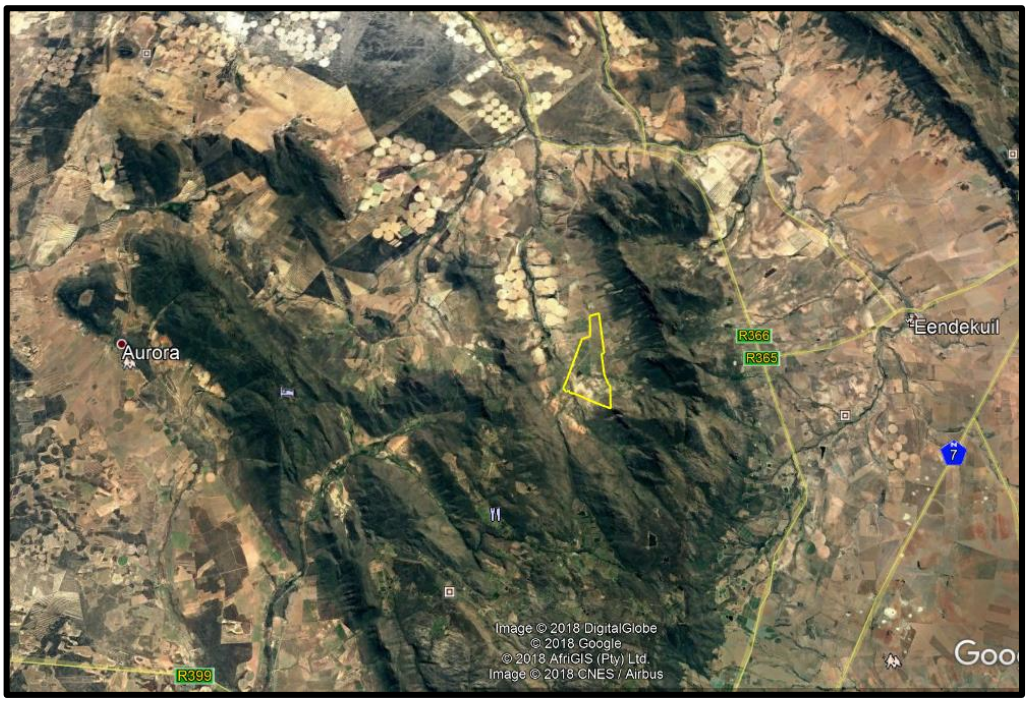

Figure 1: Satellite view of the study area where the yellow polygon shows the proposed mining area identified as site alternative 1 (Image obtained from Google Earth).

Site Alternative 1 was identified during the planning phase by the Applicant and project team, as the preferred site alternative based on the evaluation of the prospecting results and the corresponding position of the tungsten-molybdenum deposit. Should additional viable site alternatives be identified during the EIA

process, the project team will heed the suggestions, and investigate the possible implementation thereof. Such site alternatives (if identified) will be discussed in detail in the draft EIAR to be distributed for public comments.

Project Alternative 1 (PA1) (Preferred Project Alternative): Project Alterative 1 entails the extraction of the tungsten-molybdenum resource in two phases through opencast- and underground mining operations. Processing of excavated material on site to produce APT that is transported to the Saldanha Bay metallurgical plant, and the export of the final product via the Saldanha Bay harbour.

Additional project alternatives can be considered during the EIA process as supplementary information is obtained from the specialist studies, and the stakeholders and I&AP's contribute their knowledge towards the proposed project. Should project alternatives be identified it will be discussed during the EIA process of the application and included in the DEIAR to be distributed for public comments.

Technology/Design Alternatives: As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR. The following technology/design principles will be considered by the Applicant and project team:

- Alternative boxcut (secure and safe portals/accesses to the open-cast pit) positions and direction of mining for opencast operations;
- Alternative locations of topsoil and overburden stockpile areas;
- Alternative conveyor technology to solve environmental problems (e.g. noise, river crossings);
- Alternative slime dam locations and designs;
- Alternative alignments of access road and haul roads;
- Alternative locations for mine infrastructure, including the locations of offices, workshops; refuelling bays, stores, magazines, and processing plants; and
- The implementation of renewable energy sources will be considered.

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. In the event that the no-go alternative is implemented the land use of the area will remain that of agriculture, conservation, livestock farming and tourism with the tungsten resources unmined. Amongst others, the socio-economic impact of mining 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.

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.

During the initial public participation process the stakeholders and I&AP's were informed of the project by means of background information documents that were sent directly to the contact persons. Due to the compulsory exclusion period over the holidays, the 30-days commenting period was extended with commenting/registration welcome from 10 December 2018 to 5 February 2019. The following table provides a list of the I&AP's and stakeholders that were informed of the project:

Table 4: List of stakeholders and I&AP's provided with a copy of the background information document.

STAKEHOLDERS			
⁜ CapeNature ⁜ Department of Agriculture ⁜ Department of Economic Development and Tourism ⁜ Department of Environmental Affairs and Development Planning ⁜ Department of Labor ⁜ Department of Rural Development and Land Reform ⁜ Department of Transport and Public Works ⁜ Department of Water and Sanitation ⁜ Endangered Wildlife Trust (EWT) ⁜ Heritage Western Cape ⁜ SANParks ⁜ South African Heritage Resources Agency	⁜ Bergrivier Local Municipality ⁜ Bergrivier Local Municipality Ward 5 Councilor (letter to Mayor as Ward 5 councilor post currently vacant) ⁜ Cape West Coast Biosphere Reserve ⁜ Cederberg Bewarea ⁜ Eskom ⁜ Federation for Sustainable Environment ⁜ Krom Antonies Bewarea ⁜ Renosterveld Management Project ⁜ South African Institute for Aquatic Biodiversity ⁜ West Coast District Municipality ⁜ Western Cape Wetland Forum ⁜ Wildlife and Environment Society of South Africa (WESSA)	⁜ Birdlife South Africa ⁜ Eendekuil Boervereniging ⁜ Elands Bay Environment and Development Action Group (EBEDAG) ⁜ Moutonshoek Employees Association ⁜ Piket-Bo-Berg Residents Association ⁜ Somerset West Bird Club ⁜ Verlorenvlei Coalition ⁜ Verlorenvlei Heritage Settlement and Nature Reserve Homeowners Association ⁜ Verlorenvlei Settlement Elands Bay ⁜ Verlorenvlei WGV ⁜ West Coast Bird Club	⁜ African Amphibian Conservation Research Group ⁜ Agri Weskaap ⁜ Banghoek Private Nature Reserve ⁜ Cape Bird Club Conservation Committee ⁜ Het Kruis Landbou Vereniging ⁜ Krom Antonies Water Users Association ⁜ Piketberg Forum ⁜ Schapenberg Sir Lowry's Conservancy ⁜ Stawelklip Estate Wememers Trust ⁜ Verlorenvlei Fragrant Product CC
LANDOWNERS / SURROUNDING LANDOWNERS / INTERESTED AND AFFECTED PARTIES			
⁜ Landowner of Portion 1 of Farm 297 ⁜ Landowner of Portion 6 (Remaining Extent) of Namaquasfontein 76 ⁜ Landowner of Portion 21 of Namaquasfontein 76 ⁜ Mr JJ Smit (surrounding landowner) ⁜ Namquasfontein Boerdery Trust (surrounding landowner) ⁜ Zebraskop Boerdery (surrounding landowner) ⁜ Karsten Boerdery (Pty) Ltd (surrounding landowner)	⁜ Achtervlei ⁜ Banghoek Private Nature Reserve ⁜ Bella Vista, Piket-Bo-Berg ⁜ Bo Matroosfontein, Redelinghuys ⁜ Die Tuin Landgoed ⁜ Eagles Pride Farm Workers Group ⁜ Excelsior Farm ⁜ Jansdrift Farm ⁜ Kersfontein Farm ⁜ Keurbos ⁜ Keurbos Kapteinskloof ⁜ Klein Vogel Vallei ⁜ Krom Kosie van Niekerk Boerdery	⁜ Afrikaner, J ⁜ Alexander, S ⁜ Anderson, B ⁜ Arends, C ⁜ Arthur, B ⁜ Ashwell, A ⁜ Beech, C ⁜ Black, A & A ⁜ Blankenberg, K & F ⁜ Blankenberg, M ⁜ Bond-Smith, M ⁜ Boois J & A ⁜ Boois, E	⁜ ADVS Environmental Consultants ⁜ Birdlife Overberg ⁜ Cape Argus ⁜ CAPTRUST ⁜ Centre for Environmental Rights ⁜ Coastec ⁜ Coastel & Environmental Consultants ⁜ DA Piketberg ⁜ De Vlei Properties ⁜ Die Burger ⁜ Durbanville Community Forum ⁜ Friends of Simon Town Coastline

⁎ Windheuwel Trust (surrounding landowner)	⁎ Kruistementvlei Piket-Bo-Berg ⁎ Matroozefontein ⁎ Mountain Accommodation & Horseback Trails ⁎ Moutons Valley (Pty) Ltd ⁎ Namaquasfontein Kosie van Niekerk Boerdery ⁎ Old Kapteinskloof Guesthouse ⁎ Pomona Farm ⁎ Protea Producers of SA ⁎ Skuinskraal Farm ⁎ Solotrade 67 CC t/a Pronkies Holiday Farm ⁎ Spaarkloof Farm Tierhoek Organic ⁎ Te Voetpad Landowner ⁎ Tierhoek Cottages ⁎ Uitsig Farm ⁎ Unifruitti Matroozefontein ⁎ Wilgerbosdrift (Pty) Ltd ⁎ Wilgerbosdrift Stud ⁎ Wittedrift Farm ⁎ Zandvlei Trust	⁎ Boois, S & R ⁎ Booysen M & J ⁎ Bosman, L ⁎ Botha, A & G ⁎ Botha, G ⁎ Brand, G ⁎ Brink, P ⁎ Brinkworth, B ⁎ Brown, N ⁎ Brown, TW ⁎ Bruwer, P ⁎ Bubb, G ⁎ Burger, M ⁎ Burke, D ⁎ Burton-Moore, D ⁎ Burton-Moore, P & V ⁎ Campbell, B ⁎ Castens, P & J & T ⁎ Chris, S ⁎ Claasen, B ⁎ Clayton, J ⁎ Cloete, E ⁎ Cloete, RC ⁎ Coetzee, AM ⁎ Coetzee, G ⁎ Coetzee, GM & DH ⁎ Coetzee, K ⁎ Coetzee, M ⁎ Cohen, M ⁎ Cowley, C ⁎ Cox, R ⁎ Craword, P	⁎ Hotel Eland ⁎ Inter Coast Civils ⁎ Jeffares & Green Consulting Engineers ⁎ Karookop School ⁎ Landbou Weekblad ⁎ MultiPurpose Business Solutions ⁎ Piketberg Bridal Shop ⁎ Plett Bird Club ⁎ Residents Association of Hout Bay ⁎ SAPD, Eendekuil ⁎ SAPS, Piketberg ⁎ Sunday Times ⁎ Thenosterhoek Eendekuil Department of Development Studies UNISA ⁎ University of Cape Town (Environmental & Geographical Science Department) ⁎ University of Pretoria ⁎ Winelands Action Group ⁎ Yellowfish Working Group

		⁜ Da Camara, C ⁜ Daniels, J ⁜ De Villiers, E ⁜ De Villiers, G ⁜ De Villiers, J ⁜ De Vries, A ⁜ De Wet, C ⁜ Delmotte, A ⁜ Du Plessis, BA ⁜ Du Plessis, S ⁜ Engelbrecht, J ⁜ Engelbrecht, J ⁜ Engelbrecht, L ⁜ Engelbrecht, M ⁜ Engelbrecht, S ⁜ Enodada, L ⁜ Everett, J ⁜ Fazel-Ellahi, S ⁜ Ferrar, R ⁜ Forbes, L ⁜ Fortuin, A ⁜ Frans, A ⁜ Freemantle, J ⁜ Freemantle, R ⁜ Fyfe, B & L ⁜ Gallimore, J & M ⁜ Geldenhuys, M ⁜ Geldenhuys, M ⁜ Gelderblom, C ⁜ George, C ⁜ Gilbert, A ⁜ Gildenhuys, D	

		⁎ Goedeman, B ⁎ Goldring, M ⁎ Gradidge, C ⁎ Greyling, D & J & M ⁎ Greyling, I ⁎ Grutter, H ⁎ Haarburger, R ⁎ Haarburger, R ⁎ Hamer, E & J ⁎ Hanekom, A & E & S ⁎ Heath, P ⁎ Heering, L ⁎ Hotchkiss, T ⁎ Hugo, C & P ⁎ Hurworth, M ⁎ Hurworth, S ⁎ Jacobs, C ⁎ Jacobs, J ⁎ Jacobus, C ⁎ Jafta, E ⁎ Jafta, J & H & M & F ⁎ Jafta, M ⁎ Jafta, W ⁎ Jansen, L ⁎ Jantjies, J ⁎ Januarie, A ⁎ Jeffery, A ⁎ Jeffry, S ⁎ Johnson, MT ⁎ Josephs, Mr & Mrs ⁎ Joubert, A ⁎ Joubert, M	

		⁎ Julius, J ⁎ Kankowski, N & T & E & C ⁎ Karolis, S ⁎ Karolus, M & D & G & L ⁎ Keams, A ⁎ Kellerman, P ⁎ Kelly, P ⁎ Kerchhoff, G ⁎ Keyster, B ⁎ Kilbey, s ⁎ Klaasen, A & J ⁎ Klaasen, C ⁎ Klase, G ⁎ Krause, E ⁎ Kriel, JG ⁎ Krogscheepers, J ⁎ Kruger, L ⁎ L'Ons, L ⁎ Lamont, A ⁎ Lamont, J ⁎ Langenhoven, L ⁎ Le Roux, B ⁎ Lewarne, M ⁎ Lodge, M & J ⁎ Loewenthal, M & C ⁎ Loff, S & B ⁎ Longden-Thurgood, M ⁎ Louw, H ⁎ Louw, J ⁎ Louw, P ⁎ Lucke, C ⁎ Marais, K	

		⁎ Marlow, Mrs ⁎ Maseleni, R ⁎ Members of P.O. Box 171, Piketberg ⁎ Members of P.O. Box 67, Piketberg ⁎ Mhlalophe ⁎ Miggel, G ⁎ Moretti, R ⁎ Morgan, J ⁎ Mostert, M ⁎ Nienaber, MJ ⁎ Oktober, B ⁎ Oliver, AM ⁎ Otzen, F ⁎ Paine, T & H ⁎ Petersen, E ⁎ Pienaar, M ⁎ Pienaar, N ⁎ Pieters, G ⁎ Pieters, L ⁎ Pretorius, CM ⁎ Priestley, R ⁎ Priestly, T ⁎ Prinsloo, S ⁎ Prophet, C & C ⁎ Richer, H ⁎ Roberts, H ⁎ Roberts, T ⁎ Rohloff, W ⁎ Roniger, D ⁎ Rossouw, A	

		⁜ Rudd, BJ ⁜ Saayman, M ⁜ Savvides, B ⁜ Schmidlin, H ⁜ Schnetler, AR & CRR ⁜ Schoeman, M ⁜ Sheard, B ⁜ Sheard, J ⁜ Simons, D ⁜ Smit, C & P N ⁜ Smit, HE ⁜ Smit, HP ⁜ Smit, NM ⁜ Smith, C ⁜ Smith, F & C ⁜ Smith, G ⁜ Smith, JW ⁜ Snewe, C ⁜ Snyders, G & J ⁜ Stobart, T ⁜ Stone, T ⁜ Strange, F ⁜ Strauss, PJE ⁜ Swanepoel, E & J & D ⁜ Swanepoel, M ⁜ Swanepoel, M ⁜ Swanepoel, P & M ⁜ Swanepoel, T & J ⁜ Swart, J ⁜ Swarts, C ⁜ Swarts, K & A ⁜ Swarts, R	

		⁎ Swats, R ⁎ Sweetman, H ⁎ Taylor, J ⁎ Taylor, J ⁎ Taylor, K ⁎ Taylor, L ⁎ Taylor, P ⁎ Taylor, P ⁎ Templeton, R ⁎ Thomas, GS ⁎ Thomson, J ⁎ Thomson, M ⁎ Titus, J ⁎ Titus, L ⁎ Todd, A ⁎ Todd, J ⁎ Todkill, W ⁎ Tredoux, H ⁎ Tredoux, J ⁎ Tripp, M ⁎ Truter, E & A ⁎ Truter, J & J ⁎ Twine, C ⁎ Van der Leek, M ⁎ Van der Merwe, G ⁎ Van der Merwe, I ⁎ Van der Merwe, J ⁎ Van der Merwe, S ⁎ Van der Merwe, W ⁎ Van der Westhuizen, E & P ⁎ Van Hase, A ⁎ Van Lill, M	

		⁎ Van Niekerk, PJC ⁎ Van Rensburg ⁎ Van Riet, W ⁎ Van Rooy, I ⁎ Van Rooy, R ⁎ Van Staden, D ⁎ Van Wyk, B & A ⁎ Van Wyk, C ⁎ Van Wyk, J ⁎ Van Wyk, K ⁎ Van Zeuner, J ⁎ Vermeulen, H ⁎ Visser, F & H ⁎ Visser, G & H & J ⁎ Visser, M ⁎ Vosse, S ⁎ Ward, V ⁎ Watson, E ⁎ Weimers, W ⁎ Wesseman, G ⁎ Wickins, C ⁎ Wiese, A & K ⁎ Wiese, K ⁎ Willems, B ⁎ Williams, C ⁎ Williams, F ⁎ Williams, G ⁎ Willows, B ⁎ Willows, D	

Table 5: List of stakeholders and I&AP's that registered on the project up until 9 January 2019 (registration open until 5 February 2019).

STAKEHOLDERS
⁎ Agri Western Cape ⁎ Bergrivier Local Municipality ⁎ CapeNature ⁎ Cape West Coast Biosphere ⁎ Department of Environmental Affairs and Development Planning ⁎ Eskom ⁎ Krom Antonies Bewarea ⁎ West Coast District Municipality ⁎ Western Cape Department of Agriculture
LANDOWNERS / SURROUNDING LANDOWNERS / INTERESTED AND AFFECTED PARTIES
⁎ Baty, S (Matroozefontein Farm & Unifrutti) ⁎ Boois, E ⁎ Brink, P ⁎ Coetzee, M (Marcec Legal Consulting) ⁎ Duncan, R. V (Pomona Farm) ⁎ Freemantle, R. J ⁎ Gresse, F ⁎ Karsten, B (Karsten Boerdery (Pty) Ltd) ⁎ Karookop Primary School ⁎ Munro, L ⁎ Munro, M (Munstone) ⁎ Sheard, B ⁎ Van Zyl, F ⁎ Visser, M ⁎ Yeld, J

An advertisement was placed in Die Burger on 3 December 2018, with on-site notices placed 5 December 2018 at the following places:

- Aurora Post Office;
- DR02172 turn-off from the R366;
- Eendekuil Municipal Offices;
- Piketberg Municipal Offices; and
- Redelinghuys Municipal Offices.

In accordance with the timeframes stipulated in the EIA Regulations, 2014 (as amended by GNR 326 effective 7 April 2017) the Draft Scoping Report was compiled to allow perusal of the report by the I&AP's and stakeholders listed above. A 30 day commenting period will be allowed for perusal of the documentation by the I&AP's and stakeholders which will expire 12 February 2019. Comments received on the Draft Scoping Report will be incorporated into the Final Scoping Report to be approved by the DMR. Upon approval of the Final Scoping Report the Draft Environmental Impact Assessment Report will be compiled and circulated for public comment over a 30-day commenting period. See attached as Appendix 5 proof that the I&AP's and stakeholders were contacted during the initial public participation period.

iii) Summary of issues raised by I&Aps

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

Table 6: Summary of issues raised by I&AP's and stakeholders.

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**
AFFECTED PARTIES				
Landowner/s				
Dr. B van der Merwe Portion 1 of Farm 297 RD	**X**	See comments tendered by Mrs. Van der Merwe below.		
Mr. D Coetzee Portion 6 (Remaining Extent) of Namaquasfontein 76 RD	**X**	To date no comments were received	-	Not applicable as no comments were received.
Mr. H Coetzee Portion 21 of Namaquasfontein 76 RD	**X**	To date no comments were received	-	Not applicable as no comments were received.
Lawful occupier/s of the land				
As access, to the earmarked properties, has to date been denied the lawful occupier/s of the land could not be determined. Persons that registered as I&AP's during the previous mining right application (WC 30//5/1/2/2/385 MR - 2009) were informed of the current project.		See individual comments included below	**-**	**-**
Landowners or lawful on adjacent properties				
Mr. JJ Smit	**X**	To date no comments were received	-	Not applicable as no comments were received.

Namaquasfontein Boerdery Trust	**X**	To date no comments were received	-	Not applicable as no comments were received.
Zebraskop Boerdery	**X**	To date no comments were received	-	Not applicable as no comments were received.
Karsten Boerdery	**X**	27/12/2018	Belia Karsten registered Karsten Boerdery (Pty) Ltd as I&AP submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 7 January 2019, and responded as listed below.

Comments received from Karsten Boerdery (Pty) Ltd:

"Your Background Information Document ("Document") dated 3 December 2018 relating to certain applications to be made by Bongani Minerals Propriety Limited ("Bongani") in terms of the relevant statutes referred to above has reference. Kartsten Boerdery Proprietary Limited ("Company") wishes to register as an interested and/or affected party in relation to the entirety of the activities and/or applications envisaged in terms of the Document.

By way of background, this Company is the registered owner of the Remainder of Portion 2 (Kromvlei) of the Farm Namaquasfontein, Portion 5 (a portion of portion 1) of the Farm Wilgenhoutdrift and Portion 13 of the farm Namaquasfontein No 76 ("Properties") all of which are in proximity to the properties in relation to which the several applications by Bongani relate and on which the Company conducts agricultural activities, *inter alia*, entailing the production of fruit destined for export markets and also livestock. This Company and the activities conducted by it on the Properties, stand to be affected by the mining ancillary activities which Bongani intends to undertake. We shall accordingly appreciate receiving your confirmation that the Company has been registered in your records as an interested and affected party ("IAP").

As an IAP, we would like to receive a copy of the Draft Scoping Report ("DSR") to enable us to comment thereon. Without limiting the generality of the aforegoing, we also demand to receive copies of all other documents in respect to the processes that are to be followed and as detailed in the Document in order to enable us to assess the contents thereof, including the impact of any proposed activities and to comment and/or object thereto. Our address details appear from this letterhead and you can also communicate with us by e-mail (beliak@karsten.co.za) provided that all documents underlying the different applications to be filed by Bongani in terms of the appropriate statues, must also be mailed to our physical address.

On the last page of the document you mention that, in the absence of receiving any comment on or before 5 February 2019, it will be accepted that we do not have any objections/comments with regard to the project and do not require any further documentation. We hereby want to state emphatically that you cannot make any such acceptance under any circumstances irrespective of whether or not you have received any objections/comments from our end, timeously or at all."

Response to Kartsen Boerdery (Pty) Ltd:

"Greenmined Environmental (hereinafter "Greenmined") herewith thank you for your interest, and acknowledge receipt of your correspondence on 27 December 2018 with regard to the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd.

Greenmined, on behalf of the applicant, registered Karsten Boerdery (Pty) Ltd as an interested and affected party (I&AP) on the project, and will henceforth keep you posted on the progress of the Environmental Impact Assessment process, as well as provide you with an opportunity to comment on the EIA documentation.

We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."

Windheuwel Trust	**X**	To date no comments were received	-	Not applicable as no comments were received.
Municipal councilor As the Ward 5 councilor will only be elected in January 2019, the BID was sent to Mr. P Williams who undertook to forward it to the Mayor of the Bergrivier Local Municipality (BLM).	**X**	See comments received from BLM listed below.		See response to the comments received from BLM listed below.
Municipality Bergrivier Local Municipality (BLM)	**X**	7/12/2018	Angila Joubert registered the Bergrivier Local Municipality on the project, submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 11 December 2018, and responded as listed below.

Comments received from Bergrivier Local Municipality:

"Your notice in abovementioned regard, dated 3 December 2018, refers.

It is acknowledged that a scoping report on the proposed development is not available at present, and therefore our comment is limited to the information contained in the background information document provided.

Environmental comment:

"A hydrogeological assessment will be performed…"

Comment:
Immediate and long term effects of the ground water abstraction should be taken into account as this will affect the water table and also affect natural surface water systems within this area. The hydrogeological assessment should take into account the effects on the environmental integrity of the Verlorenvlei, designated RAMSAR site (Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat). The prospecting site is situated in the area of Verlorenvlei catchment, as rivers and water courses affect and influence each other from kilometers away. The assessment should also consider the affects to the sustainable, ecological functioning of the catchment areas for the Kruis, Bergvallei, the Krom Antonies and the Hol river systems. The potential tungsten contamination of groundwater and aquifers should also be taken into account.

"An Ecologists was appointed to conduct a full ecological study of the proposed footprint area."

Comment:
This area falls within the Greater Cederberg Biodiversity Corridor and the impact on Critical Biodiversity Areas must be considered in any specialist studies. The Verlorenvlei system supports several rare bird species and indigenous fish species and the conservation thereof is imperative and any effects of the proposed development should take this into consideration as irreversible impacts on the environment will result in habitat loss and species loss in this area.

"An agricultural impact assessment will assess the potential impacts of the proposed mining operation on soils, agricultural potential and production."

Comment:
Blasting and the dispersion of dust particles could disturb or terminate ecosystem functioning and consequently the agricultural potential of the affected area. Abstraction and pollution of water resources could also lower the potential for sustainable agricultural practices, in an already drought prone area. Potential impacts on food security and agricultural yield could also affect human wellbeing.

"…a traffic impact study will assess the impact that the proposed project will have on the road infrastructure and traffic of the study area."

Comment:
The traffic impact study should also take into account all routes to be used for the transport of the mined material to other destinations, and traffic through urban settlements. Alternative modes of transport, such as railway transport, should be considered. The traffic impact study should consider the effect of heavy vehicle traffic on the longevity of road and urban infrastructure. Heavy vehicle traffic through urban areas and the effect thereof on road and pedestrian safety, noise and air pollution should also be considered.

Planning comment:

The background information document states that a land development application has to be submitted to the Department of Environmental Affairs and Development Planning in terms of the Land Use Planning Act, 2014 (Act No 13 of 2014). It must be noted that in terms of Section 53(5) of the Land Use Planning Act, 2014 (LUPA) an approval by the Head of Department (the head of the provincial department responsible for land use planning) of a land development application does not release an applicant from the obligation to obtain the required approval from the municipality for the land development.

The subject farms are located within the jurisdictional area of Bergrivier Municipality and are currently zoned as Agriculture Zone 1 in terms of the Bergrivier Municipality: Integrated Zoning Scheme By-Law. The current zoning of the subject farms does not allow for mining or prospecting and therefore land use planning applications must be submitted to Bergrivier Municipality for both instances. In terms of Section 86(1)(b) of the Bergrivier Municipality: By-Law Relating to Municipal Land Use Planning it is an offence to utilize land in a manner other than prescribed by a zoning scheme without the approval of the Municipality."

Response to the Bergrivier Local Municipality:

"Greenmined herewith acknowledge receipt of your correspondence, received 7 December 2018, with regard to the proposed mining right application to be submitted on behalf of Bongani Minerals (Pty) Ltd.

Greenmined takes note of the comments tendered by the Bergrivier Municipality, and will communicate it to the relevant specialists, in particular the hydrogeologist, ecologist, rangeland specialist, traffic engineer, and town and regional planner.

We have added both yourself as well as Mr Vermeulen as Bergrivier Municipal representatives to the registered stakeholder list and will continue to update you on the project. I can also confirm that the follow persons, as identified by yourself were already contacted and informed of the proposed project:

- Me Ganten-Bein,
- Mr Malherbe,
- Mr Burger,
- Me Strange,
- Mr Taylor,
- Me Huntly, and
- Me February

We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."

Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA etc	**X**			
Department of Transport and Public Works	**X**	To date no comments were received	-	Not applicable as no comments were received.
Department of Water and Sanitation	**X**	To date no comments were received	-	Not applicable as no comments were received.
Eskom Distribution	**X**	14/12/2018	Phumeza Qwashu registered Eskom on the project, submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 7 January 2019, and responded as listed below.

Comments received from Eskom Distribution:

"Eskom has no objection to the proposed work as indicated in your application provided that the following conditions are adhered to:

I. No building may be erected within 9 (NINE) metres from either side of the centre line from any Eskom 11 / 22kV power line crossing the property involved or within 6 (SIX) metres from any structure supporting mechanism.

II. No building may be erected within 3 (THREE) metres from any Eskom underground cable.

III. The location of the cable from the Eskom transformer to the distribution box must be pointed out to the contractor by the owner and is the owner's responsibility.

IV. A copy of this letter / documentation must be handed to the contractor who must have it available on site.

V. That existing Eskom power lines and infrastructure are acknowledged as established infrastructure on the properties and any rerouting or relocation would be for the cost of the applicant/developer.

That Eskom rights or servitudes, including agreements with any of the landowners, obtained for the operation and maintenance of these existing power lines and infrastructure be acknowledged and honoured throughout its lifecycle which include, but are not limited to:

i. Having 24 hour access to its infrastructure according to the rights mentioned in (a) above.

ii. To perform maintenance (structural as well as servitude – vegetation management) on its infrastructure according to its maintenance programmes and schedules.

iii. To upgrade or refurbish its existing power lines and infrastructure as determined by Eskom.

iv. To perform any other activity not listed above to ensure the safe operation and maintenance of the Eskom power lines or infrastructure.

v. Eskom shall not be liable for the death or injury of any person, or for loss of or damage to any property, whether as a result of the encroachment or use of the area where Eskom has its services, by the applicant, his/her agent, contractors, employees, successors in title and assignee.

vi. The applicant indemnifies Eskom against loss, claims or damages, including claims pertaining to interference with Eskom services, apparatus or otherwise.

vii. Eskom shall at all times have unobstructed access to and egress from its services.

viii. Any development which necessitates the relocation of Eskom's services will be to the account of the developer.

PLEASE CONTACT AND MAKE APPOINTMENT: PIKETBERG CNC- BUKS BURGER 022 913 6311, 082 771 7646 BEFORE WORKING IN CLOSE PROXIMITY TO ANY ESKOM OVERHEAD POWER LINES.

The above is a requirement under the Occupational Health and Safety Act (Act No. 85 of 1993) to ensure safety.

Please apply to your local Eskom office (Sales and Customers) for a new electricity connection or an increase in your supply.

Should it be necessary to move any of the Eskom services a written request must be given to the local Eskom office. It must be noted that it will take 3 month or longer to move any power line and that the cost of moving a power line will be for the applicant's account."

Response to Eskom Distribution:

"Greenmined Environmental (hereinafter "Greenmined") herewith thank you for your interest, and acknowledge receipt of your correspondence on 14 December 2018 with regard to the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd.

Greenmined, on behalf of the applicant, registered Eskom Distribution as a stakeholder on the project, and will henceforth keep you posted on the progress of the Environmental Impact Assessment process, as well as provide you with an opportunity to comment on the EIA documentation. Should you not wish to receive these documents please indicate so. Further to the above, your comments/requirements will be forwarded to the client for his attention.

We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."

Communities				
N/A				
Dept. Land Affairs	**X**	13/12/2018	Dr. W Alexander from the Commission on Restitution of Land Rights commented as listed below.	-

Comments received from the Commission on Restitution of Land Rights:

"Thank you for your letter dated 13 December 2018.

We confirm that as at the date of this letter no land claims appear on our database in respect PORTION 1 OF THE FARM NO. 297 PIKETBERG RD, PORTION 6 (REMAINING EXTENT) OF THE FARM NAMAQUASFONTEIN NO. 76 PIKETBERG RD, PORTION 21 OF THE FARM NAMAQUASFONTEIN NO 76 PIKETBERG RD. This includes the database for claims lodged 31 December 1998 and those lodged between 1 July 2014 and 28 July 2016.

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

- Some Claimants referred to properties they claim dispossession of the rights in land against using historical property descriptions which may not match the current property description; and

- Some Claimants provided the geographic descriptions of the land they claim without mentioning the particular property they claim dispossession of rights in land against.

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

PORTION 1 OF THE FARM NO. 297 PIKETBERG RD, PORTION 6 (REMAINING EXTENT) OF THE FARM NAMAQUASFONTEIN NO. 76 PIKETBERG RD, PORTION 21 OF THE FARM NAMAQUASFONTEIN NO 76 PIKETBERG RD.

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

Traditional Leaders				
N/A				
Dept. Environmental Affairs (DEA&DP)	**X**	06/12/2018	Adri La Meyer registered DEA&DP on the project, submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 6 December 2018, and responded as listed below.

Comments received from the Department of Environmental Affairs and Development Planning:

"Thank you for your e-mail of 5 December 2018. Kindly register the Department of Environmental Affairs and Development Planning as a commenting authority for the application. Please provide this Department with 1 x hard copy and 4 x CDs of any reports, marked for my attention please.

Could you please provide this Department with a copy of the prospecting right (WC30/5/1/1/2/10197PR) that was issued to the proponent? Also please indicate which waste management listed activities are triggered by the proposal. Please further note that the Waste Act, 2008 requires publication in two newspapers.

Please further be advised to also consult with CapeNature, DWS, Department of Agriculture, HWC, West Coast Biosphere Reserve, BirdLife South Africa and West Coast District Municipality.

We note the proposed specialist studies – please be advised that a Socio-Economic Specialist Study is highly recommended.

The Department will provide more preliminary comment upon receipt of the PR decision."

Response to the Department of Environmental Affairs and Development Planning:

"Thank you for your response to our email.

Greenmined Environmental (hereinafter "Greenmined") herewith acknowledge receipt of your correspondence received 6 December 2018 with regard to the proposed mining right application to be submitted on behalf of Bongani Minerals (Pty) Ltd. Greenmined, on behalf of the applicant, registered the Department of Environmental Affairs and Development Planning as a competent authority for the application, and will henceforth keep you posted on the progress of the Environmental Impact Assessment process. We also take note of the document requirements.

Attached hereto please find a copy of the prospecting right held by Bogani Minerals (Pty) Ltd. The proposed project will trigger Category A(1) *The storage of general waste in lagoons* in terms of the National Environmental Management: Waste Act, 2008 read together with the List of Waste Management Activities that have, or are likely to have a detrimental effect on the environment, 2013. Greenmined confirms that we have already notified CapeNature, DWS, DoA, HWC, WCBR, BLSA and WCDM of the proposed project, and will stay in constant communications with them, thank you. We note your remark with regard to a socio-economic specialist study, and can confirm that the specialist has already been appointed and that their report will form part of the EIA documents to be circulated for perusal. We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties.”
Further comments received from the Department of Environmental Affairs and Development Planning on 6 December 2018: "Thank you very much for the speedy response and the EAs, it is much appreciated. I assume you are aware of the attached Gazetted proclamation that affects the MR application?” Greenmined confirmed that the client and project team were aware that the proposed mining right application extends over the Moutonshoek Protected Environment.
On 24 December 2018, a fax was received from DEA&DP acknowledging receipt of the BID: “The Background Information Document (“BID”) dated 3 December 2018, as received by this Department on 11 December 2018, refers. This letter serves as an acknowledgement of receipt of the aforesaid BID by this Directorate. The Directorate: Development Management (Region 1), together with other relevant Organs of State, will act as the commenting authority regarding the application for Environmental Impact Assessment.

Please be advised that it is prohibited in terms of Section 24F of the National Environmental Management Act, 1998 (Act No 107 of 1998) for a person to commence with a listed activity unless the competent authority has granted an environmental authorization for the undertaking of the activity. A person convicted in terms of this prohibition is liable to a fine not exceeding R10 million or imprisonment for a period not exceeding ten years, or to both such fine and imprisonment. Kindly quote the abovementioned reference number in any future correspondence submitted to this Directorate in connection with the application. This Department reserves the right to revise its initial comments and request further information from you based on any new or revised information received."				
Other Competent Authorities affected				
Cape West Coast Biosphere (CWCBR)	**X**	14/12/2018	Karin Otto registered the CWCBR on the project as listed below: "The Cape West Coast Biosphere Reserve (CWCBR), of the UNESCO: Man and Biosphere Program, aims to implement sustainable development principles along the West Coast, in addition to integrating rapid growth with biodiversity and heritage conservation. The CWCBR extends from the Diep River in the south to the Berg River in the north and inland to Malmesbury and therefore the proposed development is located within the CWCBR. In this regard, the CWCBR would like to register as an I&AP and receive further correspondence and documentation regarding this development."	Greenmined acknowledged receipt of the registration on 7 January 2019, and registered the CWCBR accordingly.
CapeNature	**X**	13/12/2018	Alana Duffel-Canham registered CapeNature on the project, submitting the comments as listed below.	Greenmined acknowledged receipt of the registration on 7 January 2019, and responded as listed below.

Comments received from CapeNature:

"CapeNature would like to thank you for the opportunity to comment on the Background Information Document for this mining application and would like to make the following comments:

1. The Moutonshoek Valley area if of extremely high conservation value, not only for protection of terrestrial ecosystems which support many Species of Conservation Concern but also for provision of water and other ecosystem services. The area has been declared as a Protected Environment and the reasons for his will be discussed in more detail below. however, we first wish to clarify the process that was followed to declare the area as a Protected Environment (PE):

   The public participation process for the Moutonshoek Protected Environment was started on the 15rh of January 2016 and advertised in the Provincial Gazette. In addition, the provincial notice was published in two national newspapers as is required by Section 33 of the National Environmental Management: Protected Areas Act 57 of 2003.

   As required by Section 32 of the National Environmental Management: Protected Areas Act 57 of 2003, the necessary state departments were consulted. These included the national Minister of Environmental Affairs, The Department of Mineral Resources, the Department of Water Affairs and Forestry, the Department of Environmental Affairs and Development Planning, South African Heritage Resources Agency, the Department of Agriculture, Berg River Municipality, the Regional Land Claims Commission and the South African National Biodiversity Institute.

   For the purpose of this application, we have attached a copy of the letter sent to the Department of Mineral Resources dated 11 February 2016. Letters and notifications to the other departments were also sent on the 11th of February 2016. The notices to the surrounding landowners were issued on the 22nd of February 2016 and sent out accordingly. Given that the consultative notices were sent out over a period of 1 month, all comments received up until the 10th of April 2016 were taken into account.

   There were no objections received during the public participation process and subsequently after getting all landowners of the Landowner Association to sigh their notarial agreements and Memorandum of Agreements the Protected Environment was declared on 20 April 2018 with an erratum notice published on 25 May 2018 given that page 2 of the property list was omitted in the original declaration notice. These documents have also been attached for your information and records.

   As required as part of the consultation process the Moutonshoek Protected Environment was presented to the Joint Planning Task Team (JPTT) on the 29th of September 2017.

   The public participation process for the approval of the Management Plan was competed mid-March 2018 with notices having been published in the Sunday Times, City Press and Rapport on 11 February 2018. No objections to the Management Plan were received through these processes.

2. The site is located within the highly sensitive and already water stressed Verlorenvlei catchment. One of the major tributaries which feeds into the Verlorenvlei is the Krom Antonies River which is in the mining application study area. The impacts of the mining activities will extend beyond the area which will be directly transformed. The proposed area is located at the source of the Verlorenvlei, which is internationally recognized as a Ramsar site (one of 19 wetlands in South Africa which have been designated to be

of international importance) and is one of the largest natural wetlands along the West Coast of South Africa. Based on the ecological importance of the Verlorenvlei system and recognizing the duty South Africans have at a national level to protect and conserve the wetlands associated with the Ramsar site, all new activities in the Krom Atnoines River valley should result in active upgrading and rehabilitation of the riverine ecosystems. Groundwater is also an important source of water for the Verlorenvlei and any additional activities which will reduce the amount of ground- or surface water available or pose a serious risk of contamination should not be permitted. Agriculture is already highly dependent on groundwater due to limited surface flow and it is unlikely that additional uses can be accommodated.

3. Although a portion of the area that would be impacted directly by the proposed mining activities has largely been transformed by agricultural activities, there are still important areas supporting indigenous vegetation, including Leipoldtville Sand Fynbos, which is Endangered, Swartland Shale Renosterveld, which is Critically Endangered, Piketberg Quartz Succulent Shrubland which qualifies as Critically Endangered according to the latest analysis conducted by CapeNature (only 11.7% of its original very small extent is remaining), Piketberg Sandstone Fynbos which is listed as Vulnerable, Cape Lowland Alluvial Vegetation, which is listed as Critically Endangered, and Cape Lowland Freshwater Wetlands. CapeNature does not support any further loss of any Endangered or Critically Endangered vegetation types.

4. The Western Cape Biodiversity Spatial Plan has determined terrestrial and aquatic Critical Biodiversity Areas (CBAs) as well as Ecological Support Areas (ESAs) within and adjacent to the application area. The management objectives of these CBAs and ESAs are vital to consider in order to prevent ecosystem collapse and loss of ecosystem services.

5. Verlorenvlei supports at least 177 bird species including several Red Data Book species including, *inter alia*, Ludwig's Bustard, Black Stork, Black Harrier and the Secretary Bird. The Verlorenvlei system (which includes the Krom Antonies) also supports four indigenous freshwater fish species, of which three species have not been found anywhere else. These are the Endangered Verlorenvlei redfin (now part of the Pseudobarbus group), the Cape kurper (the Verlorenvlei population is genetically very distinct) and Cape Galaxias (two species, one genetically very distinct and restricted to the Verlorenvlei). The Krom Antonies River has a considerable number of critically endangered Verlorenvlei redfin in its upper reaches where the proposed mining footprint is located. Any mining activities that impact the river could cause extinction of this species which is completely endemic to this site. Although this area is degraded in certain areas, with environmentally sensitive farming practices and proper rehabilitation, this river could return to a good condition with a highly conservation worthy fish assemblage. The Verlorenvlei system is already under high levels of water stress, with fish and other water dependent biota confined to small pools in summer. The Indigenous fish in these pools are very susceptible to changes in water quality and water temperature during these periods.

6. The Moutonshoek Valley supports a large number of threatened plant species and animal species from many phyla and it is impractical to list all of them in this letter. However, it must be noted that extensive work has already been undertaken in this area which has highlighted the ecological importance of the Moutonshoek Valley. Lists of species confirmed to be present can be found in the Management Plan for the Moutonshoek Protected Environment.

7. CapeNature would also like to draw your attention to the significant investment already made in projects and initiatives in this area. For example, the Working of Wetlands project which has already had millions of rand invested for clearing alien vegetation from the Verlorenvlei system. There are also a range of eco-tourism initiatives being developed and implemented within the Verlorenvlei system, which are dependent on the long-term functioning of the wetland system. Should mining activities go ahead,

this would almost certainly negate these positive efforts. Even before the area was declared as a Protected Environment, it formed part of the Greater Cederberg Biodiversity Corridor, which aims to conserve and restore the unique biodiversity of this region and encourage sustainable land use practices.

8. CapeNature was not aware that a prospecting right had been awarded for this area. No notifications were received regarding any application for prospecting since 2010. The last letter we submitted with regard to a prospecting application in Moutonshoek valley was to DMR on 17th of June 2010. As a commenting authority we should have been notified and given the opportunity to provide information on the biodiversity importance of the site and raise concerns prior to the prospecting right being issued.

Conclusion:

9. The proposed mining activities pose direct and indirect threats to biodiversity and ecological infrastructure found in the Moutonshoek Valley and the Verlorenvlei catchment. CapeNature is of the opinion that the proposed mining activities and associated impacts such as an increase in population (which will bring with it the need for additional roads, water supply, sewage and waste disposal) poses a high level of risk to the terrestrial and aquatic ecosystems in the area and their functioning and high negative irreversible impacts will occur if mining is authorized.

10. Furthermore, the mining site is located in the center of the declared Moutonshoek Protected Environment. The Protected Environment status of the Moutonshoek area is underpinned by the extremely high conservation importance and ecological sensitivity of the area. The proposed mining activities are in direct conflict with the management objectives of the Moutonshoek Protected Environment.

11. CapeNature therefore strongly objects to this application for mining within the Moutonshoek Protected Environment and urges that it not be given any further consideration.

CapeNature reserves the right to revise initial comments and request further information based on any additional information that may be received."

Response to CapeNature:

"Greenmined Environmental (hereinafter "Greenmined") herewith thank you for your interest, and acknowledge receipt of your correspondence on 13 December 2018 with regard to the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd.

Greenmined, on behalf of the applicant, registered CapeNature as a commenting authority on the project, and will keep you posted on the progress of the Environmental Impact Assessment process, as well as provide you with an opportunity to comment on the EIA documentation. Your comments are noted and will be included in the scoping report, and assessed in the environmental impact assessment report.

We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."

Department of Agriculture	**X**	14/12/2018	Jan Smit registered the Western Cape Department of Agriculture on the project, objecting to the project due to the impact on agricultural and natural resources.	Greenmined acknowledged receipt of the registration on 7 January 2019, and registered the Western Cape Department of Agriculture accordingly.
Department of Economic Development and Tourism	**X**	To date no comments were received	-	Not applicable as no comments were received.
Department of Labour	**X**	To date no comments were received	-	Not applicable as no comments were received.
Department of Rural Development and Land Reform	**X**	To date no comments were received	-	Not applicable as no comments were received.
Heritage Western Cape	**X**	To date no comments were received	-	Not applicable as no comments were received.
SANParks	**X**	To date no comments were received	-	Not applicable as no comments were received.
South African Heritage Resources Agency	**X**	To date no comments were received	-	Not applicable as no comments were received.
West Coast District Municipality (WCDM)	**X**	5/12/2018	ℑ Charles Malherbe registered on behalf of the West Coast District Municipality. ℑ Angila Joubert (BLM) requested that Cindy Ganten-Bein (WCDM) be added to the	ℑ Greenmined acknowledged receipt of the registration on 6 December 2018, and registered the West Coast District Municipality accordingly.

			contact list. Me. Ganten-Bein objected to the proposed project on 18 December 2018, requested the specialist report for commenting, the environmental authorization (granted), and a fugitive EMP. She raised commented that dust monitoring must be done in accordance with the National Dust Control Regulations, and requested that the Bergrivier Local Air Quality Officer be informed. ℑ Doretha Kotze also registered on behalf of the WCDM on 10 December 2018.	ℑ Me Ganten-Bein was supplied with a copy of the BID on 5 December 2018. The objection submitted by Me Ganten-Bein was acknowledged on 7 January 2019 and included in the DSR. ℑ Me Kotze's request was acknowledged (13 December 2018) and her contact details were added to the WCDM contact list.
OTHER STAKEHOLDERS & AFFECTED/INTERESTED PARTIES				
ℵ African Amphibian Conservation Research Group ℵ Banghoek Private Nature Reserve ℵ Birdlife SA ℵ Cape Bird Club Conservation Committee ℵ Cederberg Bewarea ℵ Eendekuil Boerevereniging ℵ Elands Bay Environment and Development Action Group (EBEDAG) ℵ Endangered Wildlife Trust ℵ Federation for Sustainable Environment ℵ Het Kruis Landbou Vereniging ℵ Krom Antonies Water Users Association ℵ Moutonshoek Employees Association ℵ Piketberg Forum ℵ Piket-Bo-Berg Residents Association ℵ Potatoes South Africa ℵ Renosterveld Management Project ℵ Schapenberg Sir Lowry's Conservancy		To date no comments were received	-	Not applicable as no comments were received.

⁎ Somerset West Bird Club ⁎ South African Institute for Aquatic Biodiversity ⁎ Stawelklip Estate Wememers Trust ⁎ Verlorenvlei Coalition ⁎ Verlorenvlei Fragrant Product CC ⁎ Verlorenvlei Heritage Settlement and Nature Reserve Homeowners Association ⁎ Verlorenvlei Settlement Elands Bay ⁎ Verlorenvlei WGV ⁎ West Coast Bird Club ⁎ Western Cape Wetland Forum			
⁎ Achtervlei ⁎ Banghoek Private Nature Reserve ⁎ Bella Vista, Piket-Bo-Berg ⁎ Bo Matroosfontein, Redelinghuys ⁎ Die Tuin Landgoed ⁎ Eagles Pride Farm Workers Group ⁎ Excelsior Farm ⁎ Friends of Verlorenvlei ⁎ Jansdrift Farm ⁎ Kersfontein Farm ⁎ Keurbos ⁎ Keurbos Kapteinskloof ⁎ Klein Vogel Vallei ⁎ Krom Kosie van Niekerk Boerdery ⁎ Kruistementvlei Piket-Bo-Berg ⁎ Mountain Accommodation & Horseback Trails ⁎ Moutons Valley (Pty) Ltd ⁎ Namaquasfontein Kosie van Niekerk Boerdery ⁎ Old Kapteinskloof Guesthouse ⁎ Protea Producers of SA ⁎ Skuinskraal Farm	To date no comments were received	-	Not applicable as no comments were received.

⁎ Solotrade 67 CC t/a Pronkies Holiday Farm ⁎ Spaarkloof Farm Tierhoek Organic ⁎ Te Voetpad Landowner ⁎ Tierhoek Cottages			
⁎ ADVS Environmental Consultants ⁎ Birdlife Overberg ⁎ Cape Argus ⁎ CAPTRUST ⁎ Centre for Environmental Rights ⁎ Coastec ⁎ Coastel & Environmental Consultants ⁎ DA Piketberg ⁎ De Vlei Properties ⁎ Die Burger ⁎ Durbanville Community Forum ⁎ Friends of Simon Town Coastline ⁎ Hotel Eland ⁎ Inter Coast Civils ⁎ Jeffares & Green Consulting Engineers ⁎ Landbou Weekblad ⁎ MultiPurpose Business Solutions ⁎ Piketberg Bridal Shop ⁎ Plett Bird Club ⁎ Residents Association of Hout Bay ⁎ SAPD, Eendekuil ⁎ SAPS, Piketberg ⁎ Sunday Times ⁎ Rhenosterhoek Eendekuil Department of Development Studies UNISA ⁎ University of Cape Town (Environmental & Geographical Science Department) ⁎ University of Pretoria	To date no comments were received	-	Not applicable as no comments were received.

⁒ WESSA ⁒ Winelands Action Group ⁒ Yellowfish Working Group			
⁒ Afrikaner, J ⁒ Alexander, S ⁒ Anderson, B ⁒ Arends, C ⁒ Arthur, B ⁒ Ashwell, A ⁒ Beech, C ⁒ Black, A & A ⁒ Blankenberg, K & F ⁒ Blankenberg, M ⁒ Bond-Smith, M ⁒ Boois J & A ⁒ Boois, S & R ⁒ Booysen M & J ⁒ Bosman, L ⁒ Botha, A & G ⁒ Botha, G ⁒ Brand, G ⁒ Brinkworth, B ⁒ Brown, N ⁒ Brown, TW ⁒ Bruwer, P ⁒ Bubb, G ⁒ Burger, M ⁒ Burke, D ⁒ Burton-Moore, D ⁒ Burton-Moore, P & V ⁒ Campbell, B ⁒ Castens, P & J & T	To date no comments were received	-	Not applicable as no comments were received.

Chris, S Claasen, B Clayton, J Cloete, E Cloete, RC Coetzee, AM Coetzee, G Coetzee, GM & DH Coetzee, K Cohen, M Cowley, C Cox, R Craword, P Da Camara, C Daniels, J De Villiers, E De Villiers, G De Villiers, J De Vries, A De Wet, C Delmotte, A Du Plessis, BA Du Plessis, S Engelbrecht, J Engelbrecht, J Engelbrecht, L Engelbrecht, M Engelbrecht, S Enodada, L Everett, J Fazel-Ellahi, S Ferrar, R			

⁎ Forbes, L ⁎ Fortuin, A ⁎ Frans, A ⁎ Freemantle, J ⁎ Fyfe, B & L ⁎ Gallimore, J & M ⁎ Geldenhuys, M ⁎ Geldenhuys, M ⁎ Gelderblom, C ⁎ George, C ⁎ Gilbert, A ⁎ Gildenhuys, D ⁎ Goedeman, B ⁎ Goldring, M ⁎ Gradidge, C ⁎ Greyling, D & J & M ⁎ Greyling, I ⁎ Grutter, H ⁎ Haarburger, R ⁎ Haarburger, R ⁎ Hamer, E & J ⁎ Hanekom, A & E & S ⁎ Heath, P ⁎ Heering, L ⁎ Hotchkiss, T ⁎ Hugo, C & P ⁎ Hurworth, M ⁎ Hurworth, S ⁎ Jacobs, C ⁎ Jacobs, J ⁎ Jacobus, C ⁎ Jafta, E			

⁎ Jafta, J & H & M & F ⁎ Jafta, M ⁎ Jafta, W ⁎ Jansen, L ⁎ Jantjies, J ⁎ Januarie, A ⁎ Jeffery, A ⁎ Jeffry, S ⁎ Johnson, MT ⁎ Josephs, Mr & Mrs ⁎ Joubert, A ⁎ Joubert, M ⁎ Julius, J ⁎ Kankowski, N & T & E & C ⁎ Karolis, S ⁎ Karolus, M & D & G & L ⁎ Keams, A ⁎ Kellerman, P ⁎ Kelly, P ⁎ Kerchhoff, G ⁎ Keyster, B ⁎ Kilbey, s ⁎ Klaasen, A & J ⁎ Klaasen, C ⁎ Klase, G ⁎ Krause, E ⁎ Kriel, JG ⁎ Krogscheepers, J ⁎ Kruger, L ⁎ L'Ons, L ⁎ Lamont, A ⁎ Lamont, J			

⁎ Langenhoven, L ⁎ Le Roux, B ⁎ Lewarne, M ⁎ Lodge, M & J ⁎ Loewenthal, M & C ⁎ Loff, S & B ⁎ Longden-Thurgood, M ⁎ Louw, H ⁎ Louw, J ⁎ Louw, P ⁎ Lucke, C ⁎ Marais, K ⁎ Marlow, Mrs ⁎ Maseleni, R ⁎ Members of P.O. Box 171, Piketberg ⁎ Members of P.O. Box 67, Piketberg ⁎ Mhlalophe ⁎ Miggel, G ⁎ Moretti, R ⁎ Morgan, J ⁎ Mostert, M ⁎ Nienaber, MJ ⁎ Oktober, B ⁎ Oliver, AM ⁎ Otzen, F ⁎ Paine, T & H ⁎ Petersen, E ⁎ Pienaar, M ⁎ Pienaar, N ⁎ Pieters, G ⁎ Pieters, L ⁎ Pretorius, CM			

⁒ Priestley, R ⁒ Priestly, T ⁒ Prinsloo, S ⁒ Prophet, C & C ⁒ Richer, H ⁒ Roberts, H ⁒ Roberts, T ⁒ Rohloff, W ⁒ Roniger, D ⁒ Rossouw, A ⁒ Rudd, BJ ⁒ Saayman, M ⁒ Savvides, B ⁒ Schmidlin, H ⁒ Schnetler, AR & CRR ⁒ Schoeman, M ⁒ Sheard, J ⁒ Simons, D ⁒ Smit, C & P N ⁒ Smit, HE ⁒ Smit, HP ⁒ Smit, NM ⁒ Smith, C ⁒ Smith, F & C ⁒ Smith, G ⁒ Smith, JW ⁒ Snewe, C ⁒ Snyders, G & J ⁒ Stobart, T ⁒ Stone, T ⁒ Strange, F ⁒ Strauss, PJE			

⁒ Swanepoel, E & J & D ⁒ Swanepoel, M ⁒ Swanepoel, M ⁒ Swanepoel, P & M ⁒ Swanepoel, T & J ⁒ Swart, J ⁒ Swarts, C ⁒ Swarts, K & A ⁒ Swarts, R ⁒ Swats, R ⁒ Sweetman, H ⁒ Taylor, J ⁒ Taylor, J ⁒ Taylor, K ⁒ Taylor, L ⁒ Taylor, P ⁒ Taylor, P ⁒ Templeton, R ⁒ Thomas, GS ⁒ Thomson, J ⁒ Thomson, M ⁒ Titus, J ⁒ Titus, L ⁒ Todd, A ⁒ Todd, J ⁒ Todkill, W ⁒ Tredoux, H ⁒ Tredoux, J ⁒ Tripp, M ⁒ Truter, E & A ⁒ Truter, J & J ⁒ Twine, C			

⁒ Van der Leek, M ⁒ Van der Merwe, G ⁒ Van der Merwe, I ⁒ Van der Merwe, J ⁒ Van der Merwe, S ⁒ Van der Merwe, W ⁒ Van der Westhuizen, E & P ⁒ Van Hase, A ⁒ Van Lill, M ⁒ Van Niekerk, PJC ⁒ Van Rensburg ⁒ Van Riet, W ⁒ Van Rooy, I ⁒ Van Rooy, R ⁒ Van Staden, D ⁒ Van Wyk, B & A ⁒ Van Wyk, C ⁒ Van Wyk, J ⁒ Van Wyk, K ⁒ Van Zeuner, J ⁒ Vermeulen, H ⁒ Visser, F & H ⁒ Visser, G & H & J ⁒ Vosse, S ⁒ Ward, V ⁒ Watson, E ⁒ Weimers, W ⁒ Wesseman, G ⁒ Wickins, C ⁒ Wiese, A & K ⁒ Wiese, K ⁒ Willems, B			

⁎ Williams, C ⁎ Williams, F ⁎ Williams, G ⁎ Willows, B ⁎ Willows, D			
Agri Western Cape	06/12/2018	Ilana de Klerk registered Messrs. Strydom and Wessels on behalf of Agri Western Cape as I&AP's on the project.	Greenmined acknowledged receipt of the registration on 7 December 2018, and registered Agri Western Cape accordingly.
Baty, Simon (Matroozefontein Farm & Unifrutti)	20/12/2018	Simon Baty submitted an objection (as listed below) on behalf of Unifrutti to the proposed project.	Greenmined acknowledged receipt of the objection on 7 December 2018, and responded as listed below.

Comments received from Unifrutti:

1. "Unifrutti is objecting to the application of a Mining Right by Bongani Minerals in terms of Section 22 of the Mineral and Petroleum Resources Development Act, 2002 in the Moutons Hoek Valley.

   The objection is based on the long term impact of the mine on the quality and availability of the underground water resources in the area and the negative impact it will have on farming activities in the Sandveld.

2. The following comments are made:

   There is considerable historical evidence of the negative impact open cast mining has on the quality and availability of underground water in the vicinity of mining operations. Matroozefontein is situated 28.5 km's from the proposed mine site as the crow flies. The Moutons Hoek valley is an important catchment are for the Veloren Vlei and for replenishing underground water in the Sandveld. This is the best quality water source for the Veloren Vlei and for replenishing underground water in the area. The other catchment areas provide water that is high in salts. Matroozefontein obtains its water from 15 boreholes on the farm. Matroozefontein has a permit to withdraw more than 2 million cubic meters of water/annum. Unifrutti has spent a considerable sum of money investigating the long term sustainable yield and quality of the water from the boreholes on the farm before it purchased the farm in 2004. The tests were done by De Villiers Visser Besproeiing and analyzed by SRK consulting (Compiled by A.C. Woodford). The tests were done for the planning of future citrus and table grape plantings on the farm. Any negative impact to the water resources on the farm will jeopardize the current and future developments on Matroozefontein. This will have negative implications on the long term profitability of the farm and negatively impact employment in the area. Matroozefontein employs a large number of seasonal and permanent people (in excess of 300 people). Currently Matroozefontein is monitoring its boreholes (levels and water quality) on a monthly basis. All the drinking water for Redelinghuys is supplied from the fountain on Matroozefontein. This amounts to 31 liters/second

(977,616 cubic m's/annum). Any changes to the quality and availability of the water from the fountain will have serious health, welfare and development implications for the town. It needs to be pointed out that this residential water qualifies as a priority one supply."

Response to Unifrutti:

"Greenmined Environmental (hereinafter "Greenmined") herewith thank you for your interest, and acknowledge receipt of your objection on 20 December 2018 with regard to the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd.

Greenmined, on behalf of the applicant, registered Unifrutti as an interested and affected party (I&AP) on the project, and will henceforth keep you posted on the progress of the Environmental Impact Assessment process, as well as provide you with an opportunity to comment on the EIA documentation. Your comments are noted and will be included in the scoping report and assessed in the environmental impact assessment report. Your comments will also be forwarded to the geohydrological specialist to be incorporated and assessed in his study.

We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."

Boois, E	08/01/2019	Eldine Boois objected to the project and submitted the comments as listed below.	Greenmined registered Me. Boois on 8 January 2019 and responded as listed below.

Comments received from Me. Boois (translated to English for ease of reference):

Me. Boois strongly objected against the project and stated the following: "Your submission is vague and unclear and not to our advantage. You just want to use up our water and destroy the wetland."

"Ek maak ten sterkste objeksie! Julle voorlegging is vaag en onduidelik en nie tot ons voordeel nie. Julle wil net ons water opgebruik en die vleiland vernietig!"

Response to Me. Boois (translated to English for ease of reference):

Greenmined Environmental (Pty) Ltd (hereinafter referred to as "Greenmined") hereby acknowledges receipt of your letter, received on 8 January 2019, in respect of the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd. Greenmined, on behalf of the applicant, has registered you as an interested and affected party (I&AP) on the project and will henceforth keep you informed of the progress of the Environmental Impact Assessment (EIA) process, you will also be given the opportunity to comment on the EIA documentation.

The impact of the proposed mining on the socio-economic condition as well as the water in the receiving environment will be examined, assessed and discussed in the Environmental Impact Assessment Report. As an I&AP, the report will also be made available to you for commenting. We trust that you will find the above in order. Please contact me if there are any uncertainties.

"Greenmined Environmental (Pty) Ltd (hierna genoem "Greenmined") erken hiermee ontvangs van u skrywe, soos ontvang op 8 Januarie 2019, ten opsigte van die mynreg aansoek wat namens Bongani Minerals (Edms) Bpk ingedien is.

Greenmined, namens die aansoeker, het u as 'n belanghebbende en geaffekteerde party (B&GP) op die projek geregistreer en sal u voortaan op hoogte hou van die vordering van die omgewingsinvoedbepalingsproses (OIB), u sal ook die geleentheid gebied word om kommentaar te lewer op die OIB-dokumentasie.

Die impak wat die voorgestelde myn op die sosio-ekonomiese toestand, sowel as die water in die omgewing mag het sal in die omgewingsimpakbeoordelingsverslag ondersoek, beoordeel en bespreek word. As B&GP sal die verslag ook aan u beskikbaar gestel word vir kommentaar.

Ons vertrou dat u die bogenoemde in orde vind. Kontak my gerus indien daar enige onsekerhede is."

Brink, Pierre	05/12/2018	Pierre Brink requested an electronic copy of the BID.	Greenmined emailed the BID to Mr. Brink on 6 December 2018. To date no additional comments were received.
Coetzee, Martin (Marcec Legal Consulting)	14/12/2018	Adv Martin Coetzee submitted the comments as listed below.	Greenmined responded to Adv Coetzee's comments on 8 January 2019 as listed below.

Comments received from Adv. Coetzee:

"Thank you for sending me a notification of this.

I have been and still will be forwarding this to my clients as they were during 2012, and will await their instructions. It is unfortunate that this notification was issued at this time of year when many persons are on leave.

I am fairly certain that this application will be met, as it was in 2012 with the Applicant's prospecting right application, with vigorous opposition.

Unfortunately, the BID is not very helpful, because of its generalist nature. It offers no substantive information or reasoning.

As an example, it is completely silent about the fact that this application is brought in respect of a promulgated protected environment namely, the Moutonshoek Protected Environment. It is not clear how the applicant intends to circumvent the restrictions imposed on mining in this MPE by the National Environment: Protected Areas Act, 2003.

Furthermore, it is a fact that the application will be brought in respect of agricultural land. An application will have to be made to the local authority for consent use to allow mining.

It will therefore be appreciated if the Applicant would indicate if it has applied for such consent use, and, if so, to provide me with copies of the application in respect of each of the portions of land affected.

Looking forward towards receiving the Applicant's soonest response."

Additional comments submitted by Adv Coetzee (21 December 2018):

"Further to my unanswered email below, the following:

1. According to your BID it is stated that notice is given of an application of a mining right. In this regard
   - Was an application submitted to and accepted by the DMR, and, if so, kindly provide the DMR reference number for this application?
2. It is further stated that "*Owing to the outcome of the prospecting operation, the applicant wishes to apply for a mining right for the winning of tungsten and molybdenum*" In this regard
   - On which portions of land were these "prospecting operations" conducted?
   - Can documentation reflecting and confirming the "outcome of the prospecting operation" be made available?

Looking forward towards receiving your soonest responses."

Response to Adv. Coetzee:

"Greenmined Environmental (Pty) Ltd (hereinafter referred to as "Greenmined") would like to thank you for your interest and herewith acknowledge receipt of your correspondence dated 14 and 21 December 2018 with regards to the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd.

Greenmined, on behalf of the applicant, registered you as an interested and affected party (I&AP) on the project, and will henceforth keep you posted on the progress of the Environmental Impact Assessment (EIA) process, as well as provide you with an opportunity to comment on the EIA documentation.

Land Use Application:

Greenmined herewith confirms that the applicant is aware of the rezoning application to be lodged with the competent authorities, however the said application is still in progress and has not yet been submitted.

Mining Right Acceptance:

Attached hereto please find a copy of the acceptance letter issued by the DMR on 14 December 2018 with regard to the mining right application. The project specific reference number is: WC 30/5/1/2/2/10110 MR.

Prospecting Operation:

The prospecting operation referred to in the BID included geological re-logging of the available historic diamond drill core, resampling of a select number of these holes and a short-lived diamond drilling programme on the Remainder of Portion 6 (portion of portion 2) Namaquasfontein Farm No 76. Your request for "documentation reflecting and confirming the outcome of the prospecting operation" has been forwarded to the applicant and we will respond accordingly upon receipt of the relevant documentation.

We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."

Duncan, RV (Pomona Farm)	10/12/2018	Rob Duncan objected to the proposed project and requested additional information on hydrology, employment, and fauna and flora. He enquired how underground water will be affected, stated that the mine may decrease jobs in the area and not increase them, and was concerned that natural areas will be cleared. He further enquired about the risk to the Verlorenvlei. Mr. Duncan requested that Gus Pickard be added to the contact list.	Greenmined acknowledged receipt of the objection on 11 December 2018, and registered Mr. Duncan accordingly. Mr. Duncan's comments were include in the scoping report, and will be assessed in the environmental impact assessment report, both of which documents will be made available for public review and commenting. To adequately address the comments it will be forwarded to the hydrologist, socio-economic specialist as well the ecologist for inclusion in their studies. Mr Pickard was informed of the project on 11 December 2018. To date no comments were received from Mr Pickard.

Freemantle, RJ	12/12/2018	Roderick John Freemantle submitted the comments as listed below.	Greenmined registered Mr. Freemantle and responded as listed below.

Comments received from Mr. Freemantle

"Please explain how you expect to receive the background information for registration as an Interested and Affected Party when the form you provide cannot be sent electronically. Do you expect it to be sent by post? How do you expect the people of this rural community to register, the people most affected, the majority of whom have no access to computers or post offices?

You may as well get used to my name.

Anyone involved actively or passively in the application for the right to mine in the Moutonshoek watershed will get to know me very well.

We have been down this road before. Whatever it takes, we will go through the whole boring, wasteful process of putting a stop to this mining bid once and for all."

Response to Mr. Freemantle:

"Greenmined Environmental (hereinafter "Greenmined") herewith acknowledge receipt of your correspondence received 12 December 2018 with regard to the proposed mining right application to be submitted on behalf of Bongani Minerals (Pty) Ltd.

Greenmined registered you as an interested and affected party on the project, and will henceforth keep you posted on the progress of the Environmental Impact Assessment process.

With reference to the sending of the background information document, please note that the form can be saved to your computer from where it can be filled in electronically and attached to an email. However, registration and/or commenting on the project does not necessitate the actual BID form and comments can be send to us by any means (email, post, fax) available to you. Please also note that the initial public notification process further (apart from the notification emails sent by the mailchimp system) included an advertisement in both Die Burger as well as Die Weslander, the placement of 5 on-site notices throughout the study area, as well as providing people without email addresses with letters sent to their postal boxes. Should any person need assistance with the submission of comments he/she is welcome to contact us telephonically and we will assist as best we can.

We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."

Mr Freemantle acknowledge receipt of the requested information on 13 December 2018.

Gresse, F	09/01/2019	Franci Gresse registered as I&AP on the project and requested that Ms. H Nieuwoudt from the DEA: Working for Wetlands Programme also be invited to comment.	Greenmined acknowledged receipt of the correspondence on 9 January 2019 and registered Me. Gresse accordingly. As requested Ms. Nieuwoudt was supplied with a BID and invited to comment on the project.
Karookop Primary School	07/01/2019	HSP Brand registered the Karookop Primary School as I&AP on the project and submitted the comments as listed below.	Greenmined acknowledged receipt of the objection on 8 January 2019, and responded as listed below.

Comments received from Mr. Brand (translated to English for ease of reference):

Mr. Brand objected on behalf of the Karookop Primary School to the development of the proposed mine. Mr. Brand requested all information to be supplied in Afrikaans and Xhosa since the majority of people are either Afrikaans- or Xhosa. Mr. Brand is concerned about the safety of learners that daily uses the road on their way to school, as the same road will be used by trucks. Mr. Brand stated that noise levels (as a result of the mine) will make teaching very difficult since the mine will border the school. Another concern is that the health of learners may be affected as a result of dust and other gasses generated as a result of the mine. Mr. Brand stated that many parents will lose their jobs and the existence of the school will be threatened.

Response to Karookop Primary School (translated to English for ease of reference):

Greenmined Environmental (Pty) Ltd (hereinafter "Greenmined") hereby acknowledges receipt of your letter, received on 8 January 2019, regarding the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd. Greenmined, on behalf of the applicant, has registered the Karookop Primary School as an interested and affected party (I&AP) on the project and will henceforth keep you informed of the progress of the Environmental Impact Assessment (EIA) process, you will also be given the opportunity to comment on the EIA documentation. We take note of your request for project information to be made available in Afrikaans and Xhosa. The concerns listed by you will form part of the draft Scoping Report and will be examined in the Environmental Impact Assessment Report. Your comments will also be send to the traffic engineer (responsible for the traffic impact assessment), as well as the specialists responsible for the noise impact study, atmospheric impact assessment, and socio-economic impact assessment in order to assess the potential impacts on the study area. We trust that you will find the above in order. Please contact me if there are any uncertainties.

“Greenmined Environmental (Pty) Ltd (hierna “Greenmined”) erken hiermee ontvangs van u skrywe, soos ontvang op 8 Januarie 2019, ten opsigte van die mynreg aansoek wat namens Bongani Minerals (Edms) Bpk ingedien is.

Greenmined, namens die aansoeker, het die Karookop Primêre Skool as ‘n belanghebbende en geaffekteerde party (B&GP) op die projek geregistreer en sal u voortaan op hoogte hou van die vordering van die omgewingsinvoedbepalingsproses (OIB), u sal ook die geleentheid gebied word om kommentaar te lewer op die OIB-dokumentasie.

Ons neem kennis van u versoek dat projek inligting in Afrikaans en Xhosa beskikbaar gestel moet word.

Die bekommernisse soos deur u gelys sal deel vorm van die konsepbestekopnameverslag en ondersoek word in die omgewingsimpakevalueringsverslag. U kommentaar sal ook aan die verkeersingenieur (verantwoordelik vir die verkeer impakassessering), asook die spesialiste verantwoordelik vir die geraasimpakstudie, atmosferiese impakbepaling, en sosio-ekonomiese impakstudie gestuur word sodat hulle die potensiële impak daarvan op die studie area kan evalueer. Ons vertrou dat u die bogenoemde in orde vind. Kontak my gerus indien daar enige onsekerhede is.”			
Krom Antonies Bewarea	14/12/2018	Jacqui van der Merwe registered the Krom Antonies Bewarea as an I&AP on the project and submitted the following comments as listed below.	Greenmined acknowledged receipt of the objection on 8 January 2019, and responded as listed below.
Comments received from Mrs. Van der Merwe (translated to English for ease of reference): I was and remain an affected person, just as everyone to whom you sent this document. We expect you to automatically replace everyone on your list. Can you please send this document as soon as possible in Afrikaans and Xhosa? The affected area is mostly Afrikaans and Xhosa speaking with very little English. As you probably know it is the Boland. We also find it repugnant that these notifications are sent out just before the holiday season. I assume you are not concerned about your reputation either. Just ask Withers Environmental. I hope you indeed want to “protect the planet”. “Ek was en bly 'n geaffekteerde persoon, en net so almal aan wie jul hierdie dokument stuur. Ons verwag dat julle almal outomaties weer op jul lys sal sit. Kan jul asb hierdie dokument so gou as moontlik in Afrikaans en Xhosa stuur? Die geaffekteerde gebied is meestal Afrikaans en Xhosa en bittermin Engels. Soos jy seker weet is dit die Boland. Ons vind dit ook afstootlik dat hierdie kennisgewings uitgestuur word net voor die vakansie seisoen. Ek aanvaar dat jul ook nie bekommerd is oor jul reputasie nie. Vra maar vir Withers Environmental. Ek hoop jul wil wel die "planeet beskerm."			
Response sent to Mrs. Van der Merwe (translated to English for ease of reference): Greenmined Environmental (hereinafter "Greenmined") hereby acknowledges receipt of your letter, received on 14 December 2018, in respect of the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd. Greenmined, on behalf of the applicant, has registered you as an interested and affected party (I&AP) on the project and will henceforth keep you informed of the progress of the Environmental Impact Assessment (EIA) process, you will also be given the opportunity to comment on the EIA			

documentation. Please note that we have already contacted the I&AP's registered on the previous mining application (as handled by Withers Environmental). Since the application took place some time ago (2009), we receive a lot of feedback that people no longer reside in the area, or no longer want to be involved. The document can be made available in Afrikaans and Xhosa. Could you please provide us with the contact details of the Xhosa and Afrikaans speaking I&AP's to enable us to contact them accordingly? Please note that the commenting / registration period extends to 5 February 2019. We trust that you will find the above in order. Please contact me if there are any uncertainties.

"Greenmined Environmental (hierna "Greenmined") erken hiermee ontvangs van u skrywe, soos ontvang op 14 Desember 2018, ten opsigte van die mynreg aansoek wat namens Bongani Minerals (Edms) Bpk ingedien is.

Greenmined, namens die aansoeker, het u as 'n belanghebbende en geaffekteerde party (B&GP) op die projek geregistreer en sal u voortaan op hoogte hou van die vordering van die omgewingsinvoedbepalingsproses (OIB), u sal ook die geleentheid gebied word om kommentaar te lewer op die OIB-dokumentasie. Neem asb kennis dat ons reeds die B&GP'e gekontak het wat op die vorige mynregaansoek (soos hanteer deur Withers Environmental) geregistreer was. Aangesien die aansoek 'n tyd gelede plaasgevind het (2009), kry ons heelwat terugvoer van persone wat nie meer in die omgewing woon, of betrokke wil wees nie.

Die dokument kan in Afrikaans en Xhosa beskikbaar gestel word. Kan u ons asb voorsien van die kontakbesonderhede van die Xhosa en Afrikaanssprekende B&GP'e om ons in staat te stel om hulle dienooreenkomstig te kontak?

Let asseblief daarop dat die kommentaar-/registrasieperiode tot 5 Februarie 2019 strek.

Ons vertrou dat u die bogenoemde in orde vind. Kontak my gerus indien daar enige onsekerhede is."

Munro, L	08/01/2019	Lynette Munro registered as an I&AP on the project and requested a copy of the DSR.	Greenmined acknowledged receipt of the request on 8 January 2019 and registered Me Munro accordingly. A copy of the DSR will be supplied in due course.
Munro, M (Munstone)	14/12/2018	Mark Munro registered as an I&AP on the project and submitted the following comments as listed below.	Greenmined acknowledged receipt of the comments on 8 January 2019 and responded as listed below.

Comments received from Mr. Munro:

Mr. Munro reserved his opinion until receipt of the various impact assessments and studies have been made available through the EIA process. He requested copies of the geohydrological report, engineering services report, freshwater ecological assessment and ecological study. Mr. Munro tendered concern about the potential effect on the groundwater table and conditions of water, and requested that the engineering services report define effluent and waste water run-off. Further to this, he offered concern about dust control (generated as a result of mining and hauling), as well as the receiving environment.

Mr. Munro stated that in principle he supports the activity contributing to the socio-economic improvement of the region subject to the committed and monitored preservation of the receiving environment.			
Response to Mr. Munro: "Greenmined Environmental (hereinafter "Greenmined") herewith thank you for your interest, and acknowledge receipt of your correspondence received 14 December 2018 with regard to the mining right application submitted on behalf of Bongani Minerals (Pty) Ltd. Greenmined, on behalf of the applicant, registered you as an interested and affected party (I&AP) on the project, and will henceforth keep you posted on the progress of the Environmental Impact Assessment process, as well as provide you with an opportunity to comment on the EIA documentation. Your concerns are noted, will be included in the scoping report, and assessed in the environmental impact assessment report of which the geohydrological-, engineering services report, freshwater ecological assessment, and ecological study will form part. We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."			
Sheard, B	08/12/2018	Ben Sheard registered as an I&AP on the project and submitted the comments as listed below.	Greenmined acknowledged receipt of the correspondence on 11 December 2018 and responded as listed below.
Comments received from Mr. Sheard: Mr. Sheard objected to the project and requested additional environmental reports and information. Mr. Sheard stated that: "Bongani Minerals applied for this same permit a few years ago, and it was quickly shut down. They are now applying again. They are planning on mining in the same valley as the Verlorenvlei, which is a RAMSAR-protected site. The mining operation will undoubtable have a negative effect on the surrounding environment, and it cannot be allowed to proceed."			
Response to Mr. Sheard: "Greenmined Environmental (hereinafter "Greenmined") herewith thank you for your interest, and acknowledge receipt of your objection received 8 December 2018 with regard to the proposed mining right application to be submitted on behalf of Bongani Minerals (Pty) Ltd.			

Greenmined, on behalf of the applicant, registered you as an interested and affected party (I&AP) on the project, and will henceforth keep you posted on the progress of the Environmental Impact Assessment process, as well as provide you with an opportunity to comment on the EIA documentation. Your comments are noted and will be included in the scoping report and assessed in the environmental impact assessment report. We trust you will find this in order. Please do not hesitate to contact me in the event of any uncertainties."			
Van Zyl, F	05/12/2018	Fritz van Zyl requested a copy of the BID and enquired whether it was available in Afrikaans.	Greenmined supplied Mr. Van Zyl with an electronic copy of the BID on 6 December 2018, and responded (in Afrikaans) that the BID is currently only available in English but should Mr. Van Zyl require an Afrikaans document, it could be translated. Mr. Van Zyl has to date not requested an Afrikaans copy of the BID.
Visser, M	05/12/2018	Minette Visser registered as an I&AP on the project and requested a copy of the BID form.	Greenmined supplied Me Visser with a copy of the BID on 6 December 2018 and registered her as an I&AP. To date no additional comments were received from Me. Visser.
Yeld, J	11/12/2018	John Yeld registered as an I&AP on the proposed project.	Greenmined registered Mr. Yeld as an I&AP on 11 December 2018.

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 mining project. The information provided here was obtained from desktop studies and must be treated as preliminary. More detailed information based on site specific conditions, obtained during site assessments and focussed investigations will be collected during the EIA process and elaborated on in the DEAIR.

PHYSICAL ENVIRONMENT

CLIMATE

The West Coast is described by hot, dry summers, strong winds and low rainfall. Strong southerly winds blow in spring and summer with strong north-westerly winds in winter.

The Piketberg area receives winter rainfall and is known for its Mediterranean climate. The average rainfall of the area is about 373 mm per year (see average monthly rainfall values in the chart below). Piketberg Mountain receives on average more rain than the surrounding flats, although the flats alongside the Krom Antonies River, generally benefit from the precipitation runoff.

The monthly distribution of average daily maximum temperatures (centre chart below) shows that the average midday temperatures for Piketberg range from 17.3°C in July to 30°C in February. Piketberg Mountain is generally a bit colder than the surrounding flats, while the soils on the mountain are slightly less stressed for moisture over the year.

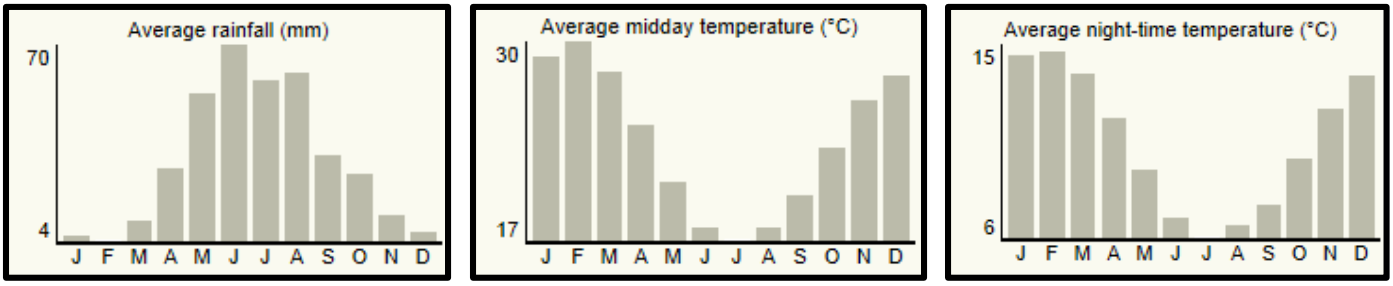

Figure 2: Charts showing the climatic averages of the Piketberg area (image obtained from SAExplorer).

TOPOGRAPHY

(Information extracted from the Preliminary Assessment of Impact of the Proposed Riviera Tungsten Mine on Groundwater Resources, SRK Consulting Engineers, 2009)

The majority of the study area lies at an elevation of >100 m above mean sea-level (mamsl), except along the lower reaches of the Krom Antonies, Boesmans, Kruismans and Eselshoek Rivers, which lie below the 100 mamsl level. A number of NW-SE to N-S trending, lithologically and tectonically controlled ranges of hills and mountains occur, namely the Piketberg range which attains a maximum altitude of approximately 1 450 mamsl. The Sandberg lies to the west of the site.

GEOLOGY

(Information extracted from the Final Scoping Report for the Proposed Riviera Tungsten Open-Cast Mining Project, Withers Environmental Consultants, 2009)

Folded and faulted sediments of the Cambrian Malmesbury Group are widespread in the Western Cape north of Cape Town, where they are known to be intruded at a large number of localities by stocks of Pre-Cambrian Cape Granite, and to contain significant thicknesses of carbonate, to the point of being commercially exploitable, e.g. limestone at Piketberg.

The predominant sediments of the Malmesbury Group on a regional scale are phyllites, with higher-grade schist locally developed, such as at Riviera. Granite intrusion was accompanied by contact metamorphism, including metasomatism of the invaded sediments. Following a period of erosion of the geosynclinal assemblage, sediments of the Cape Supergroup, comprising mainly quartzitic sandstones, were assumed to have blanketed the entire region. Subsequent break-up of Gondwanaland saw erosion along, and inland from, the newly formed coastline and the older rocks were re-exposed on the coastal flats thus formed. Accumulation of colluvial and fluviatile sediments along scree slopes and river courses was a parallel process, so that reburial of exhumed surfaces was widespread, as, for example, at Riviera.

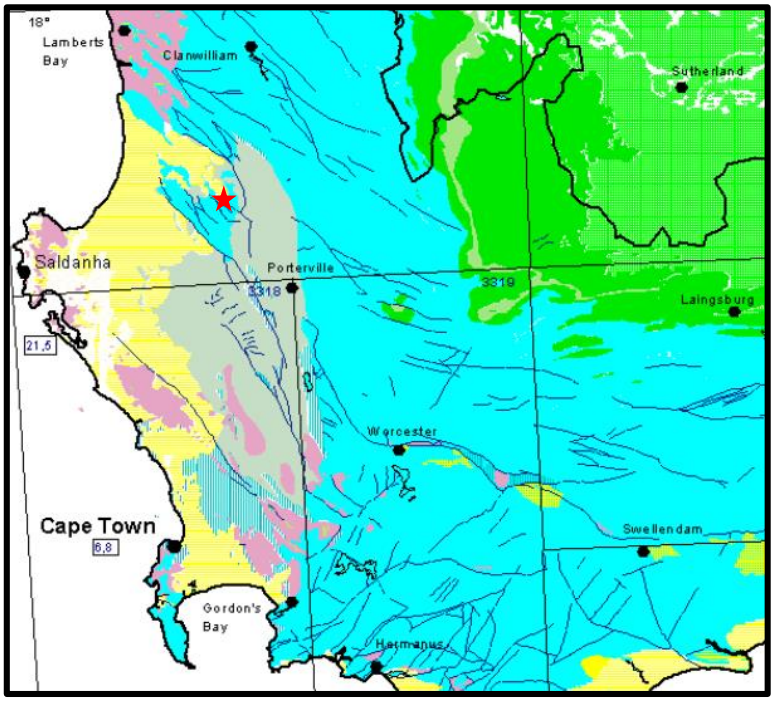

Figure 3: Indication of the simplified geology of the study area, where yellow represents Cenozoic deposits, light blue the Cape Supergroup, and grey Archaean Granite and Gneiss. The proposed mining area is indicated by the red star. (Image obtained from the Council for Geoscience)

HYDROLOGY

(Information extracted from: 1. Hydrology Report for the Riviera Tungsten Deposit, Withers Environmental Consulting; 2. Preliminary Comments on Affected Freshwater Ecosystems with Highlighting of Issues Requiring Detailed Assessment – Scoping Phase, Day, 2009; 3. Preliminary Assessment of Impact of the Proposed Riviera Tungsten Mine on Groundwater Resources, SRK Consulting, 2009)

The proposed mining area is located in the Verlorenvlei River catchment and includes the following quaternary catchments that drain the major tributaries:

- G30B Kruis River;
- G30C Bergvallei River;
- G30D Krom Antonies River & the Hol River;
- G30E Verlorenvlei River.

Significant amounts of runoff are generated in the Krom Antonies River catchment upstream of the proposed development. The flow in all the quaternary catchments, especially G30D and G30E is extreme seasonal with practically zero natural flow in the summer months. G30B and G30C do indicate a small but continuous low flow during the summer months. The irrigation demand in this catchment cannot be met from surface water runoff as mean annual demand is more than double the mean annual runoff. The irrigation shortfall is supplied by groundwater. The Krom Antonies River at the proposed mining area has a relatively low firm yield associated with a relatively large capacity as a result of the seasonality of flow (large winter spills) and high evaporation. The Daily Flow Analysis at the Verlorenvlei Estuary shows that midsummer flow is mostly non-existent with zero flow occurring 90% of the time from February to April. The highest flows occur in August when 10 m^3/s are exceeded 10% of the time.

The hydrological and water quality assessment compiled by Aurecon in 2009 (Rossouw) on the study area concluded that the water quality in the Krom Antonies River was relatively good compared to the Hol- and Kruismans Rivers which proofed to be more saline. This report postulated that the Krom Antonies River most likely controlled the quality of the water in the Verlorenvlei River downstream of the confluence of the three rivers.

The Verlorenvlei Estuary, situated between Elands Bay and Redelinghuys (±24 km north-west of the Moutonshoek Valley), is a protected RAMSAR site (No 525) as declared June 1991. Dr Day describes the Verlorenvlei Lake as "*one of the largest natural wetlands along the west coast of South Africa and one of the few coastal fresh water lakes*" in her preliminary comments on affected freshwater ecosystems with regard to the proposed mining of the Riviera Tungsten Deposit in the Krom Antonies River Valley, 2009. Dr Day noted that surface flows in the Verlorenvlei catchment tend to be primarily limited to event-driven short-duration episodes, and stated that groundwater plays a strong role in maintaining the Kruis River / Verlorenvlei river system. The Krom Antonies River was classified as a (major channel) valley bottom wetland in terms of the National Wetland Classification, with most of the mapped wetlands within the valley classified as floodplain wetlands (Day 2009).

The hydrogeology of the study area notes two types of aquifers, namely an unconfined primary or intergranular aquifer formed by alluvial sediments in the valley and a semi-confined secondary or fractured-rock aquifer formed by secondary openings in the crystalline and sedimentary hard-rock formations. The preliminary assessment of the impact of the proposed Riviera Tungsten Mine on groundwater resources in the study area, compiled by SRK Consulting in 2009 postulated that faulted contact zones of the Riviera Pluton are expected to represent a well-developed fractured-rock aquifer, which may be capable of yielding large volumes of groundwater.

The report noted that based on previous exploration drilling borehole logs the primary aquifer in the study area is inferred to vary in thickness from <5 m near the flanks and upper reaches of the valley up to ±30 m or more in the centre of the valley near the Krom Antonies River. In the area overlying the ore body and within a 2 km radius of it the primary aquifer was expected to vary in thickness from 10 to 30 m. The second aquifer was expected to extend from the bedrock subsurface to well below the ore body i.e. a thickness of 80 to 200 m and more.

Information obtained from the DWS National Groundwater Database reported water levels, of boreholes relevant to the study area, with depths ranging from ±21 m along the valley slopes to ±1 m in the valley floor. The average depth to water level is 10.8 mbgl, with a minimum of 0.4 mbgl and a maximum of 44 mbgl. Groundwater flows locally from the higher laying valley flanks of the Krom Antonies River and regionally in a north-westerly direction and towards the mouth of the Krom Antonies River Valley (SRK 2009).

AIR QUALITY AND NOISE AMBIANCE

The air and noise ambiance of the study area was historically representative of an agricultural environment in which farming equipment operates with occasional dust emissions from denuded areas. The agricultural use of the study area intensified over years, and current land uses include wheat production, potato farming, vineyards, and horse breeding. The valley is accessed with the DR02172 gravel road turning from the tarred R366.

BIOLOGICAL ENVIRONMENT

MOUTONSHOEK PROTECTED ENVIRONMENT

(Information extracted from the Moutonshoek Protected Environment: Management Plan (Draft). Version 1.0. 2018. S Schroder, P Huntly, D Wright)

The Moutonshoek Protected Environment (MPE) was promulgated 20 April 2018 and extends across the following properties:

- Portion 1 of the farm Piketberg No 297;
- Remaining Extent of Portion 1 of the farm Namaquasfontein No 76;
- Portion 1 of the Farm No 77;
- Remaining Extent of the Farm No 78;

- Remaining Extent of Portion 3 of the farm Wilgenhoutdrift No 48;
- Remaining extent of the farm Piketberg No. 297;
- Portion 5 (a portion of Portion 4) of the farm Zebra Mount No. 75;
- Remaining extent of Portion 11 (a portion of Portion 7) of the farm Namaquasfontein No. 76;
- Remaining extent of the farm Ezelfontein No. 47;
- Portion 4 (a portion of Portion 1) of the farm Ezelfontein No. 47;
- Portion 5 of the farm Ezelfontein No. 47;
- Portion 8 of the farm Ezlfontein No. 47;
- Portion 5 of the farm Goergap No. 40;
- Farm Wilgerbosdrift No. 51;
- Remaining Extent of Portion 2 of the farm Wigenhoutdrift No 48;
- Remaining Extent of the farm Namaquasfontein No 76;
- Portion 6 (a portion of Portion 2) of the farm Wilgenhoutdrift No 48;
- Remaining Extent of Portion 7 (a portion of Portion 2) of the farm Namaquasfontein No 76;
- Portion 4 of the farm Namaquasfontein No 76;
- Portion 5 of the farm Namaquasfontein No 76; and
- Portion 21 of the farm Namaquasfontein No 76

The MPE management plan notes that *"…portions of the Moutonshoek valley and the Krom Antonies River as a whole have been identified as critical ecological support areas and buffers, and aquatic CBA and buffers respectively*. *This is a priority area due to future development threats, and presence of threatened vegetation types which are not currently in a protected area. Additionally, the area is of importance as the primary water catchment for the Verlorenvlei Estuary, a Ramsar site and an IBA."*

The allowable land uses within the MPE are specified within a zonation plan *"to control the intensity and type of use within it, in efforts to ensure the main goal of biodiversity conservation is met."* The first zone or "*Core Conservation Area*" consists of largely unmodified natural landscape with very limited human interaction. This zone includes sensitive- and extreme sensitive landscapes, areas of exceptional diversity, endemism and rarity, wetlands and seeps, and habitat corridors. The management guidelines associated with this area requires it to be managed as a conservation zone with specific focus on retaining habitat integrity and ecosystem functioning, and preserving the natural state and wilderness character of the area. No development is allowed with this area and current disturbances should be removed. Grazing of this area should be limited to extraordinary or emergency conditions.

The second zone or "*Intensive Agricultural and Grazing Area*" is characterized as accessible, modified landscape, largely developed and regularly used for agricultural purposes, including fallow lands. Management of this zone should focus on preserving the rural farmland appeal and character of the area, with cultivated lands managed to prevent an impact on the conservation of sensitive biodiversity features.

Other zones identified with the MPE include:

- Water Protection;
- Cultural Feature Protection;
- Species/habitat Protection;
- Visual Protection;
- Natural Resource Access.

GROUNDCOVER

(Information extracted from the Introduction to the Vegetation in the Riviera Tungsten Deposit Environs, Piketberg, Boucher, 2008)

Dr Boucher undertook a desktop study to collate baseline information about botanical features in the Krom-Antonies River Valley (also known as the Moutonshoek Valley), and compiled a preliminary report in 2008. The following vegetation types were observed by Dr Boucher:

- Swartland Shale Renosterveld;
- Leipoldtville Sand Fynbos;
- Piketberg Sandstone Fynbos;
- Piketberg Quartz Succulent Shrubland;
- Cape Lowland Alluvial Vegetation; and
- Cape Lowland Freshwater Wetlands.

Swartland Shale Renosterveld:

In the study area the Swartland Shale Renosterveld is present along the base of the Piketberg and in isolated patches where shales, shale derived clays and ferricretes are present at the surface, often along river banks and at the base of hills. It is restricted to the well-drained to seasonally waterlogged habitats. Heuweltjies (both active and eroded, inactive termite mounds) are commonly a feature. The vegetation is a low, relatively open shrubland, with many deciduous elements. Succulents and annuals may be common, and geophytes are a particular feature of this unit, especially after fire. Stunted trees are often associated with the heuweltjies. Restios may be present, but are never dominant. It is often very grassy in the first few years after a fire. This is usually a fire driven vegetation type.

Species diversity is high, and composition can be quite variable. Tall shrubs are common and succulents are conspicuous as are a few grasses. Mohria caffrorum is a very common fern. Bulbs are very common. Alien herbs and grasses can be a major problem, especially after fire.

Rare and threatened species are often recorded in the poorly documented Swartland Shale Renosterveld around the foothills of the Piketberg Mountain. All Swartland Shale Renosterveld areas are conservation priorities as they are “Critically endangered” nationally, but particularly important are the slopes around the northwest base of the Piketberg, which have produced a number of new species in the last few years.

Leipoldtville Sand Fynbos:

The Leipoldtville Sand Fynbos vegetation type is classified as "Endangered" nationally primarily as a result of it being heavily targeted for agriculture, as the deep, acid sandy soils are ideal for rooibos and potato cultivation. Exposed rock is rare within this vegetation type, although there may be small sandstone inselbergs. The unit occupies the sandy coastal plain, plus areas of extensive, deep acid sands in the northern Swartland.

This is a medium to tall shrubland, with prominent Restionaceae, Proteaceae, Fabaceae (*Aspalathus*), Polygonaceae, relatively few succulents or deciduous species and many annuals. Geophytes are fairly diverse, but not abundant. Indigenous trees are only present around sandstone outcrops. This vegetation type is exceptionally rich in special species, which is one of the primary reasons for concern about the high rate of habitat loss in the area. Given the exceptional concentration of rare, threatened and localised species in this unit the ongoing and rapid transformation of this habitat by agriculture is of major national conservation concern, made worse by the fact that no formal conservation areas protect this vegetation type. Agricultural transformation, primarily for potatoes and rooibos, is by far the most important pressure on this habitat, along with the associated effects such as a drop in the water table, which can result in the death of entire groundwater dependant ecosystems.

Piketberg Sandstone Fynbos:

Piketberg Sandstone Fynbos is classified nationally as "Least threatened" although none is included in statutory conservation areas while only 4% occurs in private nature reserves, because overall transformation is low (17%). The erosion product from these sandstones is causal to the Cape Lowland Alluvial vegetation occurring in the Krom Antonies River valley.

Piketberg Quartz Succulent Shrubland:

This vegetation type is described from the farm Draaihoek between Piketberg and Eendekuil (eastern foothills of the Piketberg Mountain and also occurs near Het Kruis and Redelinghuys (north of Piketberg Mountain) as well as near Sauer at the south-western foot of Piketberg Mountain. It is clearly associated with quartzites in Malmesbury Group shales around the base of Piketberg Mountain.

The Piketberg Quartz Succulent Shrubland is a low relatively sparse shrubland dominated by a sturdy succulent undescribed *Sarcocornia* sp. (*S. mossiana* complex) and includes prostrate leaf succulents such as *Drosanthemum asperulum, D. zygophylloides, Diplosoma retroversum* and *Psilocaulon parviflorum.* An undescribed *Limonium* sp. is also present in this vegetation type.

Geophytes present include *Albuca longipes, Drimia barkerae* and *Oxalis copiosa.* None of this vegetation is located in a formal conservation area although the owner of Draaihoek Farm has left that on his property undisturbed. This vegetation is structurally and ecologically like that found on

the Knersvlakte but is separated by a mountain range. This little known vegetation occupies amongst the smallest area of any vegetation type in South Africa. It should be classified nationally as “Critically Endangered” because it occupies such a small area, yet the threat classification does not include this element.

Cape Lowland Alluvial Vegetation:

In its typical form the Cape Lowland Alluvial vegetation is a widespread type of riparian vegetation generally associated with coarse sandy alluvium which is found at the foothills at the base of Table Mountain Group sandstone mountains and extends onto the lowland plains along rivers in the Western Cape. The streams generally overtop their banks in winter. This vegetation mainly forms a woody fringe of short gnarled trees and shrubs along the sides of rivers. Typical species found in this vegetation are *Brabejum stellatifolium, Brachylaena neriifolia, Cliffortia strobilifera, Metrosideros angustifolius, Prionium serratum, Rhus angustifolia, Salix mucronata* and *Wachendorfia thyrsiflora*. In seepages and upland areas dense shrub cover (restios and *Erica* may be common), with *Phragmites* reeds less common, and few floating aquatics. Upland areas include many more typical Fynbos elements (Ericaceae, Restionaceae, *Cliffortia* spp; Cyperaceae) as soils are usually acidic and low in silt.

It should typically be found in the study area along the Krom-Antonies River on the slopes and foothills of the Piketberg Mountain extending approximately to its confluence with the Verloren- and Kruis Rivers. The more upland areas may support a number of rarer Fynbos species. The Cape Lowland Alluvial vegetation is classified nationally as being a “Critically endangered” vegetation type. Every effort should be made to restore as much as possible of the transformed areas potentially supporting it.

Cape Lowland Freshwater Wetlands:

This is a large category within the study area, found in a variety of different floodplain situations along major freshwater rivers (e.g. along the Verloren River) the topography is very flat, with silt-laden soils and occasional small depressions and flood channels which may hold water into the dry season. It occurs above the level of tidal influence, and is usually seasonally inundated.

The climate is not a major determinant of this vegetation type, although the winter floods are a function of the general climatic regime. Mid to late summer may see significant drying out of this habitat, but soil moisture levels are usually still high along the main rivers.

The floodplains mostly support a low grassy sedgeland and in occasional pools floating aquatics occur. Taller shrubs may occur on slightly better drained soils. Plant cover is generally high. Dense patches of *Typha capensis* and *Phragmites australis* regularly occur, usually in areas of permanent water.

On the floodplains, low to medium height sedges (< 0.4 m) are often dominant along with grasses, while reeds and bulrush are particularly common along the fringes of deeper waters. Halophytes may be present in slightly more brackish areas. Floating aquatics include waterblommetjies. Numerous alien invasive species are a feature, including red river gum, port jackson willow and other exotic legumes and even water hyacinth in the still areas of the more permanent deeper pools.

The lowland floodplains are not known to support many special plant species, but are of major importance for frogs and birds. The Verlorenvlei wetlands support an undescribed 3 m tall species of *Psoralea* that is endemic to the Sandveld, and is Red Data listed as Endangered. This vegetation is often heavily grazed by cattle which trample vegetation if kept in an area for too long. It is prone to alien plant invasion, with everything from grasses to large trees being a problem.

FAUNA

(Information extracted from the Final Scoping Report for the Proposed Riviera Tungsten Open-Cast Mining Project, Withers Environmental Consultants, 2009; Moutonshoek Protected Environment Management Plan (draft), 2018)

The Final Scoping Report compiled by Withers Environmental Consultants in 2009 for the previous Riviera Tungsten mining right application mentioned that reptiles such as angulate tortoises, sand snakes, grass snakes, mole snakes, puff adders and even cape cobras may be present on or visit the study area. It was reported that Mr Atherton de Villiers of CapeNature recorded Skaapsteker, Namib sand snake and Cross-marked grass snake in the nearby Verlorenvlei area between 1972 and 1985.

The draft environmental management plan for the Moutonshoek Protected Environment (2018) mentions the presence of three legless lizards, two Red Data Book dwarf burrowing skinks, the Rough-scaled Girdled Lizard, the Austen's Thick toed Gecko, Southern Speckled Padloper, and the Parrot-beaked Tortoise, to name but a few, within the study area.

Withers postulated that birds found in the area will most likely include game birds (guinea fowls and pheasants) and small insectivorous species such as Layard's Titbabbler, Greybacked Cisticola, Karoo Prinia, Karoo Robin, Stonechat and Southern Grey Tit. European Bee-eaters are known to breed in the area while raptors such as Rock Kestrels, Jackal Buzzards, Steppe Buzzards and Lanner Falcons are likely to be seen utilizing the updrafts formed against the Piketberg Mountains. Verlorenvlei is the type locality for several bird species including the Hottentot Teal, collected by Sir Andrew Smith during two collecting trips undertaken in 1829 and 1832 (CSIR Research Rep. 431).

A 1981 survey by Stuart (in CSIR Research Rep. 431.) indicated the presence of the following mammals in the Verlorenvlei area: Bat-eared fox; Cape fox; Black-backed jackal; Striped polecat; Small-spotted genet; Suricate; Yellow mongoose; Cape grey mongoose; Water mongoose; Leopard; African wild cat and Caracal. Cape clawless otters occur in the vlei and other small animals including Striped field mice, Vlei rats, Pygmy mice and Cape gerbils probably occur in the area.

HUMAN ENVIRONMENT

CULTURAL AND HERITAGE ENVIRONMENT

The Moutonshoek Valley is rich in history that extends from the Stone Age to the formal cultivation of the area in the eighteen century. Stone Age activity is supported by rock art and the presence of stone implements. The MPE draft environmental management plan (2018) reports that the original farm (Namaquasfontein) was received as loan farm in 1723, which led to the discovery of the valley. The presence of permanent water contributed to a steady increase in the number of tenants within the Valley. The plan reports the main agricultural practises to have been stock farming, as well as the growing of vegetables, sowing of wheat and rice, and later citrus production. The first Smit family reportedly settled in the area in 1805, and the first school was opened on 1 October 1891.

SOCIO-ECONOMIC ENVIRONMENT

(Information extracted from the Social and Labour Plan for the Proposed Riviera Tungsten Mining Right Application, 2018)

The proposed mining area is located in the Moutonshoek Valley that forms part of Ward 5 of the Bergrivier Local Municipality. Ward 5 comprises the Western and Southern portion of Eendekuil, Redelinghuys and Genadenberg which belongs to the Moravian Church of South Africa. Eendekuil is situated 30 km north of Piketberg. This village was the terminus of the Cape Town railway until the end of the Anglo-Boer War, and it remains the railhead for the Citrusdal region, which lies on the other side of the Olifants River.

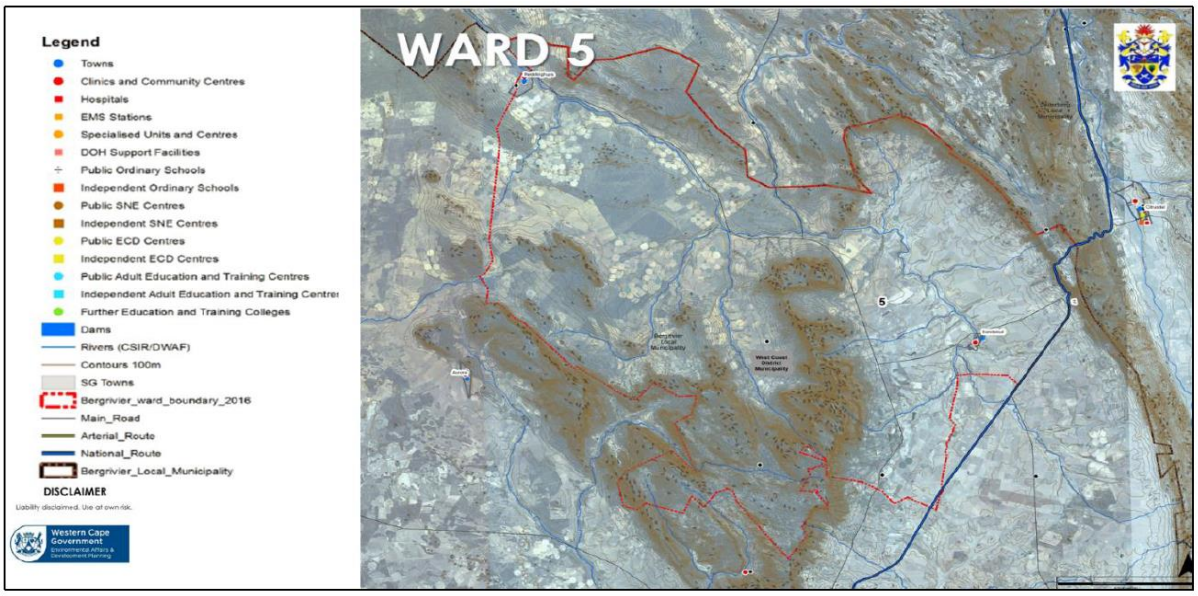

Figure 4: Bergrivier municipal boundary of Ward 5

The area is predominantly rural and the Integrated Development Plan (IDP), 2017 – 2022 of the municipality presents the demographics of Ward 5 as shown in the figures below:

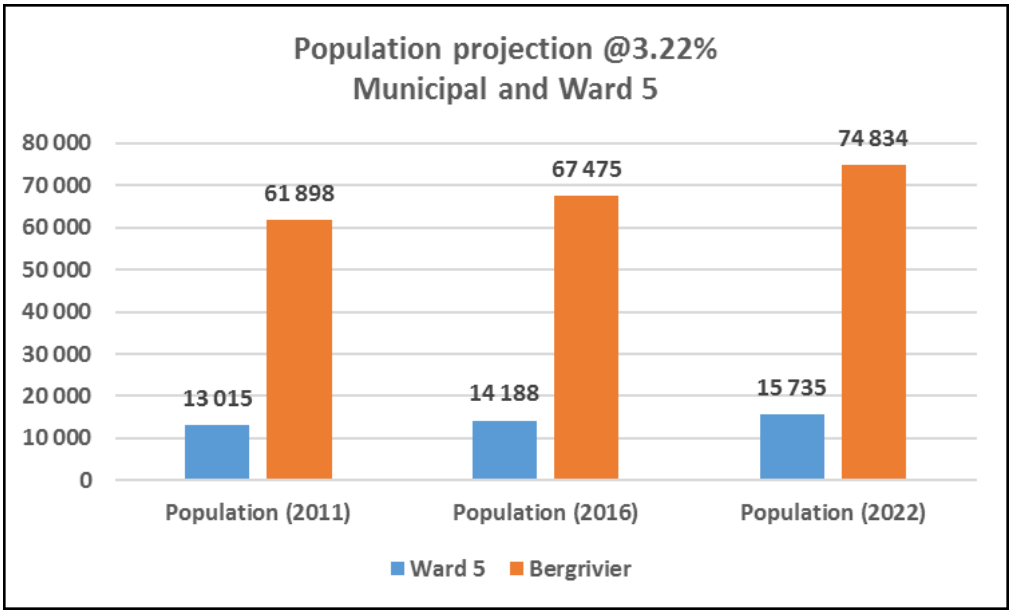

Figure 5: Population projections 2011 – 2022 of Ward 5 (Image obtained from the Bergrivier Local Municipal IDP, 2017-2022).

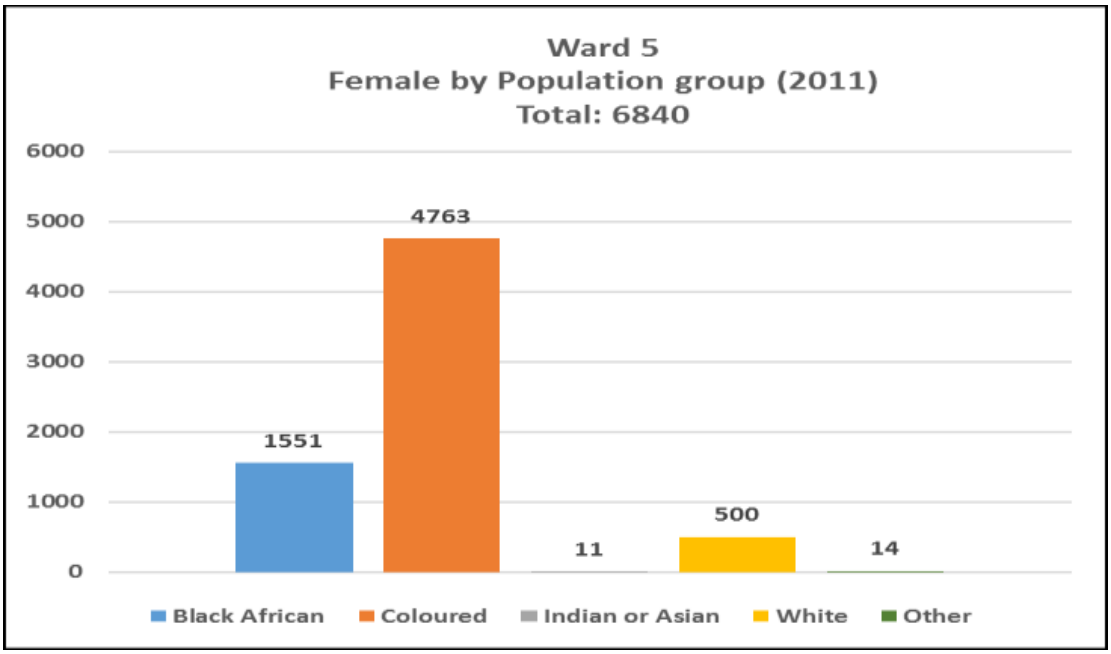

Figure 6: Number of females by population group within Ward 5 (Image obtained from the Bergrivier Local Municipal IDP, 2017-2022).

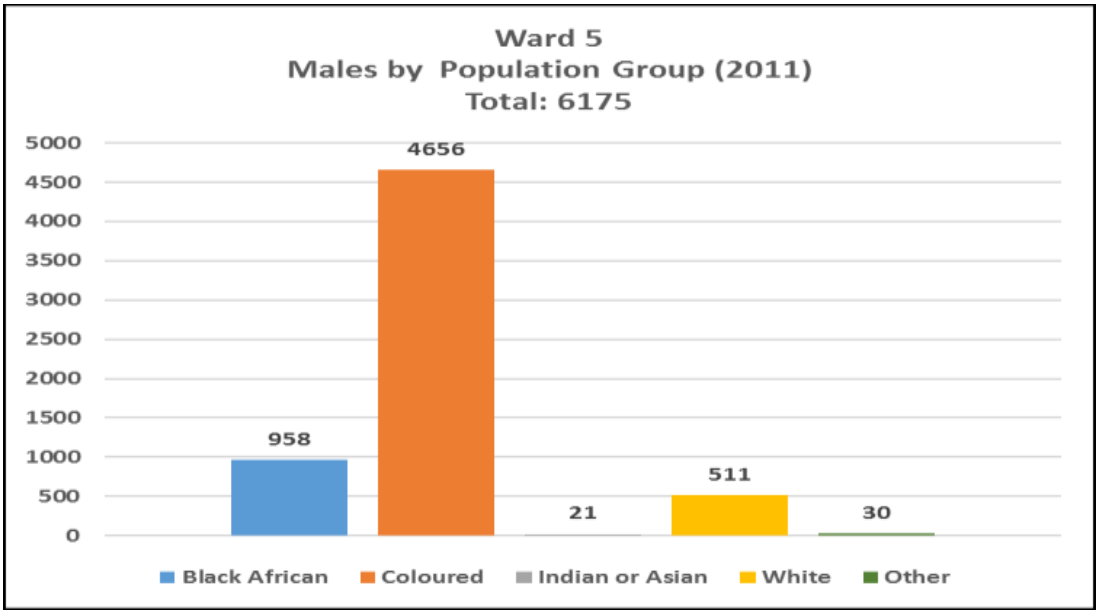

Figure 7: Number of males by population group within Ward 5 (Image obtained from the Bergrivier Local Municipal IDP, 2017-2022).

The gender composition between 2001 and 2011 remained relatively unchanged and well balanced, with a slightly higher ratio of females to males. However, it is projected that the split between males (48.6%) and females (51.4%) in 2017 will change slightly in 2023 with males on 48.5% and females on 51.5%. The population is predominantly youthful with 58% of the population falling within the national definition of youth (under 35). There is a significant increase of 24.2% in this age group.

Economic Profile:

Bergrivier comprised R 2 851 billion (or 14.87%) of the District's total R 19,16 billion GDPR at the end of 2015. The West Coast District (WCD) economy was affected by the global recession. During 2013 the real GDPR only grew by 2% and in 2014 it dropped to 1.1%. The growth rates of the WCD of 2013/14 are below the average rate of 2.6% which occurred between 2010 - 2014. For the 2015 - 2020 forecast period the estimated average annual growth is projected at 2.6% (Western Cape Government: Municipal Economic Review & Outlook: West Coast District 2015, 2nd Draft).

Bergrivier employed 16.1% of the West Coast labour force in 2015 and employment growth remained stagnant with an average of 0.2% per annum since 2005. The average employment growth rate of the District was 1.11% per annum. Bergrivier has experienced significant job losses prior to and during the recession, but these jobs have been recovered and an estimated 586 (net) additional jobs have been created since 2005. The majority of the formally employed workforce operate within the low-skill sector (45.9 %). Most of the job losses was then also in this sector. The semi-skilled sector employed 2.6 % of the workforce and declined by 0.4 % per annum since 2005. The informal sector employs 19.1 % of the workforce and grew substantially at a rate of 5.1 % per

annum as it absorbed most of the job losses from the low and semi-skilled sectors. The skilled sector employed only 2 789 workers and grew at a slow rate of 1.8 % per annum since 2005.

The following figure indicates the growth across sectors for the period 2000 - 2011. As can be seen, the agriculture, forestry and fishing sector remains in decline.

Industry	Bergrivier
Agriculture, forestry and fishing	-2.7
Manufacturing	2.3
Construction	9.2
Commercial Services	6.4
General government % Communi-ty, social & personal services	-1.7
Other	-7.2
West Coast District	2.2

Figure 8: Sectorial growth 2005 - 2013.

The following figure shows the Real GDPR forecast for the period 2015 - 2020. The estimated average annual recovery growth rate is expected to be 2.6% for the period 2015 - 2020. The table shows that during 2015 and 2016 the forecast is below the estimated average annual recovery growth rate of 2.6%. However, from 2017 onwards the GDPR forecast growth is higher than the average annual recovery growth rate.

Forecast %							
Sector	2015	2016	2017	2018	2019	2020	2015-2020
Agriculture, forestry & fishing	0.3	0.5	1.0	0.8	0.9	1.1	0.8
Mining & quarrying	1.3	1.0	1.0	0.8	1.3	1.6	1.2
Manufacturing	0.6	1.8	2.1	2.1	2.7	2.6	2.0
Electricity, gas & water	-1.3	1.3	1.3	1.4	2.0	2.4	1.2
Construction	3.3	2.7	4.6	4.8	4.7	5.0	4.2
Wholesale & retail trade, catering and accommodation	1.7	2.1	3.0	3.1	3.7	3.7	2.9
Transport, Storage, and communication	2.5	2.4	3.8	4.0	4.0	4.1	3.5
Finance, insurance, real estate and business services	3.5	2.9	3.8	3.8	3.9	4.4	3.7
Community, social and personal services.	1.3	1.6	2.4	2.5	2.4	2.5	2.1
General Government	1.2	1.0	1.7	1.6	1.8	1.9	1.5
Total	1.8	1.9	2.7	2.8	3.0	3.2	2.6

(Western Cape Government: Municipal Economic Review & Outlook: West Coast District 2015).

Figure 9: Real GDPR forecast by broad sector for 2015 – 2020.

Tourism is part of the wholesale and retail trade, catering and accommodation sector and is one of the largest sources of employment in the country and uses a high rate of unskilled labour. The Bergrivier Tourism Survey 2015 indicated that the 183 registered tourism products in the Bergrivier Municipal Area create an estimated 427 permanent jobs and 191 temporary jobs during high season. National, Provincial and Regional strategies are placing a high priority on marketing, brand management and stimulating regional and domestic tourism and interventions include the development of business and events tourism, niche product, rural tourism (small town) development, responsible tourism development, increasing investment in tourism development, increasing investment in the tourism sector, transformation of the sector, promoting decent work, improving service excellence, addressing community beneficiation and effective co-operative partnerships. The Bergrivier Tourism Organisation is currently working on three route developments to raise the standards of product offerings in the area. Each offering ample skills development opportunities.

Employment Profile:

25.5 % of the youth is not employed or is busy with education or training (of which 28% of those are female and 25% are males). Comparing the youth with their households, it is proved that 8.3% of the youth lives in a household without an employed adult. 92% of the youth thus lives in a household with at least one employed adult. This rate is higher than those of the West Coast as

well as those of the Western Cape Province. This means that the 92% of the youth are being fed by these households, even though only one adult in these households are employed.

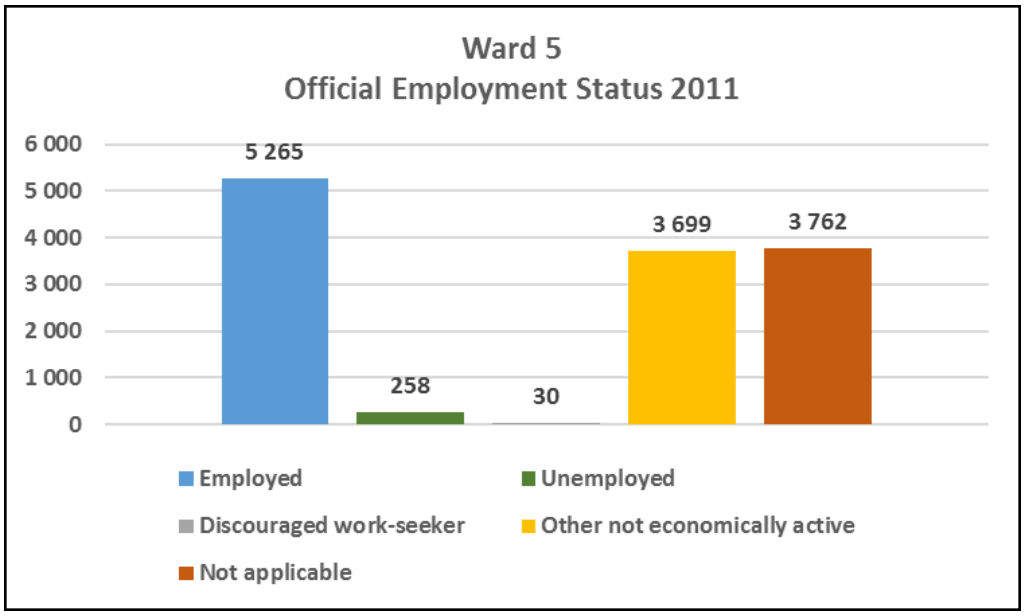

Figure 10: Official employment status of residents within Ward 5 (Image obtained from the Bergrivier Local Municipal IDP, 2017-2022).

Infrastructure and Services:

Although the municipality is only an implementation agent for housing, it is important to highlight the backlog in housing in Ward 5: and/or GAP housing.

Motivation for the southern extension is that this section of town has a waterborne sewage system and the northern section not. Due to the low growth rate and low development potential of Eendekuil there is no need to provide for subsidised housing in Eendekuil and this housing should be accommodated in the larger towns of Piketberg, and Porterville to ensure sustainable development of all towns. However, due to Eendekuil's role of supplying housing to farm workers of the region there is a need for land to supply serviced erven for self-build housing.

Due to the low growth rate and low development potential of the town there is no need to provide for subsidised housing in Redelinghuys and this housing should be accommodated in the larger towns of Piketberg and Velddrif/ Laaiplek to ensure sustainable development of all towns.

- Source of Water

Regional/local water scheme (operated by municipality or other water services provider)	Borehole	Spring	Rain water tank	Dam/pool/stagnant water	River/stream	Water vendor	Water tanker	Other
482	7	21	-	-	1	-	-	7

Figure 11: Water sources of Ward 5

- Toilet facilities

None	Flush toilet (connected to sewerage system)	Flush toilet (with septic tank)	Chemical toilet	Pit toilet with ventilation (VIP)	Pit toilet without ventilation	Bucket toilet	Other
16	440	37	-	-	-	1	24

Source: StatsSA2011

Figure 12: Toilet facilities of Ward 5

- **Refuse removal**

Removed by local authority/private company at least once a week	Removed by local authority/private company less often	Communal refuse dump	Own refuse dump	No rubbish disposal	Other
515	-	-	3	1	-

Source: StatsSA2011

Figure 13: Refuse removal services in Ward 5

- **Energy or fuel for cooking**

Electricity	Gas	Paraffin	Wood	Coal	Animal dung	Solar	Other	None	Unspecified	Not applicable
509	6	-	4	-	-	-	-	-	-	-

Source: StatsSA2011

- **Energy or fuel for lighting**

Electricity	Gas	Paraffin	Candles (not a valid option)	Solar	None	Unspecified
512	-	-	5	-	2	-

Source: StatsSA2011

Figure 14: Energy source for cooking and lighting in Ward 5

(b) Description of the current land uses.

The area earmarked for the proposed Riviera Tungsten mine extends over Portion 1 of Farm 297, Portion 6 (Remaining Extent) of the farm Namaquasfontein 76, and Portion 21 of the farm Namaquasfontein 76 situated within the Moutonshoek Valley. The primary land use of the earmarked properties is agriculture/farming (including horse breeding), with Farm 297/1 and Namaquasfontein 76/21 recently included in the Moutonshoek Protected Environment, extending the land use to conservation.

The proposed mining footprint is zoned as Agriculture Zone 1 in terms of the Bergrivier Municipality (BLM): Integrated Zoning Scheme By-Law. Agricultural Zone 1 has agriculture as primary use and does not allow for mining or prospecting. BLM therefore requires that a land use application must be made in terms of Section 86(1) of the Bergrivier Municipality By-Law. A land development application will also be submitted to the Department of Environmental Affairs and Development Planning in terms of the Land Use Planning Act 2014 (Act No 13 of 2014).

The land use of the surrounding properties includes, but is not limited to, export fruit production, grazing, wheat production, potato farming, horse breeding, livestock, tourism and conservation of identified natural areas.

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

SPECIFIC ENVIRONMENTAL FEATURES

SITE SPECIFIC TOPOGRAPHY

(Information extracted from the Technical Review of the Riviera Tungsten Deposit, Western Cape Province, South Africa, SRK Consulting, 2018)

The proposed mining area is situated in the north-south trending Moutonshoek Valley at an altitude of approximately 105 mamsl and is flanked by the Piketberg Range of mountains. The valley is open to the north. The area is well drained by a trellis pattern of streams which flow into the perennial Krom Antonies River. This indicates that the ground has a fairly uniform resistance to water erosion. The figure below shows the elevation profile of the footprint area from the highest point in the south-east (346 mamsl) to the lower reaches of the Krom Antonies River (91 mamsl). The far northern point of the proposed mining area is found at 163 mamsl.

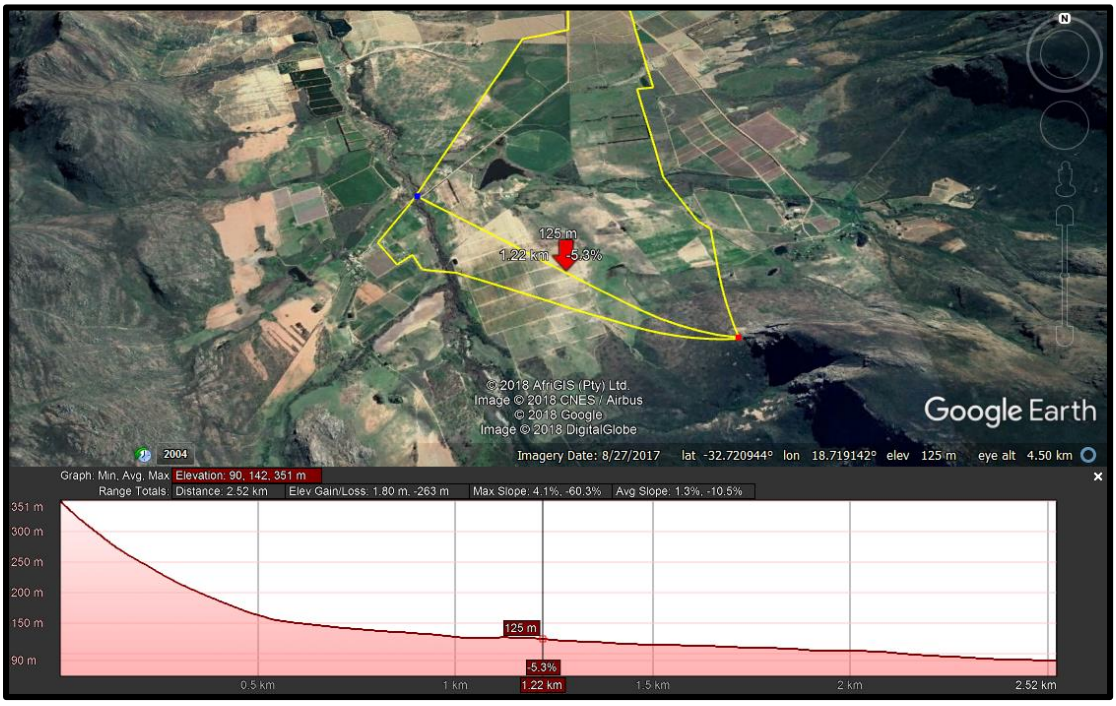

Figure 15: Elevation profile of the proposed Riviera Tungsten mining footprint from the highest point in the south-east (346 mamsl) to the lower reaches of the Krom Antonies River (91 mamsl).

SITE SPECIFIC GEOLOGY

(Information extracted from the Technical Review of the Riviera Tungsten Deposit, Western Cape Province, South Africa, SRK Consulting, 2018)

Tungsten and molybdenum mineralization is hosted by the Riviera pluton, which forms part of Neoproterozoic-Paleozoic Cape Granite Suite. This magmatic suite intruded greenschist facies meta-volcano-sedimentary rocks of the Malmesbury Group in the south-western Cape. The Group forms part of the Saldania Sub-province, the southern continuation of a Pan-African mobile belt system that extends along the west coast of southern Africa and includes the Gariep and Damara Sub-provinces in Namibia.

Tectonostratigraphically, the Riviera pluton intruded along the boundary between the Swartland and Boland Terranes and is hosted by a polyphase deformed greenstone sequence correlated with the Bridgetown Formation. This sequence consists of chlorite and actinolite-chlorite schists with interbedded marble and calcareous mica schists. The Riviera pluton consists of at least three intrusive phases:

1. early quartz monzonite porphyry (QMP)
2. biotite monzogranite (BMG)
3. late-stage aphanitic granite-monzogranite (AGM)

Single zircon geochronology indicated an age between 507 and 516 Ma and groups these intrusives with the late-tectonic A-type granites of the Cape Granite Suite (Chemale et al, 2010).

Petrographic studies have shown that the entire Riviera pluton, including all three intrusive phases, has been affected by superimposed, pervasive hydrothermal alteration across lithological boundaries. Distribution of the polymetallic mineralization is closely related to particular styles and possibly events of hydrothermal alteration. Of the three styles present, phyllic alteration is the most common and has affected all the intrusive phases of the pluton. It is characterized by replacement of potash feldspar and plagioclase by sericite, saussurite and phengite. Biotite alters to chlorite and disseminated pyrite and pyrrhotite is common. Where phyllic alteration grades into argillic alteration, illite and kaolinite become more prominent. Areas of phyllic and argillic alteration are generally poorly mineralized.

Potassic alteration is marked by the presence of new unaltered potassic feldspar and is superimposed onto the phyllic alteration mostly in the QMP. It forms a semi-conformable zone, particularly toward the top or cupola of the pluton and parallels the granite–wall rock contact. It is the most intense and complex alteration and also includes irregular patches of variable dimensions consisting of dark diopside-grandite endoskarn. As a zone it contains the most significant W-Mo mineralization with the best concentrations in the endoskarn. A late stage W-Mo mineralized quartz-carbonate vein system has traversed the pluton and consists of at least three different orientations and phases. The immediate, greenstone dominated, wall rocks are poorly mineralized and the development of exoskarn is a rarity.

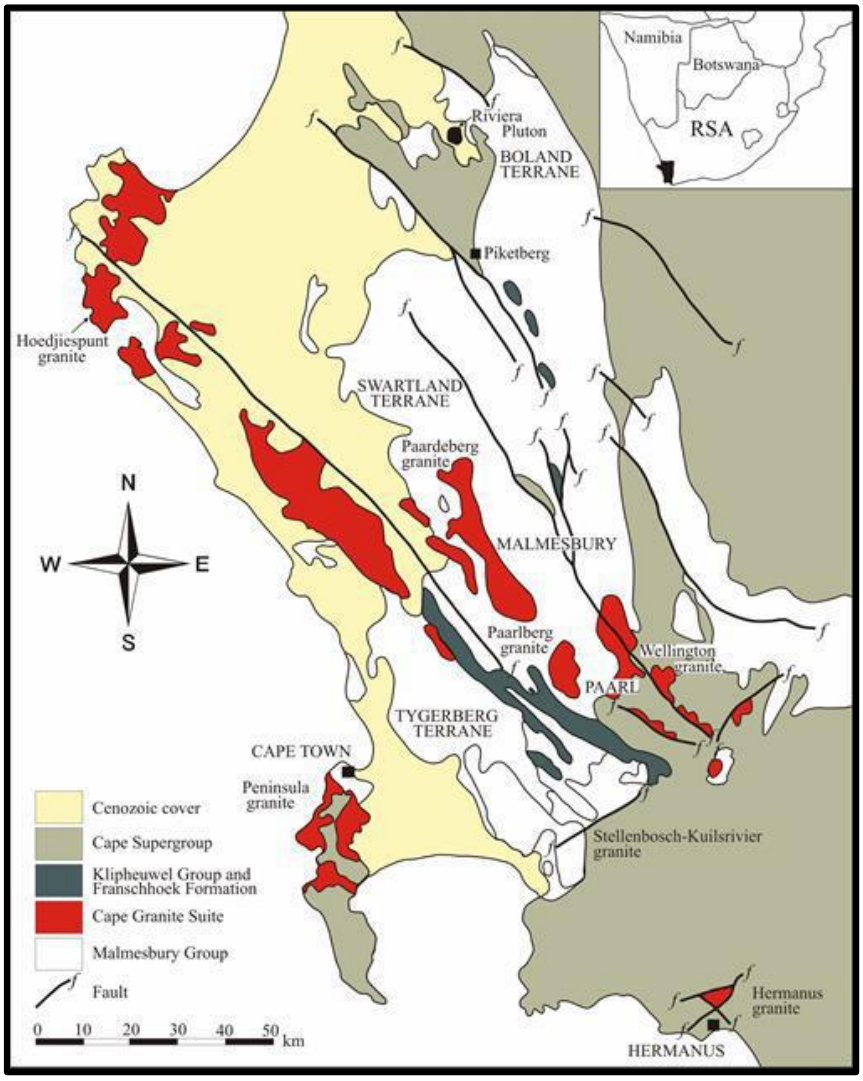

Figure 16: Indication of the regional geology showing the Riviera pluton. (Image obtained from the SRK Report, 2018)

SITE SPECIFIC HYDROLOGY

The hydrology of the proposed mining footprint is representative of the regional hydrology described for the study area earlier in this report. The Krom Antonies River dissects the western corner of the proposed mining area and is of particular importance to this assessment as it forms part of the Verlorenvlei catchment area. Further to this, the earmarked area harbors various drainage lines with associated floodplains and potential wetlands of importance.

CapeNature commented that the proposed mining area falls within the highly sensitive and already water stressed Verlorenvlei catchment. CapeNature highlighted that all new activities within the Krom Antonies River valley should result in active upgrading and rehabilitation of the riverine system, based on the ecological importance of the Verlorenvlei system and recognising the duty South Africans have at a national level to protect and conserve the wetlands associated with the RAMSAR site.

As posed by CapeNature the Verlorenvlei supports at least 177 bird species including Red Data Book species including, *inter alia*, Ludwig's Bustard, Black Stork, Black Harrier and the Secretary Bird. The Verlorenvlei system (which includes the Krom Antonies) also supports four indigenous freshwater fish species, of which three species have not been found anywhere else. These are the Endangered Verlorenvlei redfin (now part of the Pseudobarbus group), the Cape kurper (the Verlorenvlei population is genetically very distinct) and Cape Galaxias (two species, one genetically very distinct and restricted to the Verlorenvlei). The Krom Antonies River has a considerable number of critically endangered Verlorenvlei redfin in its upper reaches where the proposed mining footprint is located. Although this area is degraded in certain areas, with environmentally sensitive farming practices and proper rehabilitation, this river could return to a good condition with a highly conservation worthy fish assemblage. The Verlorenvlei system is already under high levels of water stress, with fish and other water dependent biota confined to small pools in summer. The indigenous fish in these pools are very susceptible to changes in water quality and water temperature during these periods.

Scientific Aquatic Services CC was contracted to undertake a comprehensive freshwater ecological assessment of the study area during the EIA process. The scope of works includes an investigation of the watercourses within the study area, as well as the delineation of those watercourses. The assessment will fulfil the ecological assessment requirements of the EIA process as required in terms of the NEMA, 1998, and will provide the required information for water use licensing in terms of the NWA, 1998. The report will include an assessment of the wetland ecology as well as aquatic ecology with specific reference to aquatic habitat units that may be impacted by the proposed mining development.

The state of the groundwater (site specific) and the associated potential impact of the proposed mining development thereon will be assessed by GHT Consulting Scientists. The study will include, amongst others, a hydro census, chemical water analysis, and a geophysical investigation.

SITE SPECIFIC AIR QUALITY AND NOISE AMBIANCE

Emission into the atmosphere is controlled by the National Environmental Management: Air Quality Act, 2004. The proposed mining activity does not trigger an application in terms of the said act, and emissions to be generated is expected to mainly entail dust due to the displacement of soil, blasting, crushing of ROM and transport of material on gravel roads. Noise will be generated as a result of blasting, crushing and screening, as well as loading, stockpiling and transporting of material.

The proposed impact of the Riviera Tungsten development on the air quality and noise ambiance of the receiving environmental will be assessed during the EIA process by Enviroworks. The Air and Noise Impact Assessment will inform on the baseline air quality and noise ambiance of the study area, as well as advice on the potential impacts that the proposed mining activity may have on the receiving environment. The report will further proposed mitigation and management measures to address/minimise identified impacts.

SITE SPECIFIC MATTERS WITH REGARD TO THE MOUTONSHOEK PROTECTED ENVIRONMENT

The proposed Riviera Tungsten project overlaps the MPE on Portion 1 of Farm 297, and Portion 21 of Namaquasfontein 76.

In terms of section 48(1) of the NEM:PAA, 2004: *"Despite other legislation, no person may conduct commercial prospecting or mining activities a) in a special nature reserve or nature reserve; b) in a protected environment without the written permission of the Minster and the Cabinet member responsible for minerals and energy affairs; or c) in a protected area referred to in section 9(b) or (d)*". Section 48(4) continues that *"When applying this section, the Minister must take into account the interests of local communities and the environmental principles referred to in section 2 of the NEMA, 1998.*"

In light of the above, consideration of the MR application over a portion of the Moutonshoek Protected Environment rests with the DMR minister and cabinet member to be decided on, upon receipt of all supporting documentation. The environmental impact assessment report, inclusive of all specialist studies, will form part of the documents informing the competent authority.

SITE SPECIFIC GROUNDCOVER

Although the site specific groundcover of the study area could, to date, not be determined as access to the study area was denied, the situation is expected to be similar to the results observed by Dr. Boucher during his study in 2008.

CapeNature confirmed, in their comments submitted on the BID, that although a portion of the area to be impacted directly by the proposed mining activities has largely been transformed by agricultural activities, there are still important areas supporting indigenous vegetation, including Leipoldtville Sand Fynbos (Endangered), Swartland Shale Renosterveld (Critically Endangered), Piketberg Quartz Succulent Shrubland (Critically Endangered according to the latest analyses conducted by CapeNature), Piketberg Sandstone Fynbos (Vulnerable), Cape Lowland Alluvial Vegetation (Critically Endangered), and Cape Lowland Freshwater Wetlands. CapeNature further state that the Western Cape Biodiversity Spatial Plan has determined terrestrial and aquatic Critical Biodiversity Areas (CBA's) as well as Ecological Support Areas (ESA's) within and adjacent to the application area. The area also falls within the Greater Cederberg Biodiversity Corridor.

Dr. PJ du Preez (Enviro-Niche Consulting) was appointed to conduct a full ecological study of the proposed footprint area. The study will describe the *status quo* with regard to vegetation cover and the presence of terrestrial fauna, identify CBA's, ESA's and other areas/species of concern and proposed buffer zones, mitigation measures, and management actions to be considered during the EIA process. The findings of the study will be collated onto a sensitivity map to be overlain by the footprint of the proposed mining area. The study will be incorporated into the DEIAR to be distributed for public perusal.

SITE SPECIFIC FAUNA

The earmarked footprint has been greatly altered by agricultural activities and thus supports a low floral biodiversity and limited breeding habitats, with the exception of suitable habitat along the Krom Antonies River.

As mentioned earlier, Dr Du Preez will assess the terrestrial faunal component of the study area, identify specially protected species and/or species of concern, and proposed buffer zones and mitigation measures to be implemented during the operational phase of the project.

SITE SPECIFIC CULTURAL AND HERITAGE ENVIRONMENT

The cultural and heritage environment with specific reference to archaeological- and palaeontological aspects will be assessed during the EIA process. Mr FP Coetzee (Department of Archaeology and Anthropology, UNISA) will be responsible for the compilation of the Phase 1 Heritage Impact Assessment Report (HIA). The HIA will describe all archaeological and historical artefacts, structures and settlements documented in the area, establish the level of sensitivity/importance of the archaeological and historical remains in the area, proposed practical mitigation measures for potential impacts, indicate limitations and assumptions, and propose recommendations on the way forward. Dr H Fourie will comment on the palaeontological status of the study area.

A Notice of Intend to Develop will be submitted to Heritage Western Cape (HWC), of which the HIA, inclusive of the palaeontological study, will form part as required in terms of the National Heritage Act, 1999. The outcome of the studies as well as comments received from HWC will be incorporated into the DEIAR.

SITE SPECIFIC SOCIO-ECONOMIC ENVIRONMENT

A Social and Labour Plan (SLP) was submitted as part of the MR application of the Applicant and will be discussed in detail DEIAR. The SLP forms the basis for the implementation of programmes and projects as key activity drivers of the development and operation of the proposed Riviera Tungsten Project in Piketberg. It offers the building blocks for future economic development and growth of the local area. The scope of the document offers the Riviera Tungsten Project a platform to engage in the development of the local economy and community through a basis of human resource development, economic delivery, business development and community participation. The nature of the document is therefore aimed at the widest possible comprehension and stimulation for inputs.

The SLP notes that the Riviera Tungsten Mine proposes to have 211 employees who will support approximately 530 dependents. Due to the fact that most of the employees will reside within Bergrivier, it is fair to presume that the majority of monthly earned salaries will be spent in the local

area. Indirectly, through the payment for services and suppliers the mine also supports employment of the procurement partners.

CapeNature highlighted investment made in projects and initiatives in the area and listed for example, the Working for Wetlands project focused on the clearing of alien vegetation from the Verlorenvlei system, and the development of eco-tourism initiatives within the Verlorenvlei system dependent on the long-term functioning of the wetland system.

Enviroworks was appointed to investigate and assess the potential socio-economic impact of the proposed project on the receiving environment.

SITE SPECIFIC EXISTING INFRASTRUCTURE

A complete list of the site specific infrastructure, present within the proposed mining footprint, can only be compiled once access is granted to the study area.

Eskom supplied a map showing the location of 11kV overhead power lines within the proposed mining footprint area and submitted the following developmental conditions:

- No building may be erected within 9 (nine) metres from either side of the centre line from any Eskom 11 / 22kV power line crossing the property involved or within 6 (six) metres from any structure supporting mechanism.
- No building may be erected within 3 (three) metres from any Eskom underground cable.
- The location of the cable from the Eskom transformer to the distribution box must be pointed out to the contractor by the owner and is the owner's responsibility.
- A copy of this letter / documentation must be handed to the contractor who must have it available on site.
- That existing Eskom power lines and infrastructure are acknowledged as established infrastructure on the properties and any rerouting or relocation would be for the cost of the applicant/developer.

The engineering services report that will form part of the DEIAR will advise on the existing infrastructure and the possible use thereof, as well as the need for new structures and services.

(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 6.

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)

The following potential impacts were identified for the main activities associated with 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.

SITE ESTABLISHMENT:

Mining within the Moutonshoek Protected Environment

Rating: High **Degree of Mitigation: No Mitigation**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	5	5	5	5	5	**25**

Potential relocation of affected farm owners/residents

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	4	4.6	5	5	5	**23**

Increased traffic on the DR02172

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	4	4	5	5	5	**20**

Increased dust emissions along the DR02172

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	4	4.3	5	5	5	**21.5**

Visual intrusion as a result of site establishment

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	4	4	5	5	5	**20**

Destruction/loss of indigenous vegetation from construction footprint

Rating: Medium **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	5	4.3	4	1	2.5	**10.8**

Potential loss of/negative impact on wetlands within the affected area

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	5	5	4	1	2.5	**12.5**

Potential impact on fauna within footprint area

Rating: Low-Medium **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	5	4.3	3	1	2	**8.6**

Potential impact on areas/infrastructure of heritage or cultural concern

Rating: Low-Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	5	5	2	1	1.5	**7.5**

Potential impact on the safety of the Moutonshoek Valley due to increased human concentration

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	4	4.6	4	5	4.5	**20.7**

Increased work opportunities to local residents **(Positive Impact)**

Rating: Medium-High **Degree of Mitigation: N/A**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	**18**

STRIPPING AND STOCKPILING OF TOPSOIL:

Dust nuisance caused by the disturbance of the soil

Rating: Low-Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	4	3	4	2	3	**9**

Noise nuisance caused by earthmoving machinery

Rating: Low-Medium **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	3	2.6	4	2	3	**7.8**

Potential infestation of the topsoil heaps with weeds or invader plant species

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	4	4	4	2	3	**12**

Loss/contamination of stockpiled topsoil

Rating: Low-Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	1	3	4	2	3	**9**

Potential contamination of construction area and surface runoff as a result of hydrocarbon spillages

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	3	3.5	**11.6**

Potential erosion of denuded areas

Rating: Low-Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	1	3.3	4	2	3	**9.9**

Potential sedimentation/contamination of the Krom Antonies River through surface runoff

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	5	4.6	4	2	3	**13.8**

OVERBURDEN STRIPPING AND STOCKPILING:

Visual intrusion associated with the excavation activities

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	4	4	5	5	5	**20**

Dust nuisance caused by the transport of overburden and denuded stockpile area

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	3	2.6	5	5	5	**13**

Noise nuisance caused by earthmoving machinery

Rating: Medium **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	3	2.6	4	5	4.5	**11.7**

Potential infestation of the overburden heaps with weeds or invader plant species

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	4	4	4	2	3	**12**

Potential contamination of surface runoff as a result of hydrocarbon spillages

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	3	3.5	**11.6**

Potential sedimentation/contamination of the Krom Antonies River through surface runoff

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	5	4.6	4	2	3	**13.8**

OPENCAST MINING (INCLUDING BLASTING):

Health and safety risk posed by blasting activities

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	5	5	3	1	2	**10**

Dust nuisance as a result of blasting activities

Rating: Medium-High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	4	4.3	5	3	4	**17.2**

Noise nuisance caused by blasting activities

Rating: Medium-High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	4	4.3	5	3	4	**17.2**

Light pollution due to shift work

Rating: Medium-High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
2	5	4	3.6	5	5	5	**18**

Potential flooding of opencast pit / other work areas

Rating: Low **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	1	1	1.6	3	2	2.5	**4**

UNDERGROUND MINING:

Potential health and safety impact to mine employees

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	5	5	3	1	2	**10**

Potential impact on groundwater sources

Rating: High **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	5	4.6	4	5	4.5	**20.7**

Impact on surface stability

Rating: Low-Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	1	3.6	4	1	2.5	**9**

TRANSPORT OF ROM TO STOCKPILE AREA

Dust nuisance due to the movement of earthmoving equipment and denuded stockpile area

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	3	2.6	5	5	5	**13**

Noise nuisance generated by earthmoving equipment

Rating: Medium **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	3	2.6	4	5	4.5	**11.7**

Light pollution due to shift work

Rating: Medium-High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
2	5	4	3.6	5	5	5	**18**

Potential contamination of surface runoff as a result of hydrocarbon spillages

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	3	3.5	**11.6**

PROCESSING OF ROM:

Dust nuisance generated from the crushing and screening area

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	3	2.6	5	5	5	**13**

Potential impact on the air quality of the affected environment

Rating: Medium-High **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	4	4.3	4	5	4.5	**19.4**

Noise nuisance stemming from the crushing and screening infrastructure

Rating: Medium **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	3	2.6	4	5	4.5	**11.7**

Light pollution due to shift work

Rating: Medium-High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
2	5	4	3.6	5	5	5	**18**

Potential seepage from the slimes dam

Rating: Medium-High **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	5	4.6	3	5	4	**18.4**

Potential contamination of environment as a result of improper waste disposal

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	3	3.5	**11.6**

Increased traffic along the DR02172 (transport of water)

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	4	4	5	5	5	**20**

Potential decrease in water demand from local resources as a result of the offsite reverse osmosis plant **(Positive Impact)**

Rating: Medium-High **Degree of Mitigation: N/A**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
1	5	5	5	5	5	5	**18**

TRANSPORT OF APT TO SALDANHA BAY IDZ:

Increased traffic along the DR02172

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	4	4	5	5	5	**20**

Overloading of trucks impact road infrastructure

Rating: Medium - High **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	5	5	4.3	4	5	4.5	**19.4**

Increased income generated within the Moutonshoek Valley / Piketberg area **(Positive Impact)**

Rating: Medium-High **Degree of Mitigation: N/A**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	**18**

Contribution of mine to local economic development **(Positive Impact)**

Rating: Medium-High **Degree of Mitigation: N/A**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	**18**

CUMULATIVE IMPACTS

Potential impact on the Verlorenvlei RAMSAR site

Rating: High **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
5	5	5	5	4	5	4.5	**22.5**

Loss of agricultural- and tourism generated income during the operational phase of the mine (change of land use)

Rating: High **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	5	4.6	5	5	5	**23**

Contribution of Riviera Tungsten mine to South African export **(Positive Impact)**

Rating: Medium-High **Degree of Mitigation: N/A**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	**18**

REHABILITATION UPON CLOSURE OF THE SITE

Dust nuisance generated as a result of the rehabilitation/landscaping activities

Rating: Low-Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
2	3	4	3	4	2	3	**9**

Noise nuisance caused by machinery during the decommissioning phase

Rating: Low-Medium **Degree of Mitigation: Partial**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
3	2	3	2.6	4	2	3	**7.8**

Potential safety risk posed by unrehabilitated (unsloped/unsealed) areas

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	5	1	3.3	4	5	4.5	**14.9**

Potential increase in the risk of soil erosion from reinstated but denuded areas

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	4	1	3	4	5	4.5	**13.5**

Potential infestation of the reinstated areas by weeds and invader plant species

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	4	1	3	5	2	3.5	**10.5**

Potential contamination of environment as a result of improper waste disposal

Rating: Medium **Degree of Mitigation: Fully Mitigated**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
4	4	2	3.3	4	5	4.5	**14.9**

Potential use of the rehabilitated opencast pit for water storage **(Positive Impact)**

Rating: Medium **Degree of Mitigation: N/A**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
1	5	4	3.3	4	5	4.5	**14.9**

Potential use of the slimes dam for water storage or aquaculture purposes **(Positive Impact)**

Rating: Medium **Degree of Mitigation: N/A**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
1	5	4	3.3	4	5	4.5	**14.9**

Return of the rehabilitated area to agricultural land use **(Positive Impact)**

Rating: Medium-High **Degree of Mitigation: N/A**

			Consequence			Likelihood	**Significance**
Severity	Duration	Extent		Probability	Frequency		
1	5	5	3.6	5	5	5	**18**

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 particular consequences being realized (Environment Australia (1999) Environmental Risk Management).

- **Impact**

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

- **Consequence**

  The intermediate or final 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:

Environmental Significance = Overall Consequence x 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 7: 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	Insignifiant / 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 8: 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 9: Criteria for the rating of extent / spatial scale.

Rating	Description
1	Immediate, fully contained area
2	Surrounding area
3	Within Business Unit area of responsibility
4	Within the farm/neighboring 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 10: 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 and in tables 6 and 7.

Determination of Frequency

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

Table 11: 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 12: Criteria for the rating of probability.

Rating	Description
1	Almost never / almost impossible
2	Very seldom / highly unlikely
3	Infrequent / unlikely / seldom
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 13: 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 14: 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 15: 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.
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 of 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 a number of 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)

The preferred site alternative identified by the Applicant, named Site Alternative 1 in this document, entails the mining of an area that extends over 531.44 ha, including Portion 1 of Farm 297, Portion 6 (Remaining Extent) of Namaquasfontein 76, and Portion 21 of Namaquasfontein 76. SA1 was identified during the planning phase by the Applicant and project team, as the preferred site alternative based on the evaluation of the prospecting results and the corresponding position of the tungsten-molybdenum deposit. Should additional viable site alternatives be identified during the EIA process, the project team will heed the suggestions, and investigate the possible implementation thereof.

Project Alterative 1 entails the extraction of the tungsten-molybdenum resource in two phases through opencast- and underground mining operations. Processing of excavated material on site to produce APT that is transported to the Saldanha Bay metallurgical plant, and the export of the final product via the Saldanha Bay harbour. Additional project alternatives can be considered during the EIA process as supplementary information is obtained from the specialist studies, and the stakeholders and I&AP's contribute their knowledge towards the proposed project.

As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR.

Currently, the following potential impacts were identified that may have a negative impact on the receiving environment:

- Mining within the Moutonshoek Protected Environment;
- Potential relocation of affected farm owners/residents;
- Increased traffic on the DR02172;
- Increased dust emissions along the DR02172;
- Dust nuisance from mining footprint;
- Visual intrusion as a result of site establishment and operational phase;
- Destruction/loss of indigenous vegetation from construction footprint;
- Potential loss of / negative impact on wetlands within the affected area;
- Potential impact on fauna within the footprint area;
- Potential impact on areas/infrastructure of heritage or cultural concern;
- Potential impact on the safety of the Moutonshoek Valley due to increased human concentration;
- Noise nuisance generated during operational phase;
- Potential infestation of the footprint area with weeds and/or invader plant species;
- Loss/contamination of stockpiled topsoil;
- Potential contamination of construction area and surface runoff as a result of hydrocarbon spillages;
- Potential erosion of denuded areas;
- Potential sedimentation/contamination of the Krom Antonies River through surface runoff;
- Health and safety risk posed by blasting and/or underground mining;
- Light pollution due to shift work;
- Potential flooding of opencast pit / other work areas;
- Potential impact on groundwater sources;
- Impact on surface stability;
- Potential impact on the air quality of the affected environment;
- Potential seepage from the slimes dam;
- Potential contamination of environment as a result of improper waste disposal;
- Overloading of trucks impact road infrastructure;
- Potential impact on the Verlorenvlei RAMSAR site;
- Loss of agricultural-and tourism generated income during the operational phase of the mine (change of land use); and
- Potential safety risk posed by unrehabilitated (unsloped/unsealed) areas.

The potential positive impacts associated with the proposed Riviera Tungsten project includes:

- Increased work opportunities to local residents;
- Potential decease in water demand from local resources as a result of the offsite reverse osmosis plant;
- Increased income generated within the Moutonshoek Valley / Piketberg area;
- Contribution of mine to local economic development;

- Contribution of Riviera Tungsten mine to South African export;
- Potential use of the rehabilitated opencast pit for water storage;
- Potential use of the slimes dam for water storage or aquaculture purposes; and
- Return of the rehabilitated area to agricultural land use (upon closure).

l) 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).

In light of 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:

Potential relocation of affected farm owners / residents:

- Negotiations between the Applicant and landowners/residents must continue working towards a mutually acceptable solution;
- The mitigation measures associated with this impact must be expanded upon as part of the proposed socio-economic specialist study and associated EIA process.

Increased traffic on the DR02172:

- The speed of all mining equipment/vehicles must be restrictions to 40 km/h on the DR02172;
- The mitigation measures associated with this impact must be expanded upon as part of the proposed traffic impact assessment and associated EIA process.

Dust emissions associated with the project:

- The liberation of dust into the surrounding environment must be effectively controlled by the use of, int*er alia*, water spraying and/or other dust-allaying agents;
- The roads and stockpile areas must be sprayed with water or an environmentally friendly dust-allaying agent that contains no PCB's (e.g. DAS products) if dust is generated above acceptable limits.
- The site manager must ensure continuous assessment of all dust suppression equipment to confirm its effectiveness in addressing dust suppression;
- Speed on the gravel roads must be limited to 40 km/h to prevent the generation of excessive dust;
- The crusher plant must have operational water sprayers to alleviate dust generation from the conveyor belts;
- Areas devoid of vegetation, which could act as a dust source, must be minimized and vegetation removal may only be done immediately prior to mining;
- Topsoil stockpiles must be covered alternatively planted with indigenous grass species to minimize exposed surface areas, and reduce windblown dust from the site. The vegetation will further assist in capturing wind born dust and minimizing the spread of dust from the site.
- Fines, blowing from the drop end of the crusher plant, must be minimized by attaching strips of used conveyor belts to the conveyor's end;
- Compacted dust must weekly be removed from the crusher plant to eliminate the dust source;

- The Applicant must implement a dust management plan and conduct fall-out dust monitoring on site to accurately determine the site specific dust levels;
- Weather conditions must be taken into consideration upon commencement of daily operations. Limiting operations during windy periods will reduce airborne dust and resulting impacts;
- Dust generated from the stripping of topsoil and mining operations 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, processing and stockpiling activities in order to minimize potential dust impacts;
- The mitigation measures associated with this impact must be expanded upon as part of the atmospheric impact assessment and associated EIA process.

Visual mitigation:

- The site must have a neat appearance and be kept in good condition at all times;
- Mining equipment must be stored neatly in dedicated areas when not in use;
- The screening of mining infrastructure must be considered;
- The right holder must limit vegetation removal, and stripping of topsoil may only be done immediately prior to the mining/use of a specific area;
- The stockpile areas must be managed to prevent excessive storage periods of overburden material;
- Upon closure, the site must be rehabilitated and topsoiled to reduce the visual impact of the mining activities and return the area to its prior status.

Potential impact on indigenous vegetation:

- Buffer areas must be demarcated, sign posted and managed as no-go area around CBA and ESA areas;
- A plant rescue must be conducted on natural (uncultivated) areas to be mined. Upon rehabilitation of the mining area, these areas must be replanted with the rescued plants as soon as the topsoil was replaced. A botanist must be consulted regarding other plant species that can be established on rehabilitated areas;
- Areas currently cultivated, to be cultivated land after mining, the replanting of crops must take place as soon as feasible once the topsoil was replaced;
- An invasive plant species management plan must be implement 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 ecological impact assessment and associated EIA process.

Potential impact on wetlands within the affected area:

- Buffer areas must be demarcated, sign posted and managed as no-go area around wetlands identified within the footprint;
- Any channelized flow off of mining areas must be slowed, and storm water management infrastructure must be implemented;
- The mitigation measures associated with this impact must be expanded upon as part of the freshwater ecological assessment and associated EIA process.

Potential impact on fauna within the footprint area:

- Site management must ensure no fauna is caught, killed, harmed, sold or played with at the mining area;
- 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;
- The mitigation measures associated with this impact must be expanded upon as part of the ecological impact assessment and associated EIA process.

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

- All mining activities must be contained within the boundaries of the permitted area;
- If during the pre-site establishment phase, site establishment-, 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 (within the first hour of discovery) 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 the Heritage Western Cape (HWC);
- Work may only commence once the area was cleared by HWC;
- The mitigation measures associated with this impact must be expanded upon as part of the heritage- and palaeontological impact assessment and associated EIA process.

Potential impact on the safety of the Moutonshoek Valley due to increased human concentration:

- Employees to be appointed must be vetted prior to inception of contract;
- No employees may be allowed to reside within the mining area;
- The Riviera Tungsten mine must make use of a registered safety company to guard the mining area;
- The mitigation measures associated with this impact must be expanded upon as part of the socio-economic assessment and associated EIA process.

Noise mitigation measures:

- All mining related 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);
- Noise generated by the proposed activity shall comply with the Western Cape Noise Control Regulations (PN 200/2013), June 2013;
- Best practice measures shall be implemented in order to minimize potential noise impacts;
- The Applicant must ensure that employees and staff conduct themselves in an acceptable manner while on site;
- Employees will not be allowed to reside on site;
- No load music may be allowed on site;

- Drilling and blasting may only take place from Monday – Friday during normal work hours (8:00 to 17:00);
- A qualified occupational hygienist must be contracted to quarterly monitor and report on the personal noise exposure of the employees working at the mine. The monitoring must be done in accordance with the SANS 10083:2004 (Edition 5) sampling method as well as NEM:AQA, 2004, SANS 10103:2008;
- The mitigation measures associated with this impact must be expanded upon as part of the noise impact assessment and associated EIA process.

Weeds and invader plants mitigation measures

- 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 mining activities.
- 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 PCO through the use of an herbicide recommended for use by the PCO in accordance with the directions for the use of such an herbicide.
- All stockpiles must to be kept free of weeds.

Loss/contamination of stockpiled topsoil:

- The first 300 mm of topsoil must be removed and stored within a designated, signposted stockpile area. Stockpiled topsoil must be protected from erosion and mixing with other material. The topsoil must be used to cover the rehabilitated area and improve the establishment of natural vegetation;
- Topsoil stockpiles must be kept free of weeds;
- Topsoil stockpiles must be placed on a levelled area and measures must be implemented to safeguard the piles from being washed away in the event of heavy rains/storm water;
- Topsoil heaps may not exceed 1.5 m in order to preserve micro-organisms within the topsoil, which can be lost due to compaction and lack of oxygen;
- Storm- and runoff water must be diverted around the stockpile area to prevent erosion.

Waste management:

- Regular vehicle maintenance must be done at the site workshop. If emergency repairs are required on equipment not able to move to the workshop, drip trays must be present. All waste products must be disposed of in a 200 litre closed container/bin to be removed from the emergency service area to the workshop in order to ensure proper disposal;
- 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;
- Spills must be cleaned up immediately (within the first hour of occurrence) to the satisfaction of the Regional Manager (DMR) by removing the spillage together with the polluted soil and by disposing it at a recognized facility. Proof must be filed;

- Suitable covered receptacles must be available at all times and conveniently placed for the disposal of waste;
- Non-biodegradable refuse such as glass bottles, plastic bags, metal scrap, etc, must be stored in a container with a closable lid at a collecting point to be collected at least once a month and disposed of at a recognized landfill site. Specific precautions must be taken to prevent refuse from being dumped on or in the vicinity of the mine area;
- Biodegradable refuse must be handled as indicated above;
- Ablutions must drain into a package plant installed by a qualified contractor and serviced when needed by a registered hazardous waste handling contractor.
- The mitigation measures associated with this impact must be expanded upon as part of the engineering services report and associated EIA process.

Storm water handling:

- A storm water management plan must be followed and implemented on site for the duration of the mining activities;
- Storm water must be diverted around the topsoil heaps, mining area and access roads to prevent erosion and loss of material;
- Channeled run-off from active or un-rehabilitated mine areas must be slowed through the installation of temporary sediment traps, such as small sand bag impoundments. The impounding structures must still allow all water to return to the natural river channels;
- Mining must be conducted only in accordance with the Best Practice Guideline for small scale mining that relates to storm water management, erosion and sediment control and waste management, developed by the Department of Water and Sanitation (DWS), and any other conditions which that Department may impose:
  - 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. You must prevent clean water from running or spilling into dirty water systems.
  - 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.
  - The storm water management plan must apply for the entire life cycle of the mine and over different hydrological cycles (rainfall patterns).
  - The statutory requirements of various regulatory agencies and the interests of stakeholders must be considered and incorporated into the storm water management plan.
- The mitigation measures associated with this impact must be expanded upon as part of the freshwater ecological assessment and associated EIA process.

Potential sedimentation/contamination of the Krom Antonies River through surface runoff:

- A storm water management plan must be followed and implemented on site for the duration of the mining activities;

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

Management of health and safety risks:

- The type, duration and timing of the blasting procedures must be planned with due cognizance of other land users and structures in the vicinity;
- The surrounding landowners and communities must be informed in writing ahead of any blasting event;
- Measures to limit flyrock must be taken;
- Audible warning of a pending blast must be given at least 3 minutes in advance of the blast;
- All flyrock (of diameter 150mm and larger) which falls beyond the working area, together with the rock spill must be collected and removed;
- Workers 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, 1993 (Act No 85 of 1993).

Light pollution due to shift work:

- Site management must plan the positioning of exterior lighting such that lamps and reflectors are not visible from beyond the mining footprint;
- Lighting may not cause excessive reflected glare;
- Direct lighting may not illuminate the nighttime sky;
- Illumination of the project and its immediate vicinity must be limited;
- light fittings must incorporated fixture hoods/shielding with lights directed downwards or concentrated on the area to be illuminated;
- Lighting shall be minimum necessary brightness and lights in high illumination areas shall have switches, timers, or motion detectors so that the lights operate only when needed;
- The mitigation measures associated with this impact must be expanded upon as part of the engineering service report and EIA process.

Potential impact on groundwater sources:

- Groundwater quality monitoring must be implemented for the duration of the operational phase;
  - The right holder must take an initial water sample from the existing borehole on the farm, of which the results will serve as baseline information.
  - Thereafter an annual water sample from the same borehole must be tested for changes in water quality.
  - Should the monitoring information show any significant changes, the opinion of a geohydrologist must be obtained (within a week from receipt of the results) and the findings must be submitted to DWS for further consideration.
- Upon closure of the mining activities a final water sample must be tested. The results must be submitted to DWS and filed for auditing purposes;
- The mitigation measures associated with this impact must be expanded upon as part of the geohydrological impact assessment and EIA process.

Potential seepage from the slimes dam:

- The footprint of the slimes dam must be sealed to prevent any seepage from the dam to enter the groundwater;
- Monthly inspections of the integrity of the slimes dam must be part of site managements responsibility;
- The mitigation measures associated with this impact must be expanded upon as part of the engineering service report and EIA process.

Mitigation of overloading:

- A weighing devise must be installed at the mining area to prevent overloading;
- Proof of load weights must be filed and be available for auditing by relevant officials.

Mitigation of negative impacts to existing infrastructure:

- The conditions as proposed by Eskom must for part of the EMP and be enforced on site for the duration of the site establishment-, operational-, and decommissioning phase.

Mitigation of cumulative impacts:

- The mitigation measures associated with these impacts must be expanded upon as part of the freshwater ecological assessment, socio-economic study and EIA process.

Rehabilitation of the excavated area:

- Incline shafts must be sealed;
- Rocks and coarse material removed during the operational phase must be dumped into the excavation;
- No waste may be permitted to be deposited into the excavations;
- Once overburden, rocks and coarse natural materials has been added to the excavation and it was profiled with acceptable contours and erosion control measures, the topsoil previously stored must be returned to its original depth over the area;
- The area must be fertilized if necessary to allow vegetation to establish rapidly. The site must be seeded with a local or adapted indigenous seed mix in order to propagate the locally or regionally occurring flora, should natural vegetation not re-establish within 6 months from closure of the site;
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analyzed and any deleterious effects on the soil arising from the mining operation be corrected and the area be seeded with a vegetation seed mix to his or her specification.
- The mitigation measures associated with these impacts must be expanded upon as part of the closure plan and EIA process.

Rehabilitation of the mining related infrastructure:

- Rehabilitation of the surface area shall entail landscaping, levelling, top dressing, land preparation, seeding (if required) and maintenance, and weed / alien clearing;
- All infrastructure, temporary equipment and other items used during the mining period shall be removed from the site (section 44 of the MPRDA);

- Waste material of any description, including receptacles, scrap, rubble and tyres, shall be removed entirely from the mining area and disposed of at a recognized landfill facility. It will not be permitted to be buried or burned on the site;
- Weed / Alien clearing will be done in a sporadic manner during the life of the mining activities. 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) must be managed and controlled on site on an ongoing basis;
- Final rehabilitation shall be completed within a period specified by the Regional Manager;
- The mitigation measures associated with these impacts must be expanded upon as part of the closure plan and EIA process.

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 most current site layout plan was compiled by the project team based on the outcome of the prospecting results and is attached as Appendix 4 to this document.

n) Motivation where no alternative sites were considered.

Should the final Scoping Report be approved, the EIA process to follow will assess the implementation of site-, project-, technology and/or design alternatives and in the circumstance no motivation is required in terms of this heading.

o) Statement motivating the preferred site.

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

SA1 was identified during the planning phase by the Applicant and project team, as the preferred site alternative based on the evaluation of the prospecting results and the corresponding position of the tungsten-molybdenum deposit.

PA1 entails the extraction of the tungsten-molybdenum resource in two phases through opencast- and underground mining operations. Processing of excavated material on site to produce APT that is transported to the Saldanha Bay metallurgical plant, and the export of the final product via the Saldanha Bay harbour. As mentioned earlier, additional project alternatives can be considered during the EIA process as supplementary information is obtained from the specialist studies, and the stakeholders and I&AP's contribute their knowledge towards the proposed project.

The technology/design proposal as discussed in this report must be treated as preliminary, and will be assessed during the EIA process.

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.

Site Alternatives

Site Alternative 1 was identified during the planning phase by the Applicant and project team, as the preferred site alternative based on the evaluation of the prospecting results and the corresponding position of the tungsten-molybdenum deposit. Should additional viable site alternatives be identified during the EIA process, the project team will heed the suggestions and investigate the possibility of implementation thereof. Additional site alternatives (if identified) will be discussed in detail in the draft EIAR to be distributed for public comments.

Project Alternatives

Project Alterative 1 entails the extraction of the tungsten-molybdenum resource in two phases through opencast- and underground mining operations. Processing of excavated material on site to produce APT that is transported to the Saldanha Bay metallurgical plant, and the export of the final product via the Saldanha Bay harbour.

Additional project alternatives can be considered during the EIA process as supplementary information is obtained from the specialist studies, contributed by the stakeholders and I&AP's, and adjusted by the project team. Should project alternatives be identified it will be discussed during the EIA process of the application and included in the DEIAR to be distributed for public comments.

Technology/Design Alternatives

As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR. The following technology/design principles will be considered by the Applicant and project team:

- Alternative boxcut (secure and safe portals/accesses to the open-cast pit) positions and direction of mining for opencast operations;
- Alternative locations of topsoil and overburden stockpile areas;
- Alternative conveyor technology to solve environmental problems (e.g. noise, river crossings);
- Alternative slime dam locations and designs;
- Alternative alignments of access road and haul roads;
- Alternative locations for mine infrastructure, including the locations of offices, workshops; refuelling bays, stores, magazines, and processing plants; and
- The implementation of renewable energy sources will be considered;

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. In the event that the no-go alternative is implemented the land use of the area will remain that of agriculture, conservation, livestock farming and tourism with the tungsten resources unmined. Amongst others, the socio-economic impact of mining on current, and future agriculture and tourism 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.

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 DMR will include, but not be limited to, the following:

9. Various alternatives (project, technology, design etc.) will be considered during the EIA process as supplementary information becomes available. Identifying viable preferred alternatives will in turn dictate the design and layout of the proposed project as well as hone the proposed mining method.

10. Upon deciding on the preferred alternatives, the applicability of the listed activities identified in terms of the NEMA EIA Regulations, 2017 will be confirmed and aligned with the most recent proposal.

11. 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.

12. 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.

13. The findings, recommendations and management measure proposed in the specialist reports will be assessed during the EIA process and incorporated into the DEIAR. The following specialists were appointed as part of the project team:
    - Agricultural Impact Assessment (Mr. J Lanz);
    - Air, Dust and Noise Impact Study (Enviroworks);
    - Ecological Study (Enviro-Niche Consulting);
    - Engineering Services Report;
    - Freshwater Ecological Assessment (Scientific Aquatic Services);
    - Heritage Impact Assessment (Mr. FP Coetzee);
    - Hydrogeological Assessment (GHT Consulting Scientists);
    - Palaeontological Impact Assessment (Dr. H Fourie);
    - Socio-economic Impact Assessment (Enviroworks); and

- Traffic Impact Assessment (BVI Consulting Engineers).

14. 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 through the use of the above mentioned methodology.

15. Mitigation measures will be proposed to control, modify, remedy or stop the impacts associated with the proposed activity on the surrounding environment.

16. Any additional requirements submitted by the DMR 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:

- Agricultural Impact Assessment (Mr. J Lanz):
  - Identify and assess potential impacts (direct, indirect and cumulative) of the proposed mine on soils, agricultural potential and agricultural production, particularly the extent to which agricultural production may be compromised on the post mining land;
  - Describe and map soil types across the mine lease area (soil forms and families) and characteristics (soil depth, soil color, limiting factors, and clay content of the top and sub soil layers);
  - Map soil survey points;
  - Describe the topography and climate of the site, as it pertains to agricultural potential;
  - Summarize available water sources for agriculture;
  - Determine and map the agricultural potential across the site;
  - Detail and map current agricultural land use across the site and quantify production levels, relating these to the soils and agricultural potential map;
  - Compare current production to the most productive possible agricultural land use that is appropriate for the agricultural potential and limitations across the site;
  - Compare current and possible production to what is likely to be possible on the rehabilitated land after mining;
  - Assess the potential financial loss of compromised production due to mining; and
  - Provide recommended mitigation measures, monitoring requirements, and rehabilitation guidelines for all identified impacts and for rehabilitating the land for agricultural use after mining.

- Atmospheric Impact Assessment (Enviroworks):
  - Gather information on the sources of emissions to conduct the air dispersion modelling study based on the purpose and objectives of the study identified (area-, line-, point-, volume-, and flair source);
  - Gather information on the type of contaminants to be considered, including methods to determine appropriate pollutants emission rates;

- Assess the application and identify the best suited model to provide essential information, as well as determining model inputs;
- Collect data on the existing baseline air quality to compute the cumulative impact;
- Run model and prepare modelling output; and
- Compile a full atmospheric impact assessment report inclusive of modelling results.

- Ecological Study (Enviro-Niche Consulting):
  - Describe the vegetation and terrestrial fauna communities present within the proposed mining footprint area;
  - Identify ESA, CBA or similar areas of concern within the study area and collate the information in a sensitive map overlain by the proposed mining footprint;
  - Compile a list of endangered, red data, or otherwise protected plants and fauna observed during the study;
  - Elaborate on the potential impacts that the proposed activity may have on the receiving ecology (including the Krom Antonies River Valley) as well as the conservation status of the Moutonshoek Protected Environment;
  - Compile recommendations, proposed management actions and mitigation measures to alleviate identified impacts.

- Engineering Services Report:
  - This report will elaborate on the services associated with the proposed Riviera Tungsten mine, as well as implementation and management of the identified features. Services to be discussed will include, amongst others, electricity and water supply, lighting, handling and storage of dangerous goods, waste management, and road infrastructure.

- Freshwater Ecological Assessment (Scientific Aquatic Services CC):
  - The scope of works includes an investigation of the watercourses within the study area, as well as the delineation of those watercourses within 500 m thereof in fulfilment of Regulation 509 of 2016 as it relates to the NWA, 1998.
  - The assessment will fulfil the ecological assessment requirements of the EIA process as required in terms of the NEMA, 1998, and will provide the required information for water use licensing in terms of the NWA, 1998.
  - Desktop information will be gathered to obtain background information on the project. A field assessment will be undertaken to fulfil the watercourse ecological assessment requirements of the EIA process.
  - Current industry ‘best practice’ assessment methods will be applied to characterise the Present Ecological State (PES) and Ecological Importance and Sensitivity (EIS) of the freshwater ecological environment and to identify ecosystems and biological assemblages at risk.
  - A fact-presenting report will be generated, providing both qualitative and quantitative data on the PES of the watercourses associated with the study area. The studies will generate detailed site sensitivity maps and all results will be used to inform a detailed impact assessment.

- Key mitigatory, to minimise impacts on both the local and regional wetlands and its water quality, and aquatic ecology will be highlighted.
- The report will include an assessment of the wetland ecology as well as aquatic ecology with specific reference to aquatic habitat units that may be impacted by the proposed mining development.

- Heritage Impact Assessment (Mr. FP Coetzee):
  - The goal of the study will be the compilation of a Phase 1 Heritage Impact Assessment Report (HIA).
  - The HIA will describe all archaeological and historical artefacts, structures and settlements documented in the area;
  - Establish the level of sensitivity/importance of the archaeological and historical remains in the area;
  - Proposed practical mitigation measures for potential impacts;
  - Indicate limitations and assumptions; and
  - Propose recommendations on the way forward.

- Hydrogeological Assessment (GHT Consulting Scientists):
  - The study will include an assessment of the immediate and long term effects of groundwater abstraction, assess the potential impact on the Verlorenvlei RAMSAR site, as well as the catchment areas for the Kruis-, Bergvallei-, Krom Antonies- and Hol river systems.
  - Describe and assess potential sources that could cause the contamination of groundwater and aquifers.

- Noise Impact Assessment (Enviroworks):
  - The investigation purposes will be to assess the impact of the operation on the existing ambient noise climate of the area, which is primarily an agricultural district.
  - The study will also assess the expected response from the community to the noise impact, i.e. the change in ambient noise of the area, based on the SANS code 10103:2008, and expected in terms of the effects of impact, on a scale of NONE to VERY HIGH.

- Palaeontological Impact Assessment (Dr. H Fourie):
  - Dr Fourie will conduct a desktop study to determine the sensitivity of the palaeontological environment within the study area.
  - Identify any areas of concern and propose recommendations thereof.
  - Proposed management and mitigation measure for the proposed project.

- Socio-economic Impact Assessment (Enviroworks):
  - Desktop review of previous studies applicable to tungsten mining in the Moutonshoek Valley.
  - Establish the socio-economic context of the Moutonshoek Valley, Piketberg, Eendekuil, Goedverwacht, and Wittewater.
  - Review of planning documents and assess alignment of the proposed mine with the existing planning documents.

- Consultation with key stakeholders, and review of comments received during the EIA public participation process.
- Compilation of a report that elaborates on both the economic and socio impact of the proposed project on the receiving environment.
- The economic impact assessment will contextualise the proposed mining project in the situation of the regional economy and its outlook, will include results of consulted local and international literature detailing the expected benefits of mining projects, interpret the results of the Economic Impact Assessment and, in particular provide a clear analysis of the contribution and impact of the major sub-categories (e.g. construction, transport etc.) of the project's budget expenditure to the regional economy.
- Further to this the economic impact assessment report will provide a clear quantification of the overall contribution and impact of the project to the regional economy will be provided and compared to the economic potential of the affected area in a scenario "*without the project*". Where relevant and viable, national economic impacts will also be highlighted.
- The socio-section of the study will describe the socio context of the affected area, identify, assess and discuss socio-economic potential issues and perceived issues identified during the construction period.
- Provide recommendations to avoid (or minimize) potential negative impacts.
- Develop a monitoring and evaluation programme.

- Traffic Impact Assessment (BVI Consulting Engineers).
  - The traffic impact assessment will identify the potential impact of the proposed activity on the road infrastructure of the study area.
  - The TIA will include traffic counts, analysis of the data, propose scenario data and conclude with recommendations to mitigate the identified impacts.

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):

- Hydrology including geohydrology;
- Air quality and noise ambiance;
- Fauna and flora component;
- Cultural and heritage environment;
- Socio-economic environment;
- Existing infrastructure including access roads to be affected; and
- Site, project and/or design/technology alternatives including the no-go option.

Greenmined will use in-house 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 proposed to be reviewed by the project team, registered stakeholders and I&AP's and competent authority (DMR).

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 DMR was consulted during a pre-application meeting and been kept informed during the application phase. As competent authority the DMR will be invited to comment on the Draft Scoping Report (DSR), and all comments received will be incorporated into the FSR to be considered for approval.

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

As stipulated in the NEMA EIA Regulations, 2014 (as amended 2017) read together with the MPRDA, 2002, the EIA process will comprise of the following:

1. Application for Environmental Authorization and a Mining Right uploaded with accompanying documentation to the online SAMRAD system;
2. The DMR responds with reference number and accepts the application;
3. Draft Scoping Report circulated for perusal by I&AP's and stakeholders (including the DMR);

4. Final Scoping Report (FSR) submitted to the DMR;
5. The DMR 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 DMR);
7. Final EIA report submitted to DMR;
8. DMR decision on Final EIA report;
9. if the FEAR is approved, the DMR issues the Environmental Authorizations;
10. Appeal period;
11. Submission of the Financial Provision amount;
12. Approval of supporting documentation including, but not limited to, the Mine Works Programme, Social and Labour Plan, and BEE structure; and finally
13. Issuing of the Mining 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 was added to the Draft Scoping Report that will be distributed to all registered I&AP's and stakeholders for a 30 day commenting period.

Registered I&AP's and stakeholders will be provided with a copy of the Draft Scoping Report for their perusal, while the rest of the stakeholders and I&AP's (unregistered) will be notified of the availability of the DSR should they be interested. An electronic copy of the document will be available on the Greenmined website, and a hard copy of the document (DSR) will be placed at the Piketberg Library for public perusal.

All additional comments and recommendations received on the Draft Scoping Report will be added to the Final Scoping Report to be submitted to the DMR 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 the 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 will be made available for public comment as described above.

I&APs will be advised of the availability of these reports and how to obtain them. They 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 will accompany 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 DMR in terms of the National Environmental Management Act, 1998 in respect of listed activities that have been trigger by this application will be used to assess the information with regard to the proposed mining project.

The research and analysis with regard to 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 Riviera Tungsten mining project is depicted below:

1. Application for Environmental Authorization and Mining Right to the DMR;
2. The DMR responds with reference number and accepts the application;
3. Draft Scoping Report circulated for perusal by I&AP's and stakeholders;
4. Final Scoping Report (FSR) submitted to the DMR;
5. The DMR decision on 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 I&AP's and stakeholders;
8. Final EIA report submitted to the DMR;
9. The DMR decision on Final EIA report;
10. Announcement of Environmental Authorization and Appeal Procedure;
11. Opportunity to Appeal;
12. Submission of Financial Provision amount;
13. Issuing of Mining 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 16: Table listing the identified impacts, residual risks to be managed and monitored.

ACTIVITY Whether listed or 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)	**POTENTIAL IMPACT** (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)	**MITIGATION TYPE** (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.	**POTENTIAL FOR RESIDUAL RISK**
⁜ Demarcation of site with visible beacons.	⁜ No impact could be identified other than the beacons being outside the boundaries of the approved mining area.	Control: Implementation of proper housekeeping and site management.	LOW
⁜ Site establishment.	⁜ Mining within the Moutonshoek Protected Environment	No mitigation possible.	HIGH
⁜ Site establishment.	⁜ Potential relocation of affected farm owners/residents.	Modify: Consideration of alternatives Remedy: Compensation of affected parties	HIGH
⁜ Site establishment; ⁜ Processing of ROM and production of APT; and ⁜ Transport of APT to saldanha metallurgical plant.	⁜ Increased traffic on the DR02172; ⁜ Increased traffic along the DR02172 (transport of water).	Control: Road and traffic management	HIGH
⁜ Site establishment; ⁜ Pre-stripping of top layer and stockpiling of topsoil;	⁜ Increased dust emissions along the DR02172; ⁜ Dust nuisance caused by the disturbance of soil;	Control: Dust suppression methods and proper housekeeping.	⁜ HIGH ⁜ LOW-MEDIUM ⁜ MEDIUM ⁜ MEDIUM-HIGH

ACTIVITY Whether listed or 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)	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)	MITIGATION TYPE (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.	POTENTIAL FOR RESIDUAL RISK
⁜ Overburden stripping to access the ore and stockpiling; ⁜ Opencast mining; ⁜ Stockpiling and transporting of ROM; ⁜ Processing of rom and production of APT; and ⁜ Rehabilitation upon closure of the site.	⁜ Dust nuisance caused by the transport of overburden and denuded stockpile area; ⁜ Dust nuisance as a result of blasting activities; ⁜ Dust nuisance due to the movement of earthmoving equipment and denuded stockpile area; ⁜ Dust nuisance generated from the crushing and screening area; and ⁜ Dust nuisance generated as a result of the rehabilitation/landscaping activities.		⁜ MEDIUM ⁜ MEDIUM ⁜ LOW-MEDIUM
⁜ Site establishment; and ⁜ Overburden stripping to access the ore and stockpiling.	⁜ Visual intrusion as a result of site establishment; ⁜ Visual intrusion associated with the excavation activities.	<u>Modify:</u> Consideration of alternatives <u>Control:</u> Proper housekeeping	HIGH
⁜ Site establishment	⁜ Destruction/loss of indigenous vegetation from construction footprint.	<u>Modify:</u> Consideration of alternatives <u>Control:</u> Demarcation of no-go areas	MEDIUM
⁜ Site establishment	⁜ Potential loss of/negative impact on wetlands within the affected area.	<u>Modify:</u> Consideration of alternatives <u>Stop & Control:</u> Demarcation of no-go areas	MEDIUM

ACTIVITY Whether listed or 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)	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)	MITIGATION TYPE (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.	POTENTIAL FOR RESIDUAL RISK
⋉ Site establishment	⋉ Potential impact on fauna within footprint area.	Modify: Consideration of alternatives Stop & Control: Demarcation of no-go areas, and proper site management.	LOW-MEDIUM
⋉ Site establishment	⋉ Potential impact on areas/infrastructure of heritage or cultural concern.	Modify: Consideration of alternatives Stop & Control: Demarcation of no-go areas.	LOW-MEDIUM
⋉ Site establishment	⋉ Potential impact on the safety of the Moutonshoek Valley due to increased human concentration.	Control: Site management and proper housekeeping.	HIGH
⋉ Stripping and stockpiling of topsoil; ⋉ Overburden stripping to access the ore and stockpiling; ⋉ Opencast mining; ⋉ Stockpiling and transporting of ROM; ⋉ Processing of ROM and production of APT; and ⋉ Rehabilitation upon closure of the site.	⋉ Noise nuisance caused by earthmoving machinery; ⋉ Noise nuisance caused by earthmoving machinery; ⋉ Noise nuisance caused by blasting activities; ⋉ Noise nuisance generated by earthmoving equipment; ⋉ Noise nuisance stemming from the crushing and screening infrastructure; and	Control: Noise suppression methods and proper housekeeping.	⋉ LOW-MEDIUM ⋉ MEDIUM

ACTIVITY Whether listed or 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)	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)	MITIGATION TYPE (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.	POTENTIAL FOR RESIDUAL RISK
	⁜ Noise nuisance caused by machinery during the decommissioning phase.		
⁜ Stripping and stockpiling of topsoil; ⁜ Overburden stripping to access the ore and stockpiling; and ⁜ Rehabilitation upon closure of the site.	⁜ Potential infestation of the topsoil heaps with weeds or invader plant species; ⁜ Potential infestation of the overburden heaps with weeds or invader plant species; and ⁜ Potential infestation of the reinstated areas by weeds and invader plant species.	Control & Remedy: Implementation of an invasive plant species management plan.	MEDIUM
⁜ Stripping and stockpiling of topsoil.	⁜ Loss/contamination of stockpiled topsoil.	Control & Remedy: Proper housekeeping and implementation of a stormwater management plan.	LOW-MEDIUM
⁜ Stripping and stockpiling of topsoil; ⁜ Overburden stripping to access the ore and stockpiling; and ⁜ Stockpiling and transporting of ROM.	⁜ Potential contamination of construction area and surface runoff as a result of hydrocarbon spillages.	Control & Remedy: Proper housekeeping and implementation of an emergency response plan.	MEDIUM
⁜ Stripping and stockpiling of topsoil; and ⁜ Rehabilitation upon closure of the site.	⁜ Potential erosion of denuded areas; and	Control & Remedy: Implementation of a stormwater management plan and closure plan.	⁜ LOW-MEDIUM ⁜ MEDIUM

ACTIVITY Whether listed or 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)	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)	MITIGATION TYPE (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.	POTENTIAL FOR RESIDUAL RISK
	⁜ Potential increase in the risk of soil erosion from reinstated but denuded areas.		
⁜ Stripping and stockpiling of topsoil; and ⁜ Overburden stripping to access the ore and stockpiling.	⁜ Potential sedimentation/contamination of the Krom Antonies River through surface runoff.	Modify: Consideration of alternatives. Control: Proper housekeeping and implementation of a stormwater management plan.	MEDIUM
⁜ Opencast mining; and ⁜ Underground mining.	⁜ Health and safety risk posed by blasting activities; and ⁜ Potential health and safety impact to mine employees.	Control: Access control and notification of employees/surrounding residents. Continuous mine safety control.	MEDIUM
⁜ Opencast mining; ⁜ Stockpiling and transporting of ROM; and ⁜ Processing of ROM and production of APT.	⁜ Lighting pollution due to shift work.	Modify: Implement alternative lighting options.	MEDIUM-HIGH
⁜ Opencast mining.	⁜ Potential flooding of opencast pit / other work areas.	Remedy: Implementing a stormwater management plan.	LOW

ACTIVITY Whether listed or 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)	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)	MITIGATION TYPE (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.	POTENTIAL FOR RESIDUAL RISK
⋉ Underground mining.	⋉ Potential impact on groundwater sources.	Modify: Consider design alternatives.	HIGH
⋉ Underground mining.	⋉ Impact on surface stability.	Control: Compliance with mine safety regulations.	LOW-MEDIUM
⋉ Processing of ROM and production of APT.	⋉ Potential impact on the air quality of the affected environment.	Modify: Consider alternative technology. Control: Compliance with air emissions regulations.	MEDIUM-HIGH
⋉ Processing of ROM and production of APT.	⋉ Potential seepage from the slimes dam.	Modify: Consider design alternatives Control: Implementation of an emergency preparedness plan.	MEDIUM-HIGH
⋉ Processing of ROM and production of APT; and ⋉ Rehabilitation upon closure of the site.	⋉ Potential contamination of environment as a result of improper waste disposal.	Control: Implementation of a waste management plan.	MEDIUM
⋉ Transport of APT to saldanha metallurgical plant.	⋉ Overloading of trucks impact road infrastructure.	Control: Adherence to road traffic requirements.	MEDIUM-HIGH

ACTIVITY Whether listed or 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)	POTENTIAL IMPACT (e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc...etc..)	MITIGATION TYPE (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.	POTENTIAL FOR RESIDUAL RISK
⋉ Cumulative impacts.	⋉ Potential impact on the Verlorenvlei RAMSAR site.	Modify: Implementing site-, project-, or design alternatives. Control: Adherance to recommendations and mitigation measures as proposed by the project specialists and competent authorities.	HIGH
⋉ Cumulative impacts.	⋉ Loss of agricultural- and tourism generated income during the operational phase of the mine (change of land use).	Modify: Consider the implementation of alternatives.	HIGH
⋉ Rehabilitation upon closure of the site.	⋉ Potential safety risk posed by unrehabilitated (unsloped/unsealed) areas.	Control: Adherence to the closure plan.	MEDIUM

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 potential negative impacts were identified that are highly likely to have an impact on the socio-economic conditions of directly affected persons:

- **Potential relocation of affected farm owners/residents:**
  The nature of the proposed project requires the positioning of the opencast mine over areas currently used for agricultural purposes. The presence of the mineral dictate the position of the proposed opencast pit, and moving it is therefore impossible. Further to this, the current project proposal is for the mine to operate on a 24/7 basis, and it is highly unlikely that residents would prefer staying within close vicinity of the mine. The relocation of the landowners and lawful occupiers of the three earmarked farms is therefore a real concern that has to be considered when the socio-economic impact of the proposed project on the receiving environment is assessed as part of the socio-economic study during the EIA process.

- **Increased traffic on the DR02172:**
  Currently it is expected that the proposed project will increase the present traffic load on the DR02172 with 12 trucks per day transporting amongst others, water from the reverse osmosis plant to the mine, and APT from the mine to Saldanha Bay. Heavy vehicle traffic will be restricted to daylight hours. The degree of impact as well as the significance of increased traffic on the DR02172 will be assessed by the traffic engineer and recommendations and mitigation measures will be assessed during the EIA process.

- **Visual intrusion as a result of the proposed mining area:**
  The presence of mining related infrastructure (i.e. crushing infrastructure, slimes dam, processing plant) as well as the opencast pit to be established will impact on the visual character of the study area in particular the “sense of place” of the MPE. The significance of this impact must be fully assessed during the EIA process taking site-, project-, design alternatives and screening methods into consideration in an attempt to reduce the impact as much as possible.

- **Potential impact on the safety of the Moutonshoek Valley due to increased human concentration:**
  As mentioned earlier the increased concentration of people, as a result of the proposed project, may negatively affect the safety status of the Moutonshoek Valley. 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 neighborhood watches to alleviate the significance of the impact.

- **Impact on the air quality and noise ambiance of the valley:**
  The presence of the crushing and screening infrastructure, opencast mining and the use of earthmoving equipment all increase the possibility of dust and noise generation as a result of the proposed mining activities. The air quality and noise impact specialist has to consider this when conducting their assessment and proposing mitigation measures. By nature these impacts require constant monitoring to be implemented throughout the site establishment-, operational-, and decommissioning phases of a project.

- **Light pollution due to shift work:**
  Bettering the illumination of an area is commonly associated with improved safety and security. Excessive lighting or inconsiderate reflections however contribute more towards a negative impact than the above mentioned positive adjustment. Artificial illumination of the night sky within a protected environment is also highly undesirable. This impact must therefore be addressed as part of the engineering services report and viable alternatives must be proposed that will minimize the significance of the impact on the receiving environment.

- **Loss of agricultural- and tourism generated income during the operational phase of the mine (change of land use):**
  The Applicant applied for the mining right to be approved for a 30-year period during which (should the MR be granted) the proposed footprint becomes unavailable for farming, horse breeding, or other cultivation processes. The significance that the proposed mining activity will have on the receiving environment in particular the agricultural- and tourism sectors must be assessed as part of the socio-economic and agricultural impact assessments, upon which the conclusions will be presented in the DEIAR.

The following potential positive impacts were identified that are highly likely to have an impact on the socio-economic conditions of directly affected persons:

- **Increased work opportunities to local residents**
  The proposed labour component of the Riviera Tungsten project is expected to be 211 including management. The largest majority of this number will be employed from the immediate surrounding communities. In light of the high unemployment figures of the Bergrivier Municipal area, the generation of work opportunities are of high significance. As a result of the multiplier effect it is expected that the income of 211 employees will support 530 dependents, and due to the fact that most of the employees will reside within the Bergrivier Municipal area, it is fair to presume that the majority of monthly earned salaries will be spent within the local area. Indirectly, through the payment for services and suppliers, the mine will also support employment of the procurement partners.

- **Potential decrease in water demand from local resources as a result of the offsite reverse osmosis plant**

  The Applicant intends to transport the process water to the mining area from an offsite reverse osmosis plant, instead of making use of the potable water in the Valley. Presently, the landowners of the three earmarked farms use ground-, and surface water for agricultural and household purposes. Should the land use temporarily change from agriculture to mining (30-year mining period), the current demand on the site specific water resources will be greatly reduced. The impact thereof must be considered by the hydrologist as well as the geohydrologist during the EIA process.

- **Increased income generated within the Moutonshoek Valley / Piketberg area**

  The potential increase in income generated within the Moutonshoek Valley / Piketberg area as a result of the change of land use from agriculture to mining must be assessed by the socio-economic specialist during the EIA process. Should the proposed mine however generate a higher income than the current land use of the area, the multiplier effect will once again come into play through an increase in wages, improved socio-character of employees, support of the local economy and overall growth of the receiving community.

- **Contribution of mine to local economic development**

  A mining right holder is required by law to contribute to the local economic development (LED) of the local community. The presence of a mine within the Moutonshoek Valley will therefore generate funds that can be used in the development of the area. Identifying a suitable LED project must be conducted in consultation with the local municipality, to be committed to in the Social and Labour Plan that needs to be approved prior to the granting of a mining right.

- **Potential use of decommissioned mine infrastructure/areas for alternative purposes such as water storage:**

  Upon closure of the mining area the right holder has an obligation in terms of the MPRDA, 2002 and NEMA, 1998 to rehabilitate the affected area to the satisfaction of the Regional Manager (DMR). The likelihood and significance that decommissioned infrastructure can be implemented for future use by landowners must be assessed during the EIA process. These possibilities must form part of the closure plan to be approved for the mining area, and must include options such as, but not limited to, the possible use of the slimes dam for aquaculture purposes, use of the opencast pit for water storage, use of warehouses and internal roads by the landowner etc.

(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 as part of the phase 1 heritage impact assessment to follow during the EIA process. The altered nature of the operational farms, being applied over, do reduce the possibility of the presence of areas/artefacts of national estate value, however this will be confirmed by an appropriately qualified specialist. The Applicant indicated that should such areas of importance be identified the recommendations of the specialist will be heeded with changes being made to the design and or layout of the proposed project.

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 specialist studies conducted of the study area. As discussed earlier the following alternatives will be assessed in the EIAR:

Site Alternatives

Should additional viable site alternatives be identified during the EIA process, the project team will heed the suggestions and investigate the possibility of implementation thereof. Additional site alternatives (if identified) will be discussed in detail in the draft EIAR to be distributed for public comments.

Project Alternatives

Additional project alternatives can be considered during the EIA process as supplementary information is obtained from the specialist studies, contributed by the stakeholders and I&AP's, and adjusted by the project team. Should project alternatives be identified it will be discussed during the EIA process of the application and included in the DEIAR to be distributed for public comments.

Technology/Design Alternatives

As with the project alternatives, technology and design alternatives will be considered during the EIA process and discussed in the DEIAR. The following technology/design principles will be considered by the Applicant and project team:

- Alternative boxcut (secure and safe portals/accesses to the open-cast pit) positions and direction of mining for opencast operations;

- Alternative locations of topsoil and overburden stockpile areas;
- Alternative conveyor technology to solve environmental problems (e.g. noise, river crossings);
- Alternative slime dam locations and designs;
- Alternative alignments of access road and haul roads;
- Alternative locations for mine infrastructure, including the locations of offices, workshops; refuelling bays, stores, magazines, and processing plants; and
- The implementation of renewable energy sources will be considered;

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. In the event that the no-go alternative is implemented the land use of the area will remain that of agriculture, conservation, livestock farming and tourism with the tungsten resources unmined. Amongst others, the socio-economic impact of mining on current, and future agriculture and tourism 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.

l) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

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

Signature of the EAP
DATE: 11 January 2019

m) UNDERTAKING REGARDING LEVEL OF AGREEMENT

I Christine Fouché **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.**

Signature of the EAP
DATE: 11 January 2019

- END -