SCOPING AND ENVIRONMENTAL MANAGEMENT PROGRAMM REPORT FOR THE APPLICATION OF A MINING PERMIT SITUATED ON PORTION 1,2,3,4,5,6,7,8,9,10 & 15 OF FARM THE LEEUWKRAAL 181 IP, PORTION 1,2,3,4,5,6,7,8,9 AND 10 OF FARM BRUIDEGOMSKRAAL 179 IP, PORTION 1 OF FARM DROOGPAN 178 IP, PORTION 1,2,3,4,5,6 AND REMAINDER OF FARM THE DROONPLAAT 177 IP, PORTION 1,2,13 & 14 OF FARM ROODEPAN 180 IP AND REMAINDER OF FARM OOG VAN SCHOONSPRUIT 186, IN THE MAGISTERIAL DISTRICT OF VENTERSDORP

FOR

ATKA EXPLORATION AND MINING(PTY) LTD

DMR REF. NO. NW 10190 MR

Compiled by: Engedi Minerals and Energy
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Contact Person: Mr T Mulaudzi

mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT AND/OR MINING ACTIVITIES INCLUDING TRENCHING IN CASES OF CHROME ORE, PLATINUM GROUP METALS, MANGANESE AND GOLD.

DMR REFERENCE NO: NW 10190 MR

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: ATKA EXPLORATION AND MINING (PTY) LTD
TEL NO: 079 695 6186
FAX NO: 086 667 8574
POSTAL ADDRESS: PO Box 451. Stilfontein, 2550
PHYSICAL ADDRESS: 68 Smit Avenue, Adamayvlew, Klerksdorp, 2571

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IMPORTANT NOTICE

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

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

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

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

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

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.

PROJECT DETAILS

Name of Project:	Portion 1,2,3,4,5,6,7,8,9,10 & 15 of farm the Leeuwkraal 181 IP, Portion 1,2,3,4,5,6,7,8,9 and 10 of farm Bruidegomskraal 179 IP, portion 1 of farm Droogpan 178 IP, Portion 1,2,3,4,5,6 and remainder of farm the Droonplaat 177 IP, portion 1,2,13 & 14 of farm Roodepan 180 IP and remainder of farm Oog van Schoonspruit 186
Ref No:	NW 10190 MR
Name of Applicant:	Atka Exploration and Mining (Pty) Ltd
Responsible person:	Mzaidume Thobile
Physical Address:	68 Smit Avenue, Adamay View, Klerksdorp, 2571
Postal Address:	PO Box 451. Stilfontein, 2550
Telephone:	079 695 6186
E-mail:	mzaidume@gmail.com

Environmental Consultant (EAP):	Tshimangadzo Mulaudzi
Responsible Person:	Tshimangadzo Mulaudzi
Physical Address:	15 Barnes Street, Langebaan building, Bloemfontein 9301
Postal Address:	P.O. Box 22372, Extonweg, 9313
Telephone:	079 362 6046
Facsimile:	086 556 2568
E-mail:	info@engedime.com
Expertise of EAP:	Refer to Appendix 1 on the expertise of EAP

2) Contact Person and correspondence address

a) Details of:

i)The EAP who prepared the report

Name of The Practitioner: (Tshimangadzo Mulaudzi) Engedi Minerals and Energy

Tel No.: 079 362 6046 / 051 430 1748

Fax No. : 086 556 2568

e-mail address:info@engedime.com

ii) Expertise of the EAP.

(1) The qualifications of the EAP
(With evidence attached as **Appendix 1**).
Honours Degree in Mining and Environmental Geology

(2) **Summary of the EAP's past experience**.
(Attach the EAP's curriculum vitae as **Appendix 2**)

Tshimangadzo hold an Honours Degree in Mining and Environmental Geology from the University of Venda. Have since been working as an environmental geologist and environmental practitioner. He has 5 years' experience in Environmental Science, 3 years' experience in Geology, and 5 years' experience in public participation.

Tshimangadzo has been carrying out Environmental Impact Assessment Procedure since 2012, managing a construction company called Tshedza Concrete Art in Limpopo Province, Makhado Town.

In 2014, he joined a large mining consulting company in Kimberly called Breeze Court Investments 47 (Pty) Ltd (Geologist and Mining Consulting firm). This is where Mr Mulaudzi acquired in-depth experience and know how in the mining consulting business by assisting the large to small scale mining companies to obtain mining permit, mining rights, mining permits, technical co-operate permits, reconnaissance permits, exploration rights, production rights, integrated water use license, environmental authorisation among other licenses.

Tshimangadzo has five years working experience in environmental, geology and public participation.

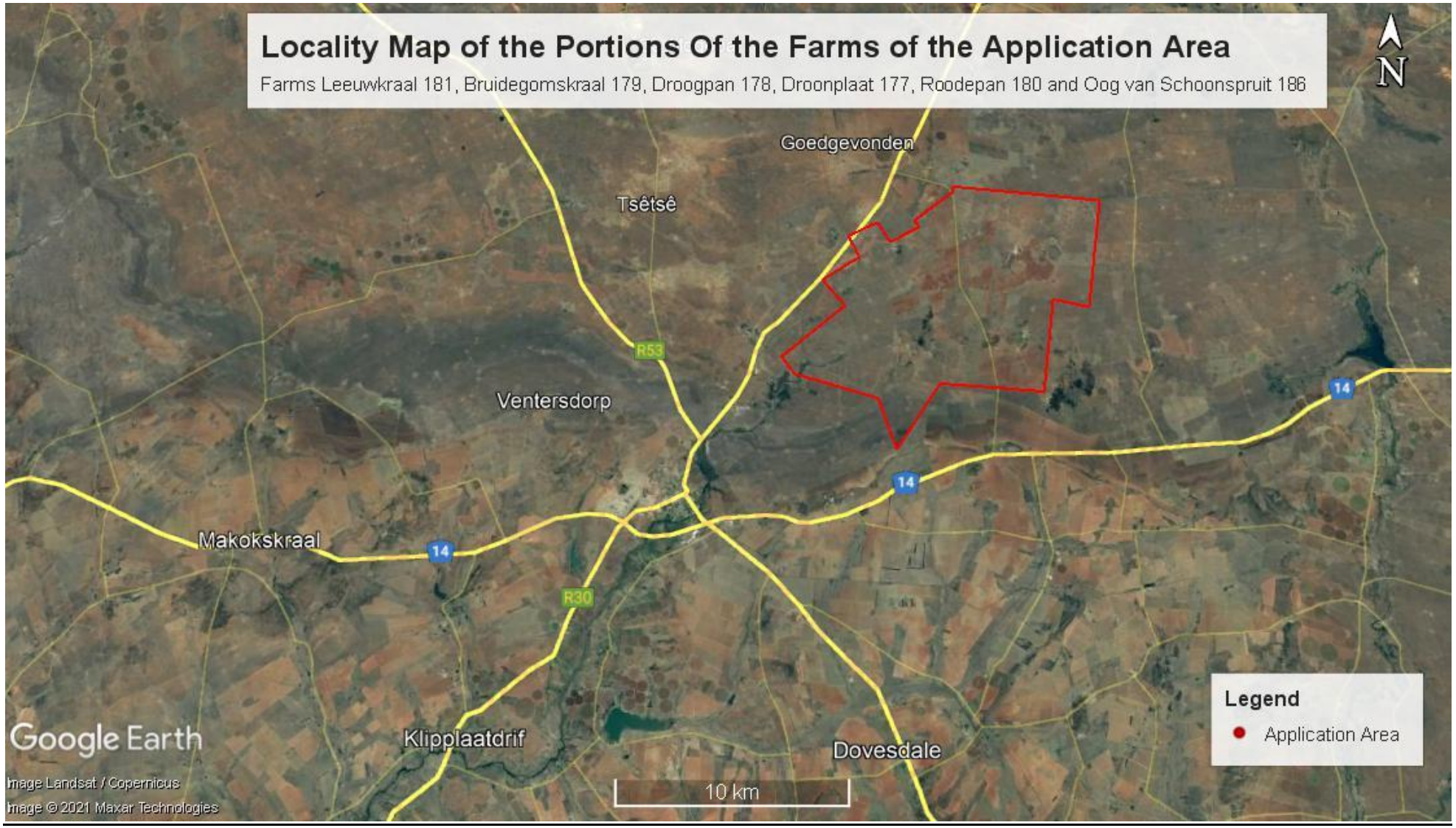
b) **Description of the property.**

Farm Name:	1. Portion 1,2,3,4,5,6,7,8,9,10 & 15 of farm the LEEUWKRAAL 181 IP 2. Portion 1,2,3,4,5,6,7,8,9 and 10 of farm BRUIDEGOMSKRAAL 179 IP 3. Portion 1 of farm DROOGPAN 178 IP 4. Portion 1,2,3,4,5,6 and remainder of farm the DROONPLAAT 177 IP 5. Portion 1,2,13 & 14 of farm ROODEPAN 180 IP 6. Remainder of farm OOG VAN SCHOONSPRUIT 186
Application area (Ha)	11 616.04 Hectares
Magisterial district:	Ventersdorp
Distance and direction from nearest town	approximately 11km NORTH EAST of the town Ventersdorp
21 digit Surveyor General Code for each farm portion	1. T0IP00000000018100001 T0IP00000000018100002 T0IP00000000018100003 T0IP00000000018100004 T0IP00000000018100005 T0IP00000000018100006 T0IP00000000018100007 T0IP00000000018100008 T0IP00000000018100009 T0IP00000000018100010 T0IP00000000018100015 2. T0IP00000000017900001 T0IP00000000017900002 T0IP00000000017900003 T0IP00000000017900004 T0IP00000000017900005 T0IP00000000017900006 T0IP00000000017900007 T0IP00000000017900008 T0IP00000000017900009 T0IP00000000017900010 3. T0IP00000000017800001 4. T0IP00000000017700000 T0IP00000000017700001 T0IP00000000017700002 T0IP00000000017700003 T0IP00000000017700004 T0IP00000000017700005 T0IP00000000017700006 5. T0IP00000000018000001

	T0IP00000000018000002 T0IP00000000018000013 T0IP00000000018000014 6. T0IP00000000018600000 (RESPECTIVELY AS WRITTEN ABOVE AS FARM NAMES)

c) **Locality map**

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


Locality Map of the Portions Of the Farms of the Application Area
Farms Leeuwkraal 181, Bruidegomskraal 179, Droogpan 178, Droonplaat 177, Roodepan 180 and Oog van Schoonspruit 186
N
Goedgevonden
Tsêtsê
R53
Ventersdorp
14
14
Makokskraal
14
R30
Klipplaatdrif
Dovesdale
10 km
Legend
Application Area
Google Earth
Image Landsat / Copernicus
Image © 2021 Maxar Technologies

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**

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 m²**	**LISTED ACTIVITY Mark with an X where applicable or affected.**	**APPLICABLE LISTING NOTICE (GNR 544, GNR 545 or GNR 546)/NOT LISTED**
Trenching and pitting ()	Included in the overall extent of bulk sampling.	YES	NEMA GNR 984, Listed 2, Activity 19
Sample storage	Included in the overall extent of bulk sampling.	NO	NEMA GNR 984, Listed 1, Activity 20
ROM Stockpiles	Included in the overall extent of bulk sampling.	NO	N/A
Drill site	Included in the overall extent of bulk sampling.	YES	NEMA GNR 984, Listed 1, Activity 20
Offices, Ablution, stores, and Workshop area	Included in the overall extent of bulk sampling.	YES	NEMA GNR 984, Listed 1, Activity 20

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

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

(These activities do not disturb the land where mining will take place e.g. aerial photography, desktop studies, aeromagnetic surveys, etc)

Phase 1

Non-invasive mining work will be as follows:

Desktop Analysis

The geology of the area will be interpreted by using aerial photos, available mapping, literature reviews and land sat data – target areas will be identified. Further to this field mapping of outcrop will be conducted.

Geophysical Survey

A geophysical electromagnetic survey (magnetometer) and gravity survey will be done where so targeted by the Geologist to proof the availability of the anomalies of the proposed prospected mineral of interest (Chrome ore and platinum group metals in alluvial). This is done to determine any anomalies which may be present in the underlying geology. This requires carrying a proton magnetometer which passes an electric current through the underlying sediments/ore body. No samples are taken at this phase thus no excavations are required. Information gained from this phase will be useful to site further drilling and position of pits for pit testing. The desktop studies and geophysical survey will take a period of 12 months.

- **DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:**

(These activities result in land disturbances e.g. sampling and drilling)

Phase 2

Invasive mining methods will be as follows:

Core Drilling

Invasive mining consists of core drilling and the results of this phase will determine the final positions of the proposed pits for pit testing. This phase is considered to have a medium impact on the environment. Drilling equipment and transport vehicles will be mobilized. The drilling team will be required to adhere to commitments of the approved EIR and EMPR, management are required to ensure that environmental management principles are adhered to at all phases.

Existing roads will be used wherever possible. Any new access road construction will be conducted in close consultation with the landowner.

Bulk sampling

Bulk sampling is the removing of large mineralized rock / materials typically over fifty tonnes, selected to be representative of the potential ore body, in order to do mineral processing tests. This stage comes after drilling has been done; it is performed to ascertain confidence on the

availability of chrome ore and platinum group metals in alluvial that can be mined for economic use.

The drilling and bulk sampling method will take a period of over 30 months.

Core Drilling

100 holes will be drilled 60 - 100 m deep at interval of 30 meters apart.

Borehole Chips– logged, sampled and analyzed

100 samples

Phase 3

Drilling, Bulk sampling and CPR report

The remaining boreholes and bulk sampling which were not done in the phase 2 will be finalised followed by the compilation of the competent persons report. This phase will take place over a period of 18 months.

e) **Policy and Legislative Context**

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**
MPRDA (Act no. 28 of 2002, as amended by Act No. 49 of 2008)	All phases
NEMA (Act No. 107 of 1998), EIA regulations, 2014	All phases
National Water Act (Act No. 36 of 1998)	All phases
Mine Health and Safety Act, Act No. 29 of 1996	All phases

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

Project need and desirability

The majority of South Africa's Mining houses of chrome ore and platinum group metals are currently reduces their production scales. They are now focused on large scale mining of Chrome ore and platinum group metals in alluvial, leaving all the satellites chrome ore and platinum group metals in alluvial deposits for small scale or medium scale miners to profit from. The market of chrome ore and platinum group metals in alluvial is consistence and the demand of chrome ore and platinum group metals in alluvial is growing as compared to the other mineral deposits.

Benefits of the project

Benefits of the project may include increased employment of local residents in the area, greater economic input into the area allowing better development of the towns and surrounding area, and greater socio-economic stability.

g) **Period for which the environmental authorisation is required**

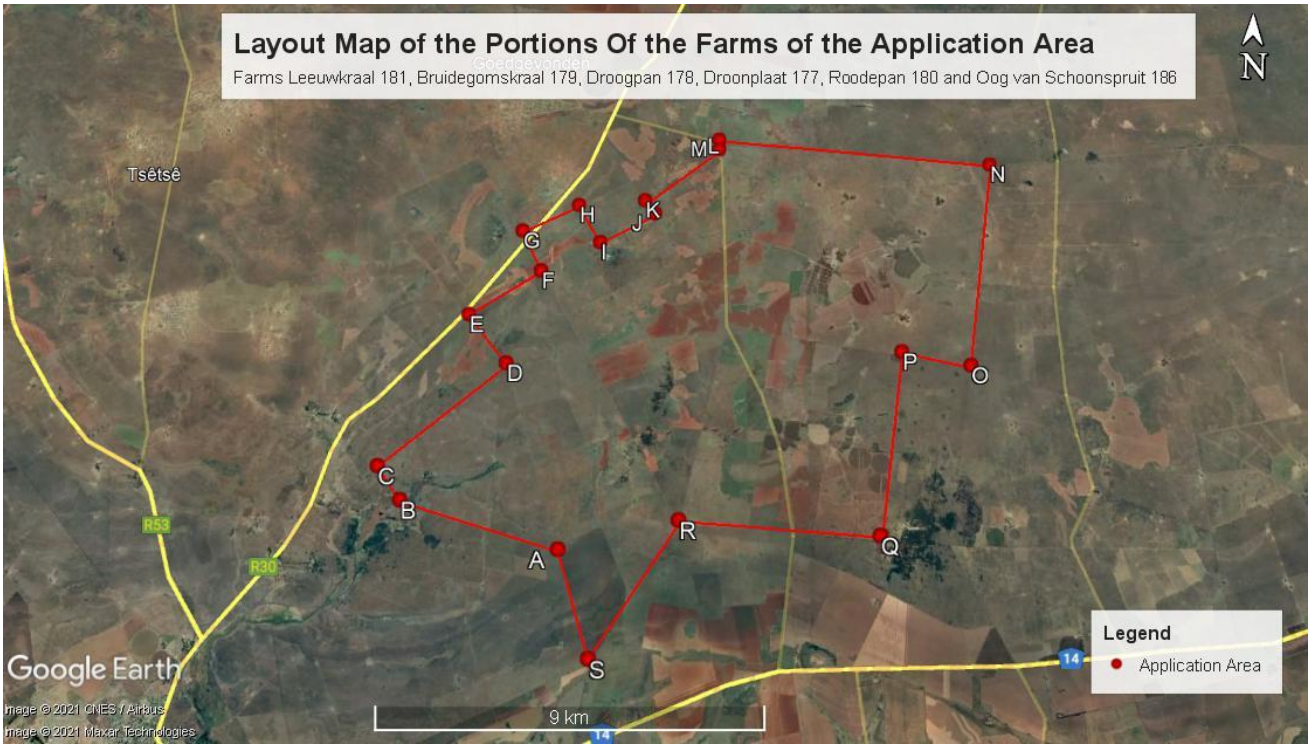
The required period is 30 years.

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.



The map above shows location proposed activities, type of activities and design or layout of activities.

d) The main activities of the proposed mining trenching Technology such as GPS will be used to properly locate boreholes and trenching.

e) 100 holes will be drilled 60 - 100 m deep at interval of 30 meters apart.

The will be carried out in the form of Trenching and pitting as per revised mining work programme. The parameters of trenches are 5 Trenches X 100m X 5m deep, this parameters of trenching constitute/contribute as mining activities. The rehibilitation will take place concurrently with the mining work programme.All activities will happen outside 100m away from wetlands.

f) The historic land use is one of agriculture and cattle farming, where land use is for cultivation and some portions have natural vegetation's. The mining option will result in the continuation of such land use after rehabilitation. The continuing operation of the existing farming activities (crop production and grazing) without the construction of the proposed mining operation will have very little to no environmental impact. Not only will the surety of water supply to other users in the scheme be increased, a portion of land deemed as having high agricultural potential will remain intact.

Although it could probably remain economically viable, the continuation of agriculture will not provide the level of economic growth to the area that mining would offer. After mine closure and rehabilitation of mined area, the land capability may return to grazing, allowing the continuance of certain agricultural practices. The mine will also promote sustainable local economic development, to give communities the skills required to remain economically viable and successful after mine closure.

If the project were not to proceed, the additional economic activity, skills development and available jobs would not be created, the chrome ore and platinum group metals in alluvial reserves would remain unutilised, the current land uses and economic activities would continue as at present, with little or no economic growth developing in the region. There are currently no foreseeable significant environmental impacts that will outweigh the economic benefits that would be generated by the project; however this will be further assessed during the EIA.

If mining activity were not to proceed with the proposed project, mining of these chrome ore and platinum group metals in alluvial will not necessarily be avoided, as another application in terms of the MPRDA (Act no. 28 of 2002) can be made by another company. Unless the government declares the area "off limits" to mining, mining houses will continue to attempt to mine the chrome ore and platinum group metals in alluvial.

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.

Engedi Minerals was appointed by ATKA EXPLORATION AND MINING (Pty) Ltd as the independent consultant to conduct the Public Participation process as part of the EIA as stipulated in Sections 56 - 59 of the NEMA (Act no. 107 of 1998) as well as in Section 22 of the MPRDA (Act no. 28 of 2002).

As stipulated in the MPRDA (Act no. 28 of 2002) and in Regulation 49(1) (f) (MPRDA Regulation GN R527), I&APs need to be notified and consulted with, as part of an application for mining rights.

Identification of Interested and Affected Parties

The following categories of stakeholders will be identified: the landowners of 1,2,7,8,13,14 and remainder of the Farm Roodepan 180 , (the area included in the Mining permit Application i.e. the site).

In addition other potential stakeholders will be identified and invited to register themselves as I&APs. This invitation will also be extended to the public by means of site notices and newspaper notices.

Landowners & lawful occupiers of the site

The title deed owners of the application area will be listed in the table below. According to the title deed ownership records, the landowner of the application area is a private landowner.

FARM NAME	PORTION	EXTENT (Ha)	OWNER	TITLE DEED NUMBER
Leeuwkraal 181		-		
Bruidegomskraal 179				

Droogpan 178				
Droonplaat 177				
Roodepan 180				
Oog van Schoonspruit 186				

iii) Summary of issues raised by I&Aps

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

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Date Comments Received	Issues raised	EAPs response to issues as mandated by the applicant	Consultation Status (consensus dispute, not finalised,etc)
AFFECTED PARTIES					
Landowner/s	X				
Landowners or lawful occupiers on adjacent properties	X				
Municipal councillor	X				
Municipality	X				
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA e					
Communities					
Dept. Land Affairs					
Traditional Leaders	N/A				
Dept. Environmental Affairs					

Other Competent Authorities affected					
OTHER AFFECTED PARTIES					
INTERESTED PARTIES					

iv) THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE SITES

(1) BASELINE ENVIRONMENT

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

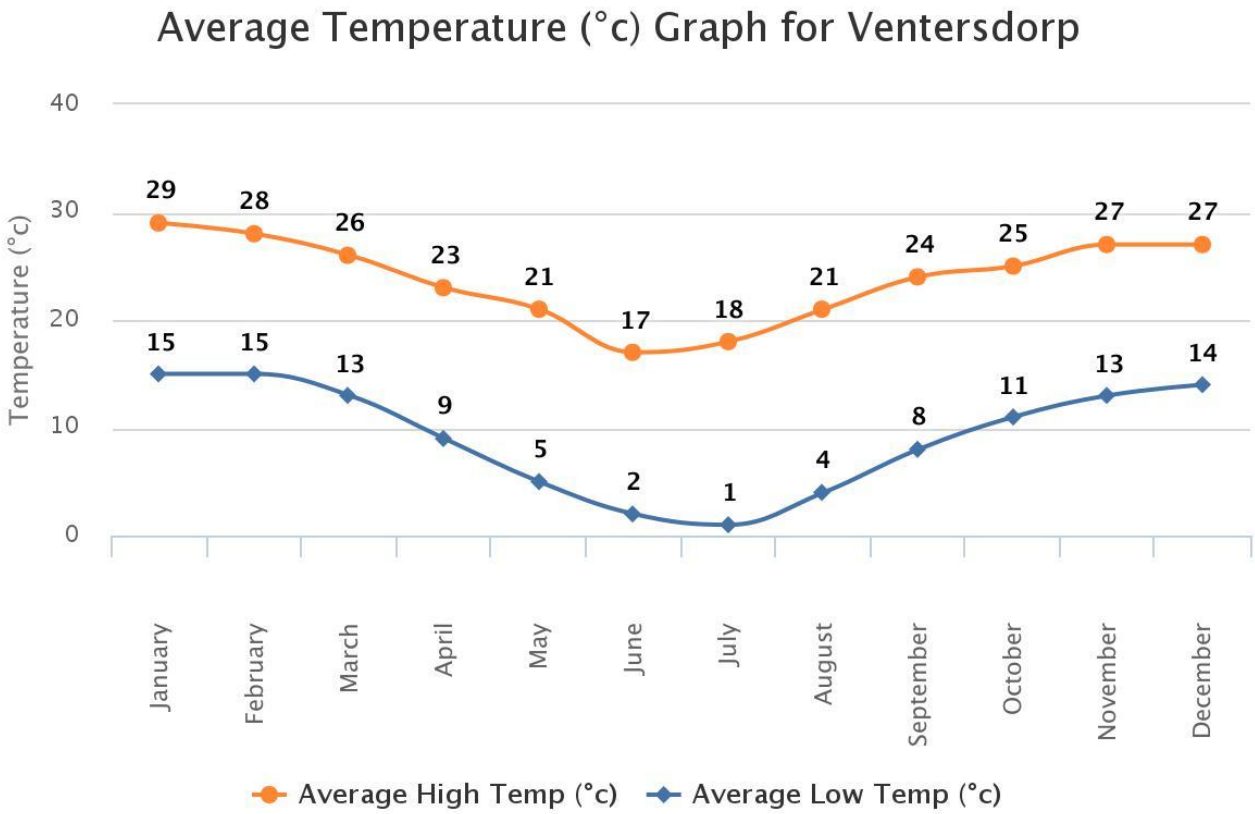
(its current geographical, physical, biological, socio- economic, and cultural character).

Physical environment

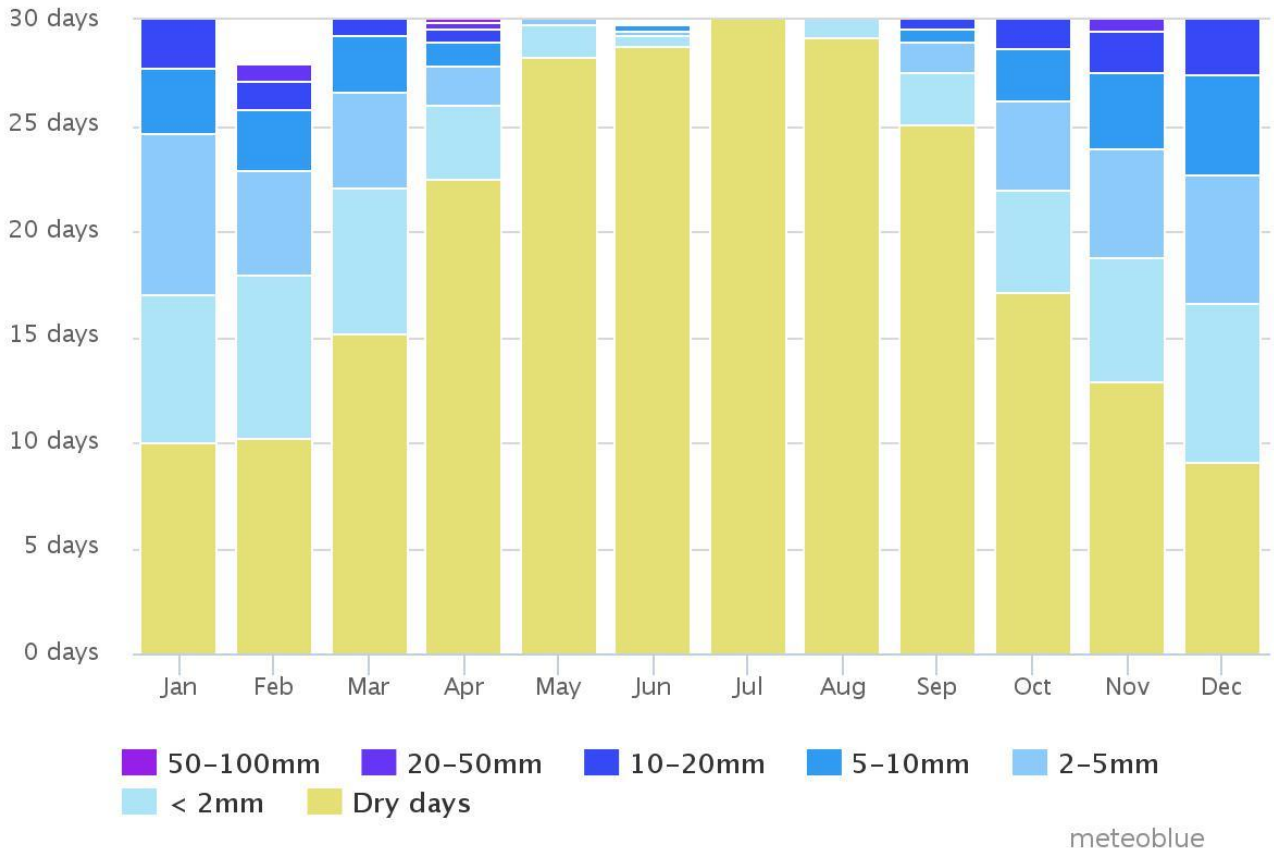
Climate

The Ventersdorp area normally received an average of 522 mm of rain per year, with most rainfall occurring during midsummer. The lowest rainfall is in June and the highest (90 mm) in January. The monthly distribution of average daily maximum temperatures indicates the average mid-day temperatures for Ventersdorp range from 17°C in June to 29°C in January, as result making the region coldest during June when the mercury drops to 1°C on average during the night. The above stats are based on desktop studies, however due to climate changes the temperatures and rainfall patterns may have changed. The proposed development should take into consideration climate changes in terms of the design and technologies that can be utilized.

Temperature

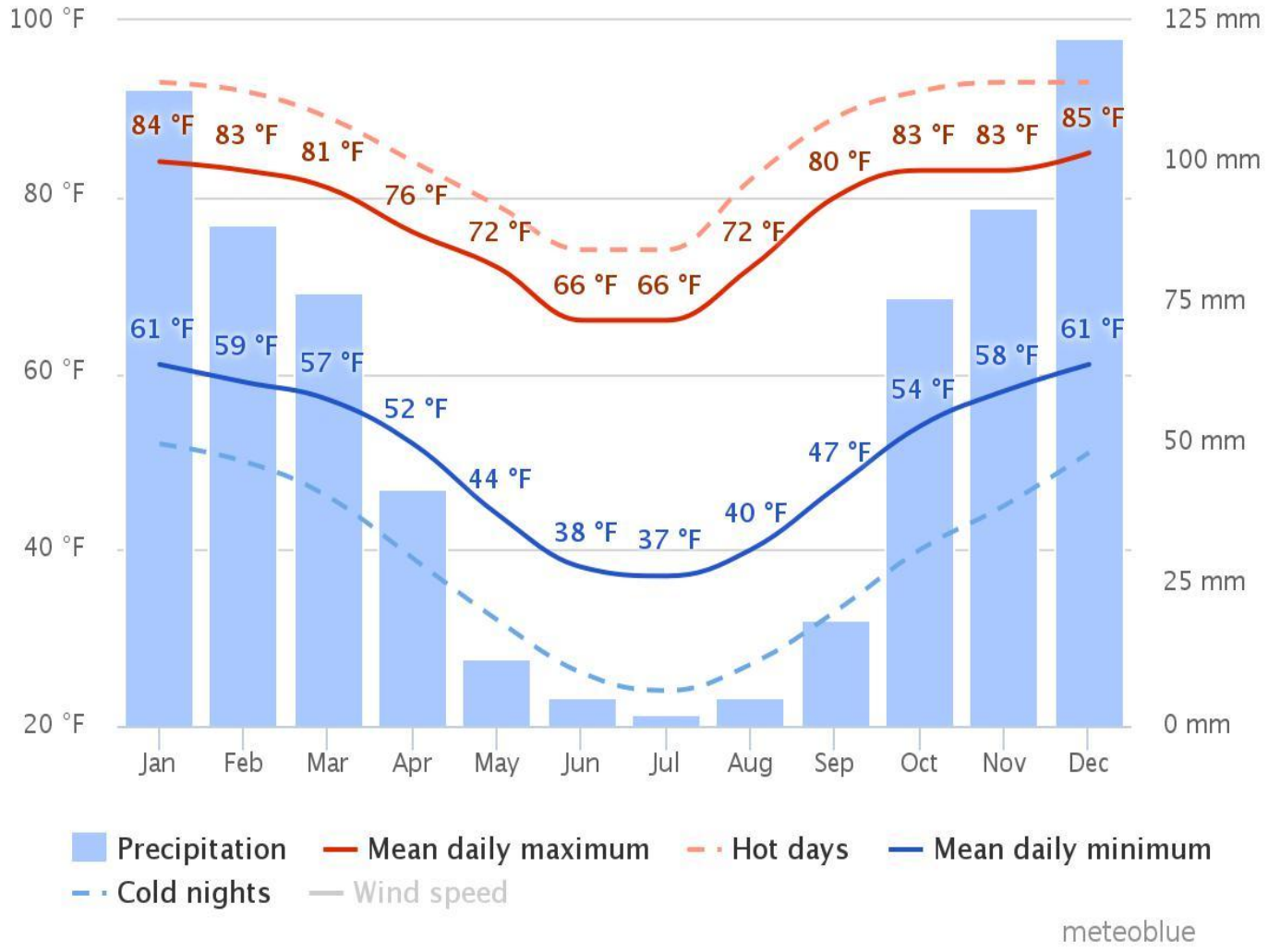


Precipitation



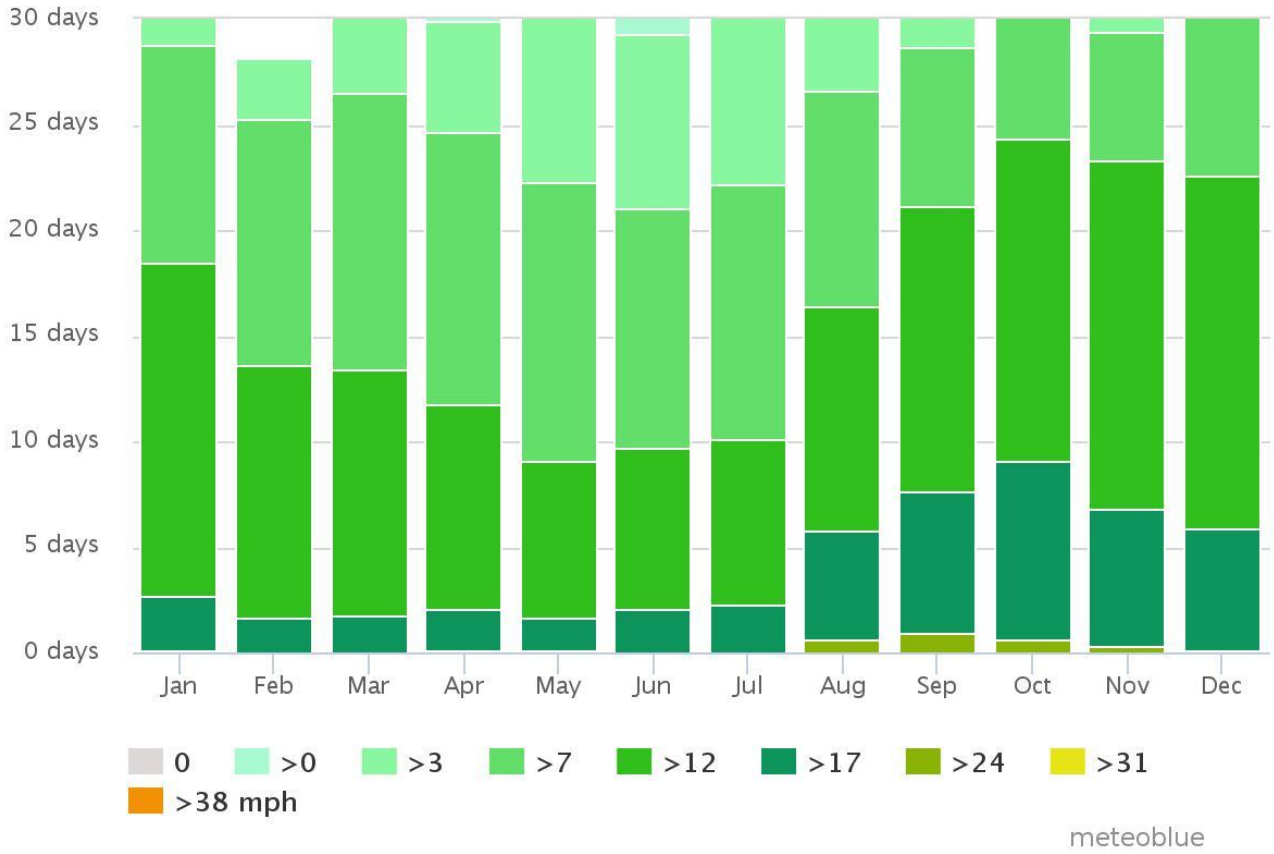
The precipitation diagram for Ventersdorp shows on how many days per month, certain precipitation amounts are reached. In tropical and monsoon climates, the amounts may be underestimated

Average temperatures and precipitation



The "mean daily maximum" (solid red line) shows the maximum temperature of an average day for every month for Ventersdorp. Likewise, "mean daily minimum" (solid blue line) shows the average minimum temperature. Hot days and cold nights (dashed red and blue lines) show the average of the hottest day and coldest night of each month of the last 30 years. For vacation planning, you can expect the mean temperatures, and be prepared for hotter and colder days.

Wind patterns



The diagram for Ventersdorp shows how many days within one month can be expected to reach certain wind speeds. Monsoons create steady strong winds on the Tibetan Plateau from December to April, but calm winds from June to October

Topography

The sites for the proposed development are located approximately between 1460 m and 1440m above sea level. The slopes can be described as gentle with a slight gradient sloping towards the East and South boundaries of the site. According to SANBI BGIS there hills and ridges on the sites, the ecological assessment will further determine the accuracy of the data received from SANBI LUDS.

Land use

Surrounding Land Uses

As per the VLM Final Draft SDF 2010, the farms are surrounded by the following land uses:

- Approximately 700 metres from the R30/N14 intersection there is a shell service station .
- On the Southern, eastern boundaries it is mainly residential land uses, with informal¬ settlements closer to the R30/N14 intersection.
- On the Western boundaries it is mainly Agricultural land uses.

Soils

As per the Ventersdorp Final Draft SDF report 2010, the farms identified for the proposed Ventersdorp Mixed land use housing development are underlain by Ventersdorp Super-group geological formations. Further geological investigations to give recommendations in line with the proposed development are required and will be undertaken. The recommendations and any mitigation measures will be included in the EIR, EMPr.

Surface water and Groundwater

There are two water management areas within the VLM, namely the upper Vaal and Middle Vaal. In addition there are six rivers and 1 wetland as identified by SANBI BGIS. The farms fall within the middle Vaal water management area. In close proximity to the farms on the R30 towards the Ventersdorp Town and from the R30/N14 intersection towards Krugersdorp there are signs of a wet area due to the type of vegetation. The ecological assessment will further determine any additional studies to be done with regards to the area and further identify the type of vegetation. Approximately 600 metres from the site runs the Skoonspruit River. A wetland delineation study will be undertaken to further give mitigations measures to be taken into account for the proposed development.

Air quality

The ambient air quality in the area of the site is expected to be acceptable. There are however a number sources of air pollution close to the site including mining activities, agricultural activities, vehicle entrained dust and fires. The residences within and near the site are considered sensitive air quality receptors.

Noise

The ambient noise condition in the area of the site is expected to be quiet and representative of a rural noise district. The noise sensitive sites may be the residences within and near the site.

Biological Environment

Flora

The ecosystem on the farms is categorised as the Vaal-Vet Sandy Grassland and falls under vulnerable ecosystems. According to the Critical Biodiversity Area features description the ecosystem is described as CBA2 and further states that the remaining patches larger than 3ha form part of provincially critically endangered (CE) ecosystems (vegetation types). The recommendations are that any further transformation of these sites should be avoided and any transformation of remaining patches larger than 5ha of provincially endangered (EN) and vulnerable (VU) ecosystems (vegetation types) should be limited. Proposed Ventersdorp 3200/N14 housing development Draft Scoping Report Ver: 01/2016 40 as per the Ventersdorp Final Draft SDF 2010, the proposed development is aligned to the proposed N14 corridor from Potchefstroom, through Ventersdorp, Coligny and Litchtenburg.

Fauna

Mammals

The possible presence or absence of threatened mammal species and near threatened mammal species at the site was investigated. Large threatened species such as the black rhinoceros are obviously not present. No smaller mammals of particular high conservation significance are likely to be found on the site either (Ecological Assessment, 2013)

Reptiles

A list of reptile species that may occur within the site was sourced from the Reptile Atlas of southern Africa (Animal Demography Unit 2014) for the 2608 BA grid. The threat status was confirmed by IUCN (2014) and SURICATA (2014) and there were only no reptile species of concern.

Birds

The possible presence or absence of threatened bird species and threatened bird species (globally and nationally) was investigated at the site. The site does not appear to form part of any habitat of particular important for any threatened bird species or nay bird species of particular conservation importance (Ecological Assessment, 2013)

Conservation areas

There are no protected areas or ecological corridors within 30km of the site.

Wetlands

Wetlands are extremely important habitats but are extremely threatened and impacted upon. According to the data used for the FEPA maps there are no natural and artificial wetlands within the site. There are no dams within the site.

Wetlands

Ecological sensitivity

The ecological sensitivity will be determined during the specialist studies and discussed during the EIA phase.

Social and economic environments

Information was sourced from the Ventersdorp Local Municipality 2014-2015 review of the 2012-2017 Integrated Development Plan (IDP). The data contained in the IDP was obtained from the Statistics South Africa and the Municipal Demarcation Board.

Population

The population size increased within the Ventersdorp local municipality increased from 32 553 in 1996 to 48 675 in 2008. Therefore, the number of people residing in the Ventersdorp local municipality increased 16 122 people from 1996 to 2008, representing an increase of 49.53% over this period. The national population growth over this period was 15.58%, while the growth in the North-West province was 13.86%. Should the current trend continue, the population size within the Ventersdorp local municipality will reach 50 717 by the year 2014. This will be an increase of 18 165 people between 1996 and 2014 (a 55.8% increase over this period)

Race

Ventersdorp Local Municipality race

Population group	People	Percentage
Black African	11965	85.83%
White	1589	11.40%

Coloured	322	2.31%
Other	59	0.42%
Indian or Asian	5	0.04%

Poverty and inequality

Poverty and inequality in Ventersdorp Local Municipality

Labour Market	
Unemployment rate (official)	27.00%
Youth unemployment rate (official) 15-34	34.00%

Unemployment and poverty eradication remain as critical areas of focus for the Ventersdorp Municipality, and the most affected is previously disadvantaged areas of the municipality. In addressing the challenge, the Municipality is channeling resources to these areas in a balanced manner to reduce deprivation and poverty in these areas. Evidence of this is in the manner in which capital funding for social infrastructure – focus has been on deprived areas with an intention of ensuring that all settlements have access to basic and social services. The municipality will continue to intensify its efforts to indigent support to ensure that they have access to basic services.

The number of people living in poverty increased from 17 944 in 1996 to 33 226 in 2004, representing an increase of 85.17%. The number of people in poverty did, however, decline between 2005 and 2008. In all, the number of people living in poverty in the Ventersdorp municipal area in 2014 is 56.6%. The programmes such as EPWP and CWP also make a great impact on poverty eradication the ultimate goal is to ensure that the poor accelerate on the ladder of prosperity and are self-sufficient. The Municipality's LED Strategy elaborates in details how this goal can be achieved.

Employment and education

Ventersdorp Local Municipality employment

	2014/15	**2013/14**	**2012/13**	**2011/12**
Employment				
Employment Costs (R'000)	40 922	36 321	36 321	26 629
Remuneration of councillors (R'000)	3 384	3 177	3 177	2 648
Total Employee Positions	231	231	219	179
Total Vacant Employee Positions	68	78	73	35

	2014/15	2013/14	2012/13	2011/12
Employment				
Total Vacancy Percentage	29.44%	33.77%	33.33%	19.55 %

Ventersdorp Local Municipality education

The function for provision of schools is with the Department of Education, hence the municipality is facing challenges, there is need for High School, ABET School and school transport in Ward 05, Upgrading of primary school in ward 03 and another High school in Tshing Township as the current one is full and can't all accommodate all learners. Currently the department is busy with the upgrading of Toevlug Primary School. Ventersdorp area as indicated by Stats SA is an area with fairly low literacy rate; this could because there is not Higher Education Institution in the area.

Therefore there is a need for a Technical College so that learners can be encouraged to study further and completing matric. Ventersdorp local Municipality encourages the development of schools as education is important for both economic and social development. It is the bedrock on which a nation's economic destiny is built, particularly in today's global knowledge economy. It is also often the primary means through which individuals set out on their personal journeys of growth and attain their distinctive dreams and aspiration

Cultural and heritage resources

The Heritage Impact assessment investigation will form part of the EIR and EMPr phase for the proposed development. The Archaeological study (Archaeological Impact Assessments) as required in terms of section 38 of the National Heritage Resource Act (Act 25 of 1999) will look at the following: establish whether any of the type and ranges of heritage resources as outlined in¬ section 3 of the National Heritage Resources Act (Act 25 of 1999) do occur in or near the proposed site, and if so, to establish the significance of these heritage resources. establish whether such heritage resources will be affected by the proposed¬ development activities, and if so, to determine possible mitigation measures that can be applied to these heritage resources.

Furthermore the report will be forwarded to the Heritage Resource Agency, which will further five comments or indicate any further studies that may be required.

(b) Description of the current land uses.

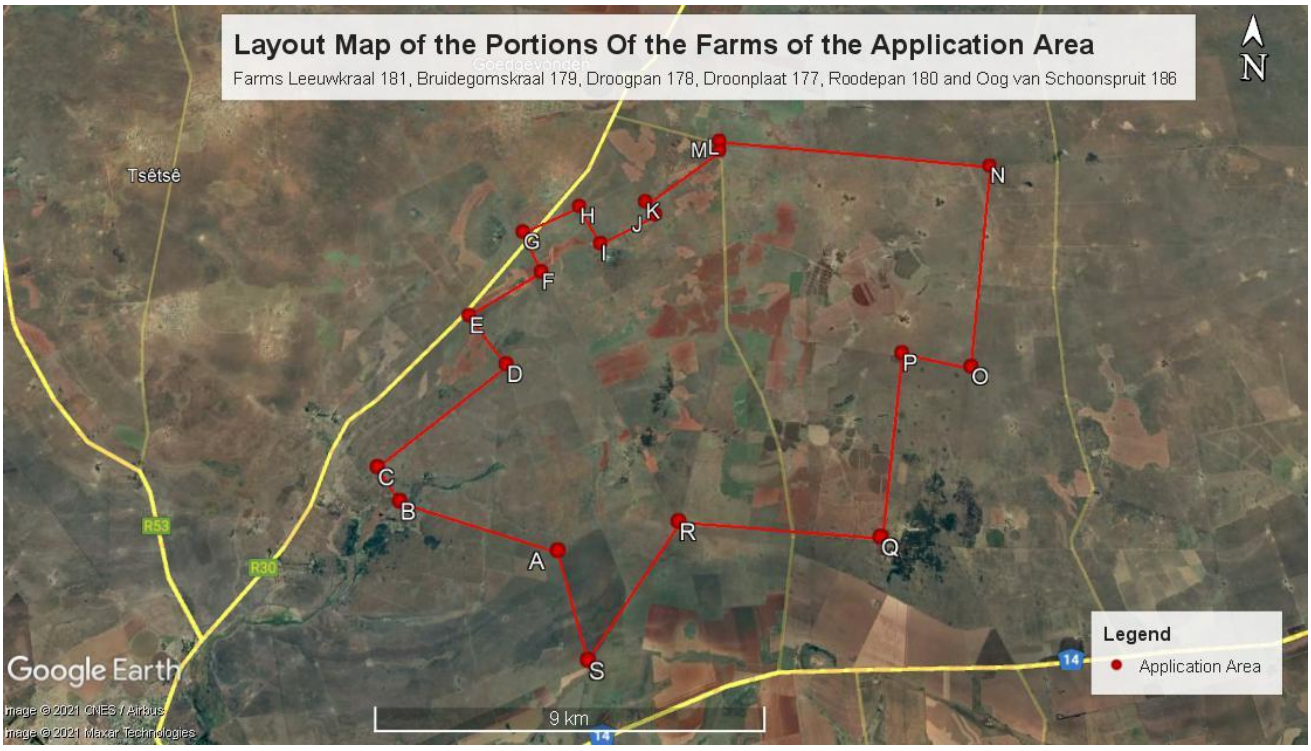
The site is used for agricultural areas. There are trees in several locations within the site.

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

The following environmental features and infrastructure is present at the site Access Road are available on site..

(d) Environmental and current land use map.

(Show all environmental and current land use features)



v) 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 consultations with affected parties together with the significance, probability and duration of the impacts.

ASPECT	POTENTIAL IMPACT
Soil	• Compaction – from movement of heavy machinery • Contamination – from diesel, oil, grease, etc. used for the trenching machinery and from maintenance of machinery conducted on site • Contamination – from domestic waste. • Loss of topsoil – when the trenching site is cleared of vegetation, topsoil may be lost • Erosion – from the clearing of trenching sites and movement along access tracks
Land use	• The land use will temporarily change to mining • Mining may interfere with any land uses currently taking place on the site
Biodiversity (fauna and flora)	• The fauna and flora could be negatively affected by the establishment of the trenching sites and access tracks • Alien and invasive species could be introduced through the disturbance
Surface- and groundwater	• Contamination – from diesel, oil, grease, etc. used for the drilling machinery and from maintenance of machinery conducted on site • Contamination – from domestic waste, sewerage, drilling core and contaminated soil • Mining requires a large amount of water which may be sourced on site, which may result in the reduction of water available to other users
Heritage sites	• Heritage sites may be present on the site, which may be disturbed and/or damaged during prospecting
Dust	• Dust from mining activities may coat vegetation making it unsuif for livestock grazing
Noise	• Noise from the trenching activities could disturb residents within the site

vi) 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).

The significance of the impacts will be determined through the consideration of the following criteria:

Probability:	Provides a description of the likelihood/probability of the impact occurring
Extent:	Describes the spatial scale over which the impact will be experienced
Duration:	The period over which the impact will be experienced
Intensity:	The degree/order of magnitude/severity to which the impact affects the

	health and welfare of humans and the environment
Significance:	Overall significance of the impact on components of the affected environment and whether it is a negative or positive impact

The impacts will be individually described and assessed using the criteria drawn from the EIA Regulations, published by the DEA in terms of the NEMA (Act 107 of 1998).

The significance of each impact is assessed using the following formula (before and after mitigation):

Significance Point (SP) = (Probability + Extent + Duration) x Intensity

The maximum value is 150 SP. The impact significance will then be rated as follows:

SP > 75	Indicates **high** environmental significance	An impact that could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.
SP 30 – 75	Indicates **moderate** environmental significance	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated.
SP < 30	Indicates **low** environmental significance	Impacts with little real effect and which should not have an influence on or require modification of the project design.
+	Positive impact	An impact that is likely to result in positive consequences/effects.

Probability (P)		
None (N)	1	The possibility of the impact occurring in none, due either to the circumstances, design or experience (0%).
Possible (P)	2	The possibility of the impact occurring is very low, due either to the circumstances, design or experience (25%).
Likely (L)	3	There is a possibility that the impact will occur to the extent that provisions must therefore be made (50%).

Highly likely (H)	4	It is most likely that the impacts will occur at some stage of the development and plans must be drawn up before carrying out the activity (75%).
Definite (D)	5	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on (100%).
Extent (E)		
Footprint (F)	1	The impact area extends only as far as the activity which occurs within the total site area.
Site (S)	2	The impact could affect the whole site or a significant portion of the site.
Regional (R)	3	The impact could affect the area including the neighbouring farms, the transport route and/or the adjoining towns.
National (N)	4	The impact could have an effect that expands throughout the country.
International (I)	5	Where the impact has international ramifications that extend beyond the boundaries of the country.
Duration (D)		
The period over which the impact will be experienced		
Temporary (T)	1	0 – 18 months (or confined to the construction period).
Short term (S)	2	18 – 36 months (or confined to the construction and part of the operational period).
Medium term (M)	3	36 – 48 months (or confined to the construction and whole operational period).
Long term (L)	5	For the whole life of mine (including closure and rehabilitation period).

Permanent (P)	5+	Beyond the anticipated lifetime of the project.
Intensity (I)		
Insignificant (I)	2	Will have a no or very little impact on the health and welfare of humans and environment
Low (L)	4	Will have a slight impact on the health and welfare of humans and environment
Moderate (M)	6	Will have a moderate impact on the health and welfare of humans and environment
High (H)	8	Will have a significant impact on the health and welfare of humans and the environment
Very high/ don't know (V)	10	Will have a severe impact on the health and welfare of humans and the environment

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

(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)

DESCRIPTION	OCCURRING PHASE
Creation of new employment opportunities	
Employment creation during the life of mining activities may be greatly beneficial to a number of households within the surrounding area. It is however anticipated that a contractor operation is the preference and therefore job opportunities might be very limited.	Construction and Operational phases
Transfer of skills to local people	
In order to promote preferential recruitment for local people, it would be necessary to assess the skills available locally and to ensure that	Construction and Operational phases

these skills match the local positions at the operation. From the data collected to date, it is apparent that there is significant potential for skills transfer given education levels in the area.	
Support of local suppliers and contractors	
During both the construction and operational phases of the operations, it is expected that a wide variety and generally substantial quantities of goods and services will be required by the mine and their contractors. It is recommended that whenever possible, local contractors should be utilized to provide goods and services to the mine.	Construction and Operational phases

viii) 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).

ASPECT	POTENTIAL IMPACT	MITIGATION MEASURES
Soil	Compaction – from movement of heavy machinery	• Existing roads and tracks will be used as far as possible. • New access tracks will be kept to a minimum. • Rehabilitation of disturbed areas will take place.
	Loss of topsoil – when the pitting and trenching site is cleared of vegetation, topsoil may be lost	• Any removed topsoil will be kept to one side and protected from being blown away or being eroded. • Rehabilitation of pitting and trenching and disturbed areas will take place.
	Erosion – from the clearing of drill sites and movement along access tracks	• Sediment and erosion controls will be designed to prevent runoff from the pitting and trenching sites into the rivers and any wetland areas. • Appropriate water management, sediment and erosion control measures will be designed for roads and tracks that may be constructed. • Rehabilitation of pitting and trenching and disturbed areas will take place.

	• Contamination – from diesel, oil, grease, etc. used for the pitting and trenching machinery and from maintenance of machinery conducted on site • Contamination – from domestic waste, sewerage and pitting and trenching core	• Topsoil must not be contaminated with oil, grease, diesel, etc. which may inhibit the later growth of vegetation. • Pitting and trenching sumps and containment measures will be designed to contain all pitting and trenching fluid. • Pitting and trenching sumps will be constructed sufficiently large to retain all slurry produced during pitting and trenching. • All chemicals, fuels and oils to be stored on site will be appropriately stored in sealed containers and placed on a lined area. • Inspect equipment daily for leaks. Machinery and equipment will only be maintained over a drip tray, a thin concrete slab or a PVC lining to prevent soil and water contamination. No vehicle will be extensively repaired on site. • All equipment and vehicles must be adequately maintained so that during operations it does not spill oil, diesel, fuel, etc.

		• Any contaminated soil will be collected into non-permeable bags and disposed of at an approved landfill site. • A chemical toilet will be used on site and will be used in such a way as to prevent water pollution. Full or leaking toilets must be reported to the supervisor for corrective action or replacement. • All pitting and trenching core will be removed from the pitting and trenching sites or place in a specified area as per request or permission from the land owner.. • Rehabilitation of pitting and trenching and disturbed areas will take place.
Land use	Mining may interfere with any land uses currently taking place on the site	• Only one pitting site will be operational at any time. • The area to be disturbed will be kept to a minimum (not exceeding 20mx20m). • No pitting site will be established within 50m of any agricultural land unless consent is received from the land owner.

		• Rehabilitation of pitting and trenching and disturbed areas will take place.
Biodiversity (fauna and flora)	The fauna and flora could be negatively affected by the establishment of the pitting and trenching sites and access tracks	• Pitting and trenching and access tracks will be located in areas that will result in minimal ground disturbance. • A field survey will be undertaken before pitting and trenching commences at each pitting and trenching site to confirm that no threatened species or ecologically sensitive areas are present in sections to be cleared. • Permission will be obtained from the landowner before trees are felled, should it be necessary. • All trees protected in terms of the National Forests Act, 1998, will be protected – will not be cut, disturbed, damaged, removed, etc. • Rehabilitation of pitting and trenching and disturbed areas will take place.
	Alien and invasive species could be introduced through the disturbance	• Machinery will be cleared of mud and seeds prior to relocation to the next site to prevent the spread of

		alien invasive species. • An inspection on whether there is evidence of alien and invasive species as a result of mining activities will be undertaken and removed if required.
Surface- and groundwater	• Contamination – from diesel, oil, grease, etc. used for the pitting and trenching machinery and from maintenance of machinery conducted on site • Contamination – from domestic waste, sewerage, pitting and trenching and contaminated soil • Water discharge during pitting and trenching	• No pitting and trenching will be established within 100m of any watercourse or wetland. • Pitting and trenching sumps and containment measures will be designed to contain all pitting and trenching fluid. • Pitting and trenching sumps will be constructed sufficiently large to retain all slurry produced during pitting and trenching. • All chemicals, fuels and oils to be stored on site will be appropriately stored in sealed containers and placed on a lined area. • All waste will be collected, separated and stored properly in containers with lids and removed to an approved landfill. • Inspect equipment daily for leaks. Machinery and

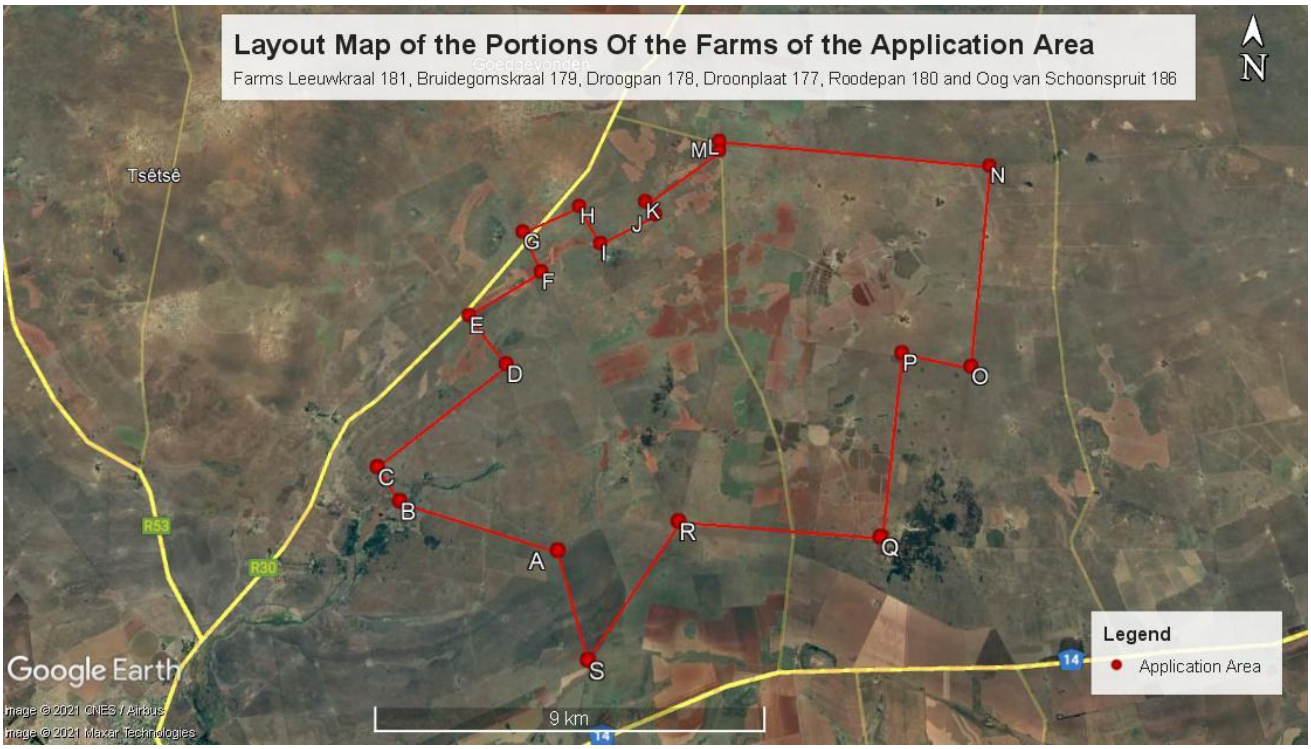
		equipment will only be maintained over a drip tray, a thin concrete slab or a PVC lining to prevent soil and water contamination. No vehicle will be extensively repaired on site. • All equipment and vehicles must be adequately maintained so that during operations it does not spill oil, diesel, fuel, etc. • Any contaminated soil will be collected into non-permeable bags and disposed of at an approved landfill site. • A chemical toilet will be used on site and will be used in such a way as to prevent water pollution. Full or leaking toilets must be reported to the supervisor for corrective action or replacement. • All pitting and trenching will be drilled and constructed in such a way as to prevent ingress of water into the hole. • Any completed pitting that is not required for groundwater monitoring will be rehabilitated to prevent groundwater contamination.

		• Rehabilitation of disturbed areas will take place.
	Drinking water	• Drinking water will be supplied in plastic containers to be stored on site.
Heritage sites	Heritage sites may be present on the site, which may be disturbed and/or damaged during mining	• Potential heritage sites will be identified during the planning of borehole locations and demarcated. • Access to these sites will then be limited and all workers will be notified to keep at least 100m away from these sites.
Air quality (dust)	The air quality will not be disturbed, however, a minimal dust problem may be experienced, especially in the mining area during pitting and trenching	• All pitting and trenching rigs will be fitted with appropriate dust suppression equipment like water sprays, where possible. • Speed limits on gravel roads will be limited to 40km/hr to minimise dust generation. • Dust will be effectively controlled in all disturbed areas through water spraying. • Excavation, handling and transportation of erodible

		materials should be avoided during periods of excessive wind. • If necessary, other appropriate dust suppression techniques will be administered. For example chemicals, wind fencing, covering of surfaces and vegetation of open areas.
Noise	Noise from the pitting and trenching activities could disturb residents within the site	• Modern, low noise emission vehicles and equipment will be favoured. • All equipment on site will be maintained in good working order. • Pitting and trenching will be restricted to day light hours. • Speed limits on gravel roads will be limited to 40km/h to minimise noise generation.
Socio-economic	Expectations could be created that numerous job and business opportunities will become available during mining	• Due to the nature of mining, employment opportunities will be minimal. The mining crew is small (4-6 people) with specialised skills. Where possible, local people will however be employed during the project.

ix) 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)



x) Motivation where no alternative sites were considered.

No location alternatives are applicable to this project since the chrome ore and platinum group metals are contained in the proposed mining area. Locating the development to another area will result in the ore possibly not being found and the economy and society not benefitting from future proposed mining and possible mining activities. The proposed site for the proposed mining is located within an area which is already severely disturbed as a result of agricultural activities.

xi) Statement motivating the preferred site.

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

No location alternatives are applicable to this project since the chrome ore and platinum group metals is contained in the proposed mining area. Locating the development to another area will result in the ore possibly not being found and the economy and society not benefitting from future proposed mining activities. The proposed site for the mining activities are located within an area which is already severely disturbed as a result of agricultural. However, wherever mining activities are located within sensitive areas (i.e. wetlands, rivers, streams as well as their buffers), utmost caution will be taken to have as little impact as possible to the environment.

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

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

The historic land use is one of agriculture, where land use is for grazing and cultivation in the form of maize production. The no-mining option will result in the continuation of such land use. The continuing operation of the existing farming activities (crop production and grazing) without the construction of the proposed mining operation will have very little to no environmental impact. Not only will the surety of water supply to other users in the scheme be increased, a portion of land deemed as having high agricultural potential will remain intact.

Although it could probably remain economically viable, the continuation of agriculture will not provide the level of economic growth to the area that mining would offer. After mine closure and rehabilitation of mined area, the land capability may return to grazing, allowing the continuance of certain agricultural practices. The mining activity will also promote sustainable local economic development, to give communities the skills required to remain economically viable and successful after mine closure.

If the project were not to proceed, the additional economic activity, skills development and available jobs would not be created, the chrome ore and platinum group metals in alluvial deposits would remain unutilised, the current land uses and economic activities would continue as at present, with little or no economic growth developing in the region. There are

currently no foreseeable significant environmental impacts that will outweigh the economic benefits that would be generated by the project; however this will be further assessed during the EIA.

If the mining activities were not to proceed with the proposed project, mining of this Chrome ore and Platinum group metals will not necessarily be avoided, as another application in terms of the MPRDA (Act no. 28 of 2002) can be made by another company. Unless the government declares the area “off limits” to mining, mining houses will continue to attempt to prospect the chrome ore and platinum group metals in alluvial deposit.

ii. 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.).

ACTIVITY (whether listed or not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, loading, hauling and transport, water supply dams and pitting and trenching, 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…)	**ASPECTS AFFECTED**	**PHASE** In which impact is anticipated (e.g. Construction, commissioning, operational, decommissioning, closure, post-closure)	**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…)	**STANDARD TO BE ACHIEVED** (Impact avoided, noise levels, dust levels, rehabilitation standards, end use objectives etc…)
Mining (pitting and trenching)	• Compaction – from movement of heavy machinery • Contamination – from diesel, oil grease etc. used for the pitting and trenching	Soil	Phase 2 - Exploration (pitting and trenching)	• Control through management and monitoring • Remedy through rehabilitation where negative impacts have been identified	Impact kept to minimum and rehabilitate affected area.

	machinery and from maintenance of machinery conducted on site • Contamination – from domestic waste, sewage and pitting and trenching core				
	• Loss of top soil - when pitting and trenching site is cleared of vegetation		Phase 2 - Exploration (pitting and trenching)	• Control through management and monitoring • Remedy through rehabilitation where negative impacts have been identified	Impact kept to minimum and rehabilitate affected area.
	• Erosion – from clearing of drill site and movement along access tracks				
	• Current land use on site	Land use			
	• Fauna & flora currently on site	Biodiversity (fauna & flora)			

	• Potential introduction of alien & invasive species	Biodiversity (fauna & flora) Surface- and groundwater			
	• Contamination – from diesel, oil grease etc. used for the pitting and trenching machinery and from maintenance of machinery conducted on site • Contamination – from domestic waste, sewage and pitting and trenching core				
	• Potential water discharge – from a borehole during pitting and trenching	Surface- and groundwater Heritage sites			Impact kept to minimum and rehabilitate affected area.

	• Potential water availability to other users – water for pitting and trenching may be sources on site				
	• Potential heritage sites may be disturbed and/or damaged				
	• Potential minimal dust may be caused	Air quality (dust)			
	• Potential noise from pitting and trenching	Noise			

iii. Description of aspects to be assessed by specialists

There is no need to engage specialist studies in this proposed activity since the farm is already in use for agricultural purpose. There is no wetlands that exist within the portions of proposed activity. No heritage that exist on site. There will be a ground water study that will be done during EIA process.

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

The EIA utilises a rigorous, numerical environmental significance rating process which is based on the accepted impact assessment methodology that uses the probability of an event occurring and the severity of the impact, should an event occur, as factors to determine the significance of a particular environmental risk. To determine the severity of any potential environmental impact, the criteria that are taken into consideration are the spatial extent of the impact, the duration of the impact and the severity of the impact. The probability of an impact occurring is determined by the frequency at which the activity takes place and by how often the type of impact in question has taken place or takes place in similar circumstances. The values assigned to these factors (weighting) are discussed as part of the EIA. To clarify the purpose and limitations of the impact assessment methodology, it is necessary to address the issue of subjectivity in the assessment of the significance of environmental impacts. Even though Engedi Minerals and the majority of the environmental impact assessment practitioners propose a numerical methodology for impact assessment, it needs to be accepted that the process of environmental significance determination is inherently subjective. The weight assigned to each factor of a potential impact, and also the design of the rating process itself, is based on the values and perception of risk by members of the assessment team, as well as that of the I&APs and authorities who provide input into the process. Whereas the determination of the spatial scale and the duration of impacts are to some extent amenable to scientific enquiry, the severity value assigned to impacts is highly dependent on perceptions and values of all involved. It is for this reason that it is crucial that all EIAs make reference to the environmental and socio-economic context of the proposed activity to reach an acceptable rating of the significance of impacts. Similarly, the perception of the probability of an impact occurring is dependent on perceptions, aversion to risk and availability of information. It has to be stressed that the purpose of the EIA process is not to provide an incontrovertible rating of the significance of various aspects, but rather to provide a structured, traceable and defendable methodology of rating the relative significance of impacts in a specific context. For the purpose of this study, the methodology employed for the environmental impact assessment is divided into two distinct phases, namely, impact identification and impact rating.

The significance of each impact is assessed using the following formula (before and after mitigation):

Significance Point (SP) = (Probability + Extent + Duration) x Intensity

The maximum value is 150 SP. The impact significance will then be rated as follows:

SP > 75	Indicates **high** environmental significance	An impact that could influence the decision about whether or not to proceed with the project regardless of any possible mitigation.
SP 30 – 75	Indicates **moderate** environmental significance	An impact or benefit which is sufficiently important to require management and which could have an influence on the decision unless it is mitigated.
SP < 30	Indicates **low** environmental significance	Impacts with little real effect and which should not have an influence on or require modification of the project design.
+	Positive impact	An impact that is likely to result in positive consequences/effects.

Probability (P)		
None (N)	1	The possibility of the impact occurring in none, due either to the circumstances, design or experience (0%).
Possible (P)	2	The possibility of the impact occurring is very low, due either to the circumstances, design or experience (25%).
Likely (L)	3	There is a possibility that the impact will occur to the extent that provisions must therefore be made (50%).
Highly likely (H)	4	It is most likely that the impacts will occur at some stage of the development and plans must be drawn up before carrying out the activity (75%).
Definite (D)	5	The impact will take place regardless of any prevention plans, and only mitigation actions or contingency plans to contain the effect can be relied on (100%).
Extent (E)		
Footprint (F)	1	The impact area extends only as far as the activity which occurs within the total site area.
Site (S)	2	The impact could affect the whole site or a significant portion of the site.

Regional (R)	3	The impact could affect the area including the neighbouring farms, the transport route and/or the adjoining towns.
National (N)	4	The impact could have an effect that expands throughout the country.
International (I)	5	Where the impact has international ramifications that extend beyond the boundaries of the country.
Intensity (I)		
Insignificant (I)	2	Will have a no or very little impact on the health and welfare of humans and environment
Low (L)	4	Will have a slight impact on the health and welfare of humans and environment
Moderate (M)	6	Will have a moderate impact on the health and welfare of humans and environment
High (H)	8	Will have a significant impact on the health and welfare of humans and the environment
Very high/ don't know (V)	10	Will have a severe impact on the health and welfare of humans and the environment

v. The proposed method of assessing duration significance

Duration (D)		
The period over which the impact will be experienced		
Temporary (T)	1	0 – 6 months (or confined to the construction period).
Short term (S)	2	6– 36 months (or confined to the construction and part of the operational period).
Medium term (M)	3	18 – 48 months (or confined to the construction and whole operational period).
Long term (L)	4	48 –60 months For the whole life of mine (including closure and rehabilitation period).
Permanent (P)	5	Beyond the anticipated lifetime of the project.

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

It's an ongoing process until project closure.

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

1. 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).

Engedi Minerals was appointed by Atka Exploration and Mining Pty (Ltd) as the independent consultant to conduct the PP process as part of the EIA as stipulated in Sections 56 - 59 of the NEMA (Act no. 107 of 1998) as well as in Section 22 of the MPRDA (Act no. 28 of 2002).

As stipulated in the MPRDA (Act no. 28 of 2002) and in Regulation 49(1) (f) (MPRDA Regulation GN R527), I&APs need to be notified and consulted with, as part of an application for mining rights.

Identification of Interested and Affected Parties

The following categories of stakeholders will be identified: the landowners of the portions of the farms Leeuwkraal 181, Bruidegomskraal 179, Droogpan 178, Droonplaat 177, Roodepan 180 and Oog van Schoonspruit 186 (the area included in the Mining permit Application i.e. the site).

In addition other potential stakeholders will be identified and invited to register themselves as I&APs. This invitation was also extended to the public by means of site notices and newspaper notices.

2. Details of the engagement process to be followed.

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

Site notices will be placed on the border fences of the study site and on a main route close to the study site which would be conspicuous to passers-by. An advertisement notice of the project, inviting people to provide comments and/or concerns, will be placed within a local newspaper. I&APs will be required to raise issues of importance, share their input, comments and/or concerns to inform the Scoping and EMPr. The draft Scoping/EMPr was made available for review.

3. 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).

Letters and a Background Information Document (BID) will be sent to all identified stakeholders either by means of e-mail, fax or by post.

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

a) Application and Scoping

At the onset of the project an application form will be submitted to the DMR. In conjunction with the application, this Consultation Scoping Report will be submitted to the DMR and all commenting authorities and notification of the availability of the report sent to all identified interested and affected parties (I&APs). An updated Scoping report, containing comments and issues identified by I&APs, will be submitted to the DMR. The DMR will issue a decision on the acceptance or refusal of the application.

b) EIR & EMPr

The Impact Assessment Process will be conducted in accordance with the approved Plan of Study (PoS) for EIA. The Consultation EIR and EMPr will be prepared with information and issues identified during the Scoping Phase activities, comments from I&APs, commenting authorities and the findings from the specialist studies.

The Impact Assessment Phase comprises of:

- The completion of the specialist studies and reports;
- The finalisation of the impact assessment;
- The compilation of the Consultation EIR and EMPr;
- The public review of the Consultation EIR and EMPr and possible extended public review period, at the discretion of the competent authority (DMR);
- The compilation of the Final EIR and EMPr; and
- The submission of the Final EIR and EMPr.

The Consultation EIR and EMPr include:

- The details of the EAP who prepared the report;
- A detailed description of the proposed development and alternatives;
- A description of the environment that may be affected by the activity and the manner in which physical, biological, social, economic and cultural aspects of the environment may be affected by the proposed development;
- A description of the methodology of the stakeholder engagement process;
- The comments and response report and stakeholder database;
- A description of the need and desirability of the proposed development and the identified potential alternatives to the proposed activities;
- A summary of the methodology used in determining the significance of potential impacts;
- A description and comparative assessment of all alternatives identified during the EIA process;
- A summary of the findings of the specialist studies;
- A detailed assessment of all identified potential impacts;
- A list of the assumptions, uncertainties and gaps in knowledge;
- An opinion by the consultant as to whether the development is suitable for approval.

Once the Consultation EIR and EMPr have been placed on public review, comments received from stakeholders will be documented and considered in the Final EIR and EMPr which will be placed on public review and simultaneously submitted to the DMR for approval.

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

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)	**POTENTIAL FOR RESIDUAL RISK**
Bulk sampling	Dust; • Surface disturbance; • Fly rock; • Loss of wetland • habitat; • Surface water • contamination; • Destruction of • heritage resources; • Groundwater contamination; • Loss/deterioration of biodiversity and ecosystem resilience.	• Control and minimise through adequate dust control strategies; • Control run-off through implementation of appropriate storm water management measures; • Contain dirty water runoff; • Concurrent rehabilitation must take place on the mine; • Avoid mining, or otherwise disturbing the catchment area	Moderate

		of the pans; • Implement an effective soil Management programme; • Effective control of alien invasive plants; Vehicles and machinery should be checked on a regular basis to prevent leaks and spills; • Limit the footprint of areas to be disturbed; • Use proper charging • methodology to prevent fly rock; • Relocation of heritage resources; • Impacted groundwater should be pumped to dirty water dams. These dams should be lined to ensure no future pollution of groundwater resources; • Water levels within the wetlands should be monitored. The ecological integrity of the wetlands should be	

		monitored.	
Diesel storage and refuelling station	Surface and contamination.	• Bunded containment and settlement facilities will be provided for hazardous materials, such as fuel and oil; • Spill-sorb or a similar product will be kept on site, and used to clean up hydrocarbon spills in the event that they should occur.	Low
ROM Stockpiles	Soil, surface and Groundwater contamination.	• All facilities with the potential to generate dirty storm water runoff, effluent or wash-down water will be located within the designated dirty water area. • Clean runoff will be diverted around the designated dirty areas by means of cut-off canals, sized to accommodate at least the 1:50 year peak flow event.	Moderate
Storm water evaporation	Loss of habitat from salt deposition	• Ensure that the evaporation facility	Low

	Surface and Groundwater contamination.	operates within a contained area and will be located within the designated dirty water area.	

l) 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 ofInvestigation, assessment, and evaluation of the impact of the mining, mining or coal mining 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).

Description	Occurring phase
Creation of new employment opportunities	
Employment creation during the life of mining activities may be greatly beneficial to a number of households within the surrounding area. It is however anticipated that a contractor operation is the preference and therefore job opportunities might be very limited.	Construction and Operational phases
Transfer of skills to local people	
In order to promote preferential recruitment for local people, it would be necessary to assess the skills available locally and to ensure that these skills match the local positions at the operation. From the data collected to date, it is apparent that there is significant potential for skills transfer given education levels in the area.	Construction and Operational phases
Support of local suppliers and contractors	
During both the construction and operational phases of the operations, it is expected that a wide variety and generally substantial quantities of goods and services will be required by the mine and their contractors. It is recommended that whenever possible, local contractors should be utilized to provide goods and services to the mine.	Construction and Operational phases

2) **Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act**. **(**Provide the results ofInvestigation, assessment, and evaluation of the impact of the mining, mining or coal mining 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).

There is no heritage site that exist within portions of the proposed activities hence the land is already in use for agricultural purpose.

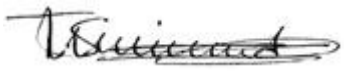
m) Other matters required in terms of sections 24(4)(a) and (b) of the Act.

(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)**.

Alternative investigations were conducted for the alternatives related to the proposed project and no motivations are required for no reasonable or feasible alternatives.

j) UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

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



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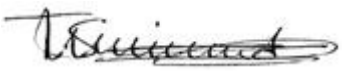
Signature of the EAP
DATE:20 September 2021

k) UNDERTAKING REGARDING LEVEL OF AGREEMENT

I *Tshimangadzo Mulaudzi* 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 recorded and reported herein.



Signature of the EAP
DATE: 20 September 2021

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