Davhana
GEOTECH SOLUTIONS (PTY) LTD
Reg No: 2016/407139/07

FINAL BASIC ASSESSMENT REPORT

MINING PERMIT APPLICATION TO MINE CHROME ON PORTION OF PORTION 0 OF THE FARM VOGELSTRUISNEK 173 JP, IN THE MANKWE DISTRICT, NORTH WEST PROVINCE

DMR REFERENCE: NW 30/5/1/3/2/11065 MP

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mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

FINAL BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

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: BAY TOWE PROPERTIES 19 cc

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POSTAL ADDRESS: P.O. Box 93000
Boordfontein – West
0201

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FILE REFERENCE NUMBER SAMRAD: NW 30/5/1/3/2/11065

COMPILED BY: Davhana Geotech Solution (PTY) LTD

DATE: November 2022

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 authorization for listed activities triggered by an application for a right or a 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 BASIC ASSESSMENT PROCESS

The objective of the basic assessment process is to, through a consultative process—

(a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;

(b) identify the alternatives considered, including the activity, location, and technology alternatives;

(c) describe the need and desirability of the proposed alternatives,

(d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage , and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on the these aspects to determine:

(i) The nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
(ii) The degree to which these impacts—
(aa) can be reversed;
(bb) may cause irreplaceable loss of resources; and
(cc) can be managed, avoided or mitigated;
(e) Through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
(i) Identify and motivate a preferred site, activity and technology alternative;
(ii) Identify suitable measures to manage, avoid or mitigate identified impacts; and
(iii) Identify residual risks that need to be managed and monitored.

EXECUTIVE SUMMARY

Bay Tower Properties CC (hereafter referred to as Bay Tower) has applied for an Environmental Authorisation for the proposed Mining Permit on Certain Portion of the Remaining Extent of the Farm Vogelstruisnek 173 JP; situated within the administrative district of Mankwe, in North West Province.

The application has been lodged in terms of Regulation 16 of the National Environmental Management Act (Act 107 of 1998) (NEMA): Environmental Impact Assessment (EIA) Regulations, 2014 and Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002). In terms of the NEMA (Act 107 of 1998). EIA regulations of 2014 (amended April 2017), the proposed mining permit activity triggers Activity 21 and 22 and 27 of Listing Notice 1 GNR 327 and the applicant cannot proceed without an Environmental Authorisation.

Davhana Geotech Solutions (Pty) Ltd has been appointed by Bay Tower Properties 19 cc as an independent environmental assessment practitioner (EAP) to undertake the Environmental Impact Assessment for the proposed mining permit application. The purpose of the study is to identify and assess all the possible impacts that may arise from the implementation of the proposed project and also to find the most effective way of enhancing environmental benefits and mitigating potential impacts to encourage sustainable development in the area.

The proposed Mining permit activities will be undertaken over a period of two (2) years and the activities will be conducted in progressive phases which include Non-invasive and invasive methods. The Non-invasive method will include desktop studies and geological mapping, whereas Invasive methods will include sampling and mining.

The potential risks and key issues identified were based on consultation with I&APs, internal process based on similar projects and the current state of the environment of the site. A description of the biophysical and social environment is included in the report, to ensure that all potential risks and issues are taken into consideration in all phases of the proposed project. A brief description of the potential aspects that will be impacted include the following:

- Air quality
- Fauna
- Flora
- Waste
- Ground water
- Geology
- Soils
- Cultural and Heritage
- Socio - economic

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PART A

SCOPE OF ASSSSMENT AND BASIC ASSESSMENT REPORT

1 CONTACT PERSON AND CORRESPONDENCE ADDRESS

1.1 Details of

1.1.1 Details of the EAP

Name of The Practitioner: Vhangani Mugeri

Tel No.: +2781 464 0109

Fax No. :

e-mail address: Vmugeri17@gmail.com

1.1.2 Expertise of the EAP.

1.1.2.1 The qualifications of the EAP

Refer to Appendix A

1.1.2.2 Summary of the EAP's past experience.

EAP's past experience	
Name	**Background**
Vhangani Mugeri	Vhangani Mugeri Holds a Bachelor of Science degree majoring in Geology and Environmental Management from the University of Johannesburg (2009 – 2012) and Honours in Geology from the University of Limpopo (2013). Before Joining Tshikovha Green and Climate Change Advocates, Mr Mugeri worked for the Department of Environmental Affairs as a meteorological technician in Gough Island from July 2014 to October 2015, then Marion Island from January 2016 to May 2017. September 2017 Mr Mugeri Joined Tshikovha Green and Climate Change Advocates as a junior engineering geologist. Mr Mugeri interests vary from geotechnical studies, Geohydrological studies, Integrated Waste Water Management Plan and Water Use License Applications, Environmental Compliance Audits, Landfill Audits, and EIA. Since Joining Davhana Geotech Solutions,Mr Mugeri has been directly involved in conducting Geohydrological studies in Fortress Quarry for Corobrik, Geohydrological studies for Letwaba Petroleum's (Pty) Ltd in Greenside, and water monitoring analyses for Manngwe Mining. He has been also involved in several geotechnical projects as an assistant in Makhado and Greenside. Mr

	Mugeri has been involved in mine environmental audits, at Manngwe Mining, Construction environmental compliance audit in Graskop outdoor elevator and restaurant. Mr Mugeri has been working on Landfill audits in the City of Ekurhuleni landfills, Thulamela Local Municipality and Nkomazi Local Municipality. Mr Mugeri worked on compiling closure report for the borrow pit in Ga – Ntata within the Greater Letaba Municipality.

2 LOCATION OF THE OVERALL ACTIVITY.

2.1 LOCALITY MAP

(Show nearest town, scale not smaller than 1:250000).

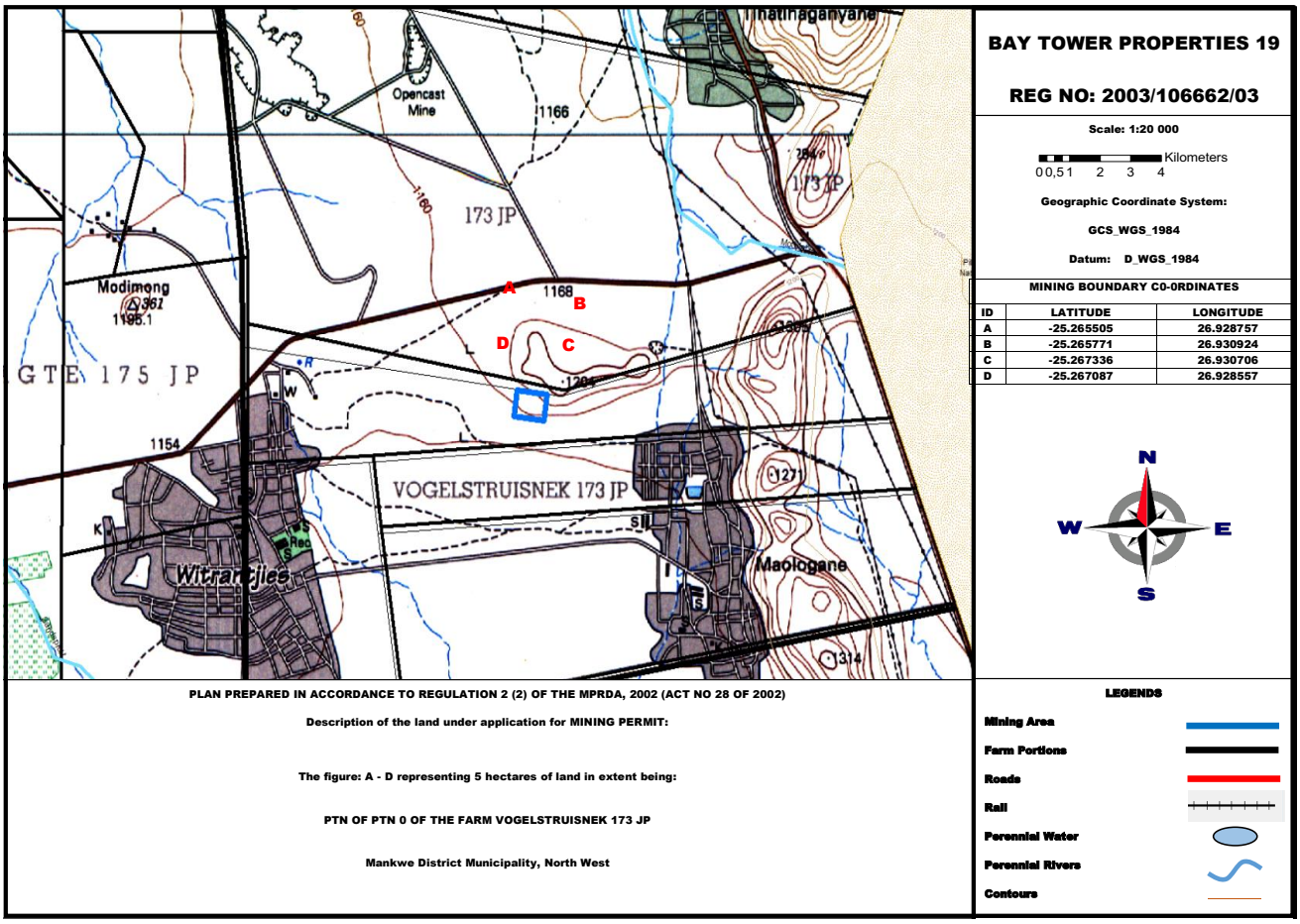

Figure 1: Locality Map showing proposed Mining Permit area 1: 50 000

Figure 2: Locality Map showing proposed Mining Permit area (1: 250 000)

A larger locality maps will be attached as Appendix 3

3 DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY.

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.

Please take note: Prior to Mining Permit application is lodged, proven data usually exist and historically there are mining activities that occurred or are occurring within the same seam/ore in the proposed area. Mining Permit is applied for a period of two years in which extension may be requested from the DMRE. All disturbances caused by the mining operations on the properties will be rehabilitated on a concurrent basis.

In Phase 1 (Construction Phase)

The mining activities will only take place during the day, (06:00 – 17:30). The following activities during the construction phase will be executed.

- Refurbishing and maintenance of the existing access roads
- Temporary fencing of the site and fence signage
- Installing temporal site offices, security office, and ablution facilities
- Construction of stores yard, workshop and maintenance area
- Demarcating mine fleet hard park, staff and visitors parking
- Stripping and removal of existing topsoil and stockpiling
- Assembling and preparation of the screening plant

Phase 2 (Mining / operational Phase)

The mining activities will only take place during the day, (06:00 – 17:30). The following activities during the mining phase will be executed.

- Assemblage and proper storage discarded top soil
- Establishing mining starting point
- Construction of runoff settling dam (water will also be used for dust suppression)
- Trenching around the mining footprint area to ensure that storm water
- Excavation of the initial strip of the open cast mining (contour strip mining)
- Excavation of ore
- Crushing, screening and stockpiling aggregate
- Backfill rehabilitation as the mine progress forward.

Phase 3 (Decommissioning, Rehabilitation and Closure Phase)

- The decommissioning and closure activities will only take place during daylight hours. The decommissioning phase is associated with activities related to the demolition of infrastructure and rehabilitation of disturbed areas. The following activities are associated with decommissioning phase:
- Demolishing of stores yard, workshop and maintenance area (rubble removed and safe disposal)
- Demolishing of bulk fuel storage (rubble removed and safe disposal)
- Remaining exposed excavated areas filled and levelled using overburden recovered from stockpiles
- Levelling the area with waste aggregate and toping with topsoil
- Top soiling replaced using topsoil recovered from stockpiles; and
- Removal of temporal site offices, rubble removed and ablution facilities buildings and structures demolished, rubble removed and the area levelled.
- Disturbed land fertilized and prepared for re-vegetation
- Seeding of land with indigenous species.
- Truck and shovel methods would be used during roll-over backfill of strips. Compaction and final top soiling will be conducted to bring the final desired topography. Finally seeding will be conducted in accordance with seasonal precipitation in order to facilitate quick root establishment and therefore minimise erosion potential.

Mine Planning and Scheduling (Mining Permit)

Mine design plans including structures to be temporarily erected are offices required for the mining operations including the location of residue deposits. The following mining layout plan will be used in mining activity. An area of 0.2 ha will be used for setting all equipment and resources necessary for operation. The site will be

fenced and signs will be placed around the site to alert trespasses about the danger of the site. Figure 3 below is the mine setting layout plan that will be following through the duration of the mining.

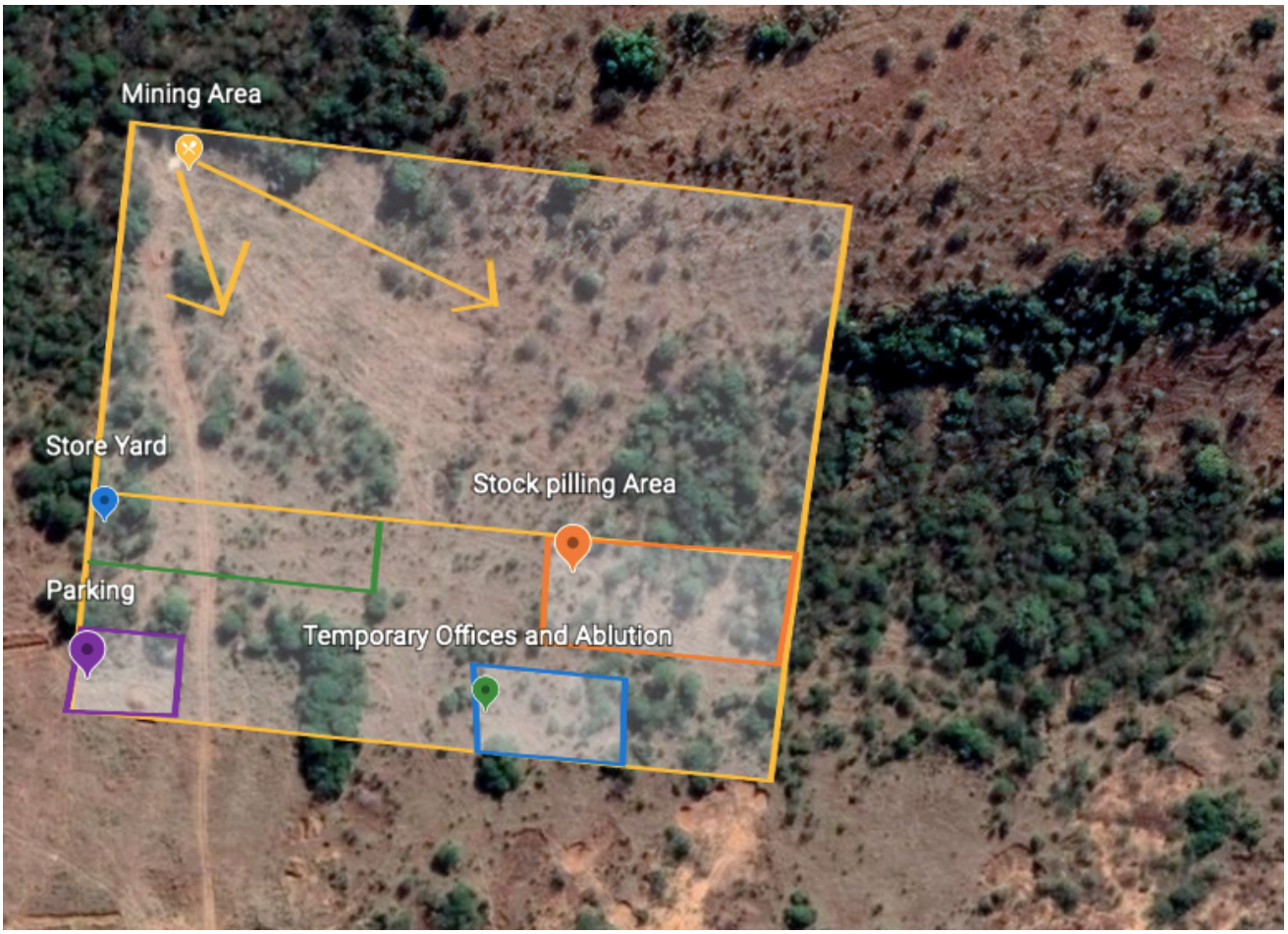

Figure 3: Proposed Mining Layout

4 LISTED AND SPECIFIED ACTIVITIES

Table 1: Listed activities in terms of NEMA

NAME OF ACTIVITY (E.g. For prospecting - drill site, site	Aerial extent of the Activity Ha or m²	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
Mining	5 Ha is the cadastral area for the mining area but the footprint of all mining activities	X	GNR 327 (as amended 07 April 2017) Listed Activity 21
Rehabilitation of mining site	5 Ha	X	GNR 327 (as amended 07 April 2017) Listed Activity 22
Site Preparation	0.2 Ha		
Access Roads	0.045 ha		
Sampling and storage	Less than 300 m^2		

5 DESCRIPTION OF THE ACTIVITIES TO BE UNDERTAKEN

(Describe Methodology or technology to be employed, including the type of commodity to be prospected/mined and for a linear activity, a description of the route of the activity)

The commodity to be mined is Chrome. The mining activities are anticipated to be undertaken for a period of 2 years. These mining activities will be conducted in 3 phases, which are Construction, Operational/mining and Decommissioning

- Phase 1- Construction
  - Site Development

The specific activities that will be undertaken during the life of the proposed project will include:

- Excavation of chrome and stockpiling of this in front of the opencast, with bulldozers and front – end loaders.
- Blasting of the hard silica deposit, excavating and stockpiling
- Loading, hauling, processing and transport of mined materials to the mine market.
- The overburden will be stockpiled separately from the topsoil and waste rock, if any;
- Continuously backfilling the opencast void waste rock, overburden and topsoil, in that order, followed by fertilization and re-vegetation with locally indigenous species of grass, shrubs and trees.
- Decommissioning and removing all equipment, removing infrastructure, backfilling the opencast quarry, making the ex-operating area safe, shaping them to be free draining and rehabilitating them to a condition fit for grazing or game farming.

Equipment and/or Technology to be used	Excavator Bulldozer and tipper truck Water cart 4x4 Bakkies Generator
Material Required	Diesel Grease Hydraulic Oil Picks and shovels
Storage Facility	Diesel, Grease and Oil
Spillage control	Drip trays
Sanitation Facility	Chemical toilets
Waste Management	Waste Skip and Bins

Water	Water will be transported to site
Safety	Safety Boards

5.1.1.1 Proposed Mining Permit Project Surface Infrastructure

5.1.1.1.1 Access Roads

There are various minor roads that are passing next to the proposed mining area. The road that is maintained by the Moses Kotane Local Municipality that goes from Maologane village to Witrandjie village will be used as access road to the proposed mining area. The Moses Kotane Local Municipality and Tribal Authority will be informed of the road to be used where required and land owners of private farms will also be requested permission to use their roads. The accumulative traffic impact mainly due to mine trucks from the mines within the area has been taken into consideration.

All mining equipment such as excavators and bull dozers will be kept on site as long as they are still usable. Additional double cab will be used during the lifespan of the mine as a daily in mine vehicles. Local employees will be provided with transport to ensure less traffic network of many vehicles on site. During the lifespan of the mine, water carts will be used to spray water on the gravel mine roads to supress dust. No roads will be constructed.

5.1.1.1.2 Power Line Infrastructure

No power infrastructure will be affected and no electricity from the National grid will be required for the proposed mining project. Only diesel – powered vehicles and generators machinery will be used for the proposed project.

5.1.1.1.3 Water Infrastructure

Based on the amount of water required and the use of such water during the operation of this mining activities which is estimated to 5000 cubic meters per day, there is no planned water infrastructure for the proposed project. Water will be sourced underground and purchased from other commercial suppliers (i.e the local Municipality). Water delivered to the project area (mining site) will be trucked with a water cart. This water will be used for the purpose of supplying service water, potable water and fire protection water. Service water will be required for the operation of machinery and dust suppression. Potable water supply will be required for domestic water use within the mining sites. Fire water will be required for firefighting purposes. A water tank will be used for the storage of water at the proposed project area. Water Use License is required for proposed mining activities in terms of Section 22 of the Water Act (Act 36 of 1998).

5.1.1.1.4 Workshops and Buildings

Temporary infrastructure will be places on site.

5.1.1.1.5 Waste Management

Waste Identification and Management

5.1.1.1.6 Hazardous Waste

- Hazardous waste to be generated includes, hydrocarbon wastes (oil and liquid fuel wastes);
- Oil waste and liquid fuels waste include used oils bottles and containers from mine machinery and vehicles;
- Mineral residue will be stored within the site and will form part of rehabilitation materials;
- Hydrocarbon waste will be collected in drum storage. The drums will be placed on protected ground. The removal of the drums or any other appropriate receptacle will be undertaken by waste disposal company, for disposal at a registered licenced waste disposal site. Waste disposal certificates will be kept.
- Chemical toilets will be used for the management of sewage waste generated on site

5.1.1.1.7 General Waste

- General waste to be generated from the proposed project area include waste such as food, polystyrene, paper, and discarded personnel protective equipment (PPE)
- This waste will be collected in waste bins and will be disposed at a registered landfill site, closer to the proposed site.
- A disposal certificate will be kept as proof of proper disposal

6 POLICY AND LEGISLATIVE CONTEXT

Table 2: Applicable legislations

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED	HOW DOES THIS DEVELOPMENT COMPLIY WITH AND RESPOND TO THE LEGISLATION AND POLICY CONTEXT.
Constitution of the Republic of South Africa, 1996	During Operational and Decommissioning phase of the proposed development	Rights of all personnel who are directly or indirectly involved in the project has been respected and their concerns attended to during public consultation
National Environmental Management Act, 1998 (Act No. 107 of 1998)	During Planning phase of the project, the proposed development is listed in GNR 327 Listing Notices 1. Activity Number 21 is triggered.	This is the key national legislation underpinning environmental Authorisations in South Africa. In terms of NEMA a Basic Assessment has been applied for. An impact

		Assessment is included and the appropriate mitigation measures and recommendations are made.
Mineral and Petroleum Resources Development Act	The mining activities requires the mining prmit from the Department of Mineral Resources	A Mining Permit Application has been submitted to the DMRE by the Applicant.
National Heritage Resources Act (Act No 25 of 1999	All cultural and heritage resources should be protected if or when encountered	A permit may be required if identified cultural/heritage sites on the proposed site will be disturbed or destroyed as a result of the mining activities activities.
National Environmental Management: Air Quality Act (Act No 39 of 2004)	Minimal Dust from moving vehicles can be generated.	Standards for particulates and dust used in Impact Assessment to regulate the concentration of a substance that can be tolerated without any environmental deterioration
Occupational Health and Safety Act (No 85 Of 1993)	During operational phase, contractors and employees should adhere to the requirements of this legislation for a safe working environment.	The Act provides for the health and safety of persons at work and for the health and safety of persons in connection with the use of machinery; the protection of persons other than persons at work, against hazards to health and safety arising out of or in connection with the activities of persons at work.
National Environmental Management: Biodiversity Act (Act No 10 of 2004)	The mining activities may encounter critical endangered species	The appropriate buffer areas and sensitive areas to be excluded are applied. Species of conservation concern are protected or where required, a search and rescue operation will be carried out by a professional registered scientist. Alien invasive species management
National Forests Act (Act No. 84 of 1998)	During the Site establishment, there may be a clearance of vegetation which includes trees.	In terms of S5(1) no person may cut, disturb, damage or destroy any protected tree or possess, collect, remove, transport, export, purchase, sell donate or in any other manner acquire or dispose of any protected tree or any forest product derived from a protected tree.
Mine Health and Safety Act ,1996 (No. 29 of 1996	The mine Health and Safety Act, 1996 (No, 29 of 1996) provides for the protection of the health and safety of employees and other persons at mines and, for that purpose- promote culture of health and safety	Bay Tower properties will be required to meet the requirements of the Mine Health and Safety Act during invasive and non-invasive mining phases.
National Water Act (Act No. 36 of 1998)	The proposed activities requires minimum use of water, however it will not consume enough water to trigger a water use license application.	No water use license is required for this application.

National Environmental Management: Waste Act, Act 59 of 2008	Management measures environmental awareness plan	The generation of potential waste will be minimized through ensuring employees of the mining contractor are subjected to the appropriate environmental awareness campaign before commencement of mining. All waste generated during mining activities will be disposed of in a responsible legal manner.
Conservation of Agricultural Resources Act, 1983	The overall mining activities	The project should promote the conservation of soil, water and vegetation
Section 34 of the Local Government: Municipal Systems Act, 2000 (ACT 32 of 2000)	The overall mining activities	Municipal System Act compels municipalities to draw up the IDP`s as a singular inclusive and strategic development plan. In terms of section 26 of the MSA, A municipality produces an IDP every five year.
National Development Plan 2030	The overall mining activities	The NDP aims to eliminate poverty and reduce inequality by 2030. According to the plan, South Africa can realize these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnership throughout society.

7 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).

Should the mining permit be granted, and prove successful, it would indicate a potential viable economic activity in the form of business opportunity. Mining will contribute greatly to local economic growth through direct employment, future business opportunities, royalties and tax revenues.
The potential benefits of the proposed project are:

- Infrastructure development in the neighboring town.
- Needed job creation and other local, provincial and national socio-economic benefits.
- Local growth in the economy in the surrounding areas, and for local businesses
- Economic benefits for contractors and other suppliers of goods and services.

8 MOTIVATION FOR THE OVERALL PREFERRED SITE, ACTIVITIES AND TECHNOLOGY ALTERNATIVE.

8.1Preferred Site

The proposed site was selected based on extensive research and also following on information from previous prospecting and mining activities in the area. There are known chrome and PGM deposits in the area and The are companies that are mining chrome in the area.

8.2Technology

The mining technique used to mine chrome depends on the ore body. Typically in South Africa, there are opencast, conventional scraper-winch mining and trackless mechanised mining with load haul dumpers(LDH) In terms of the technologies proposed, the proposed mining methods (i.e contour) have been chosen based on the known success of mining using the above method.

9 FULL DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ALTERNATIVES WITHIN THE SITE.

NB!! – This section is about the determination of the specific site layout and the location of infrastructure and activities on site, having taken into consideration the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout.

9.1 Details of the development footprint 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:

The development can only be on the predetermined location as this site was chosen for its economic importance.

9.1.1 Property on which or location where it is proposed to undertake the activity.

No location alternative has been considered. The applicant's property or location is being guided by the presence of higher probability of chrome deposits thus not any location or property is suitable for the proposed activity.

9.1.2 Type of activity to be undertaken

Description of planned Non-invasive Activities

Desktop studies to be undertaken over the area would include studying of all available geological maps/plans, aerial photographs, topography maps and any other related geological information about this area. Upon completion of the desktop study, field geological mapping of the area will be conducted, and Geomorphological Studies and Geophysical Survey will be conducted to map out the occurrence of Chrome deposits.

Description of planned Invasive Activities

9.1.3 Design or layout of the activity

The proposal layout for the chrome mining activity will be as per the attached infrastructure sketch plan. There will be one entrance via existing access gravel road from Maologane village to Witrandjie village. There will also be two (2) sections of dumps and chrome stockpiling, immediately from the mine pit. There will be mobile site office and a portable chemical toilets

within the mobile offices, which will be utilised by the employees. The site has been minimised to impact the smallest possible area

9.1.4 **Technology to be used in the activity**

The only practical means of chrome mining on this scale is by the use of a front-end loader and excavator method, and/or by means of the blasting, loading and hauling system. Accordingly, no other input alternatives were considered. It has been determined that the only best technological way of undertaking the proposed activities would be to use front-end loader and excavator.

9.1.5 **Operational aspects of the activity.**

The mining area must be clearly demarcated (working areas and No – Go area), by means of pegs /markers at all corners of the site and along its boundaries. The site must be fenced throughout the life span of the mining operations.

9.1.6 **Option of not implementing the activity.**

The 'no-go' alternative is the option of not undertaking mining activities on the project site. The no-go option assumes the site remains in its current state. The status quo of the proposed farm as a whole, is minerals are extracted illegally and without necessary permits, with this type of practice, only those involved in such acts benefit and the rest of the community is left to languish in poverty and unemployment. The extracting of minerals without permits, leads to devastating environmental impacts, as the sites are not going to be rehabilitated and there is a general increase of crime in such areas. Should the mining permit not granted the is a high chance that the illegal mining will continue unabated. With granting the mining permit the communities will benefit by direct employment and doing business with the mine, as suppliers and contractors. Bay Tower will contribute to the countries GDP through exports of chrome and taxes. The mining of chrome by Bay Tower will help reduce the biggest challenges facing SA youth which are unemployment, inequality and poverty, especially among young black people. Should the DMRE decide to not authorise this permit, it will mean that the legal way of making profit will not be realized by the state and the applicant, furthermore no employment opportunities will not be made available, specifically to young woman and people living with disability.

10 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.

This section of the report provides an overview of the tasks undertaken for the Public Participation Process (PPP) to date. The PPP was conducted in terms of Chapter 6 of the NEMA and included the following:

a) Identification of key Interested and Affected Parties (affected and adjacent landowners) and other stakeholders (organs of state and other parties);
b) Placement of site notices on farms, and other accessible public areas;
c) Formal notification of the application to key Interested and Affected Parties and other stakeholders;
d) Consultation and correspondence with I&APs and Stakeholders and the addressing of their comments. This appendix will be included in the Final Basic Assessment; and
e) Newspaper adverts.

The objectives of PPP include:

- Provides Interested and Affected parties (I&APs) with an opportunity to voice their support, concerns and raise questions regarding the project, application or decision;
- Provides an opportunity for I&APs, Environmental Assessment Practitioners (EAPs) and the Competent Authority (CA) to obtain clear, accurate and understandable information about the environmental, social and economic impacts of the proposed activity or implications of a decision;
- Provides I&APs with the opportunity of suggesting ways of reducing or mitigating negative impacts of an activity and for enhancing positive impacts; and
- Enables the applicant to incorporate the needs, preferences and values of affected parties into the application.

The PPP must comply with the several important sets of legislation that require public participation as part of an application for authorisation or approval; namely:

- The Mineral and Petroleum Resources Development Act (Act No. 28 of 2002 - MPRDA); and
- The National Environmental Management Act (Act No. 107 of 1998 - NEMA).

Adherence to the requirements of the above-mentioned Acts will allow for an Integrated PPP to be conducted, and in so doing, satisfy the requirement for public participation referenced in the Acts.
During the process, the following methods are used to develop a stakeholder database which will be utilised to ensure a proper representation of stakeholders interested in or affected by the proposed Project.
This included the following:

- Search works and desktop searches are conducted in and around the project area to verify land ownership and obtain contact details;
- Responses received from newspaper advertisements, public notices and site notices;
- Identification and consultation with stakeholders including commenting authorities (local and district municipalities);
- Organs of state, other than the competent authority, such as the Department of Agriculture, Forestry and Fisheries (DAFF), North West Department of Agriculture and Rural Development, and Department

of water and Sanitation having jurisdiction in respect of any aspect of the proposed project and affected authorities; and

- Consultations with affected landowners.

The PPP commenced on 21 February 2021 with a site visit which included the placing site notices in and around the fences of the respective farms. A registration period commenced the 21 June 2022 ending on the 21 July 2022

- Newspaper advertisement: published in the “RUSTENBURG HERALD” for the week of 24 June 2022;
- Site Notices: erected at prominent points on 21 June 2022; and
- Public Notices: distributed to identified stakeholders, landowners and residence (where possible) on 21 & 22 June 2022 and throughout the registration period.

Melkstal in die kollig

Terwyl die natuur om ons vinnig besig is om die droeë wintersblare af te skud, skiet ons by Melkstal@Green Leaves nuwe lote na 'n besoek van die redaksionele span van die leefstyltydskrif "Leef met hart & siel" en sien ons uit om binnekort talle nuwe gesigte aan ons tafels te ontmoet. 'n Promosie-artikel oor Melkstal@Green Leaves verskyn eersdaags in dié gesogte publikasie se winteruitgawe, wat ons harte in hierdie koue wintersdae warm gaan laat klop. Kyk uit vir Melkstal in "Leef met hart & siel" en bring dit sommer saam wanneer jy volgende keer kom inloer. (225912)

Power on the go!

RUSTENBURG HERALD - RUSTENBURG - With South Africa experiencing regular load shedding and regular power outages, Rustenburg's very own inventor, Kagiso Domingos, from Ledig, just outside of Rustenburg has once again taken his innovation to the next level.

He designed an easy to carry case which could come in handy in dealing with the effects of power cuts. This case, according to Domingos has the potential to produce 220 volts of electricity, enough to power up an entire household.

What makes this device special is that during the day it converts direct sunlight into electrical energy, with the aid of a small solar panel fitted to the case. The energy gets stored into a 12 volts battery, and with the aid a coil he is able to convert the stored Direct Current (DC) into Alternating Current (AC), which is conducive for common household electrical appliances.

"The fact that this device is in no way connected to the grid, makes it easier to carry and also it can even supply electricity when there is no sunshine or at night because it stores the energy for later use. While people struggle with power cuts, I am able to do basic things like charging my phone, powering my house or watch television," Domingos said. "I would like to develop my idea on a large scale so once again I am requesting anyone or any organisation that would like to sponsor me to contact me on 078 754 9248," said Domingos in an interview with Jabulani Senyatso of the Rustenburg Herald.

Reunion Group reaches out to family

RUSTENBURG HERALD - TANTANANA - A resolution adopted in 2018 by a group of retired and serving members of the South African Police Service (SAPS) to reach out to needy families, recently benefitted the Tlapu's family in Tantanana village outside Phokeng, Rustenburg.

That was after a group of police officers, known as "1985 TTA Reunion", identified and visited the family on Monday, (13 June) at Tantanana village. The identified household is of a 71-year-old and blind Mrs Chipi Margaret Tlapu who stays with her unemployed 27-year-old son. The family survives with the old lady's SASSA social grant. Their kitchen and front doors were dilapidated. Due to the condition of the door, it became easy for insects and reptiles such as snakes to get into the house. The roof also leaks when it rains. Thus, the group took it upon themselves to replace both doors, clean around the house as the long grass was also posing a hazard. The group also sealed the leaking roof and donated groceries, kitchen utensils, bedding and clothes to the family.

At the end, the family members could not hide their appreciation towards the group and good Samaritans for bringing smiles to their faces. The group members who trained at TTA (Mahikeng) and Hammanskraal in 1985, have already travelled to Christiana, Bloemfontein, Taung and Mahikeng where they reached out to the needy members of the community through their contributions to purchase various useful items. As part of a journey to reaching out to the needy, the group's next stop will be in Klerksdorp.

Mrs Tlapu and members of the Reunion Group.

One of the new doors fitted by the Reunion Group members.

Some of the items donated to the family.

Figure 4: Proof of Newspaper Advert


Note cam
Address : 0366, NW, South Africa
Latitude : 25°16'5"S
Longitude : 26°56'1"E
Altitude : 1156.18 meters
Date : 06/21/2022 10:58 AM
Note : Click by Vhangani


Note cam
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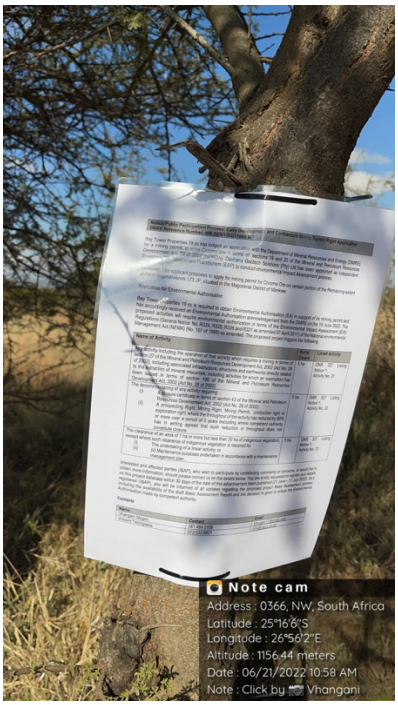
Longitude : 26°56'29"E
Altitude : 1166.99 meters
Date : 06/21/2022 11:18 AM
Note : Click by Vhangani


Note cam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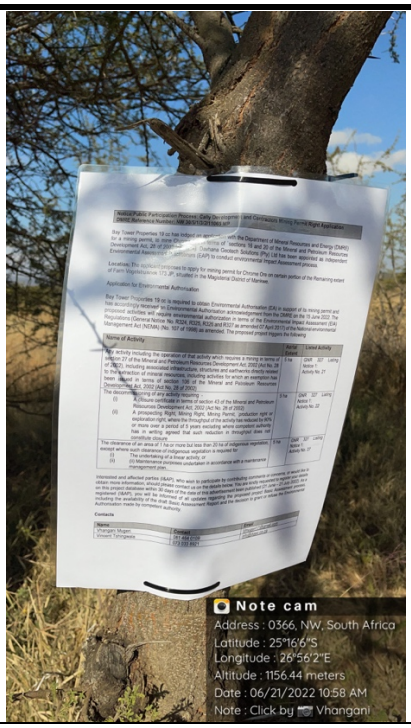

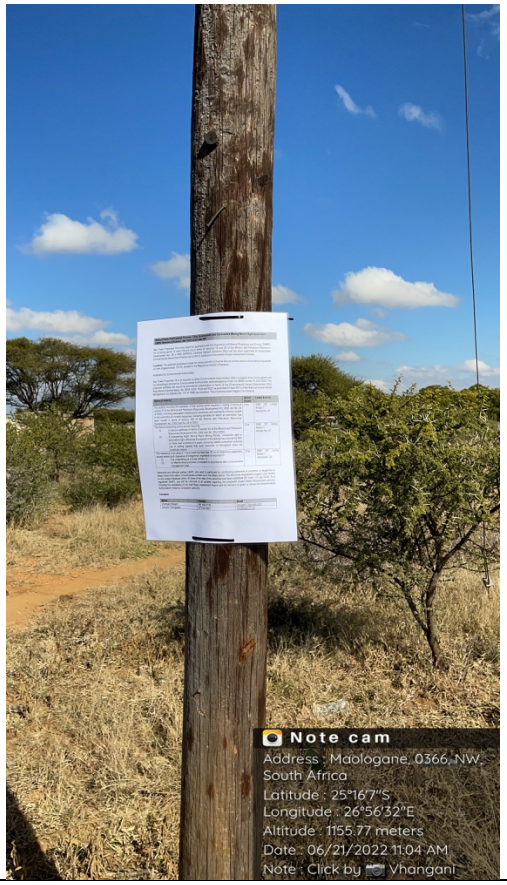

Figure 5: Proof of Site Notices

10.1 Summary of issues raised by I&APs

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

See attached Consultation Report.

Table 3: Summary of issues raised by I &Aps

NO COMMENTS RECEIVED

11 BASELINE ENVIRONMENT

11.1 Climate

The nearest climate data that could be found is for Rustenburg. This town is situated approximately 40 km from the site. In North West, the summers are long and hot; the winters are short, cold, and dry; and it is mostly clear year-round. Over the course of the year, the temperature typically varies from 1°C to 31 °C and is rarely below -2.7°C or above 35. °C.

11.2 Temperature

The hot season lasts for 4 months, from November 8 to March 9, with an average daily high temperature above 28°C. The hottest day of the year is December 28, with an average high of 31°C and low of 16°C.

The cool season lasts for 2.6 months, from May 24 to August 11, with an average daily high temperature below 20°C. The coldest day of the year is June 29, with an average low of 1°C and high of 17°C.

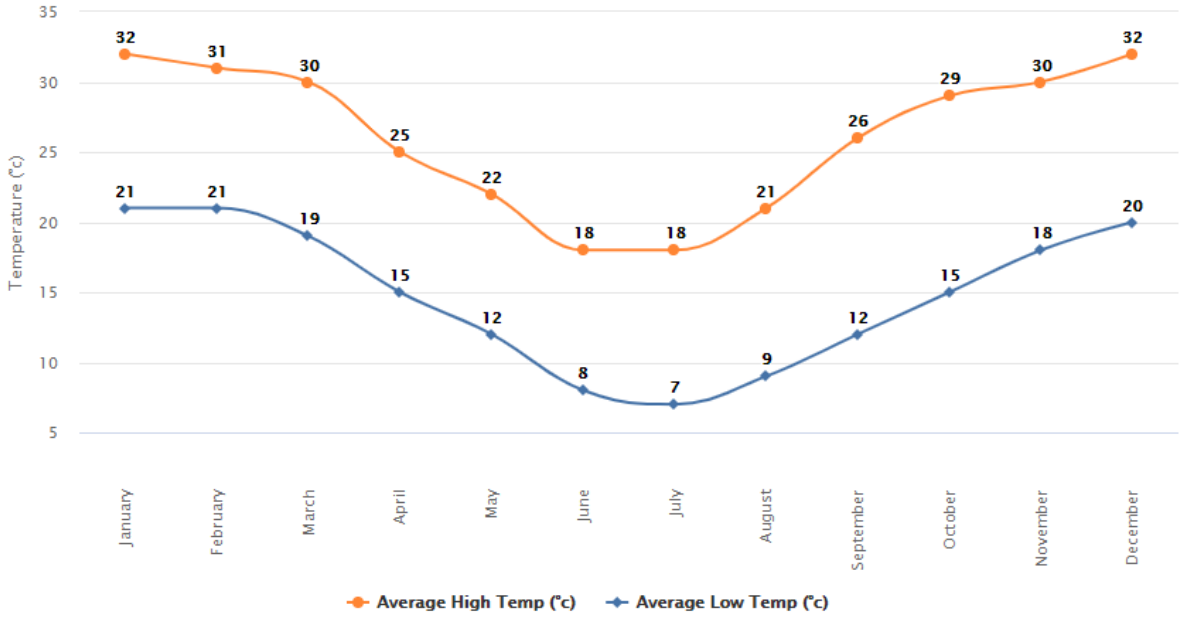

Figure 6: Shows Maximum, Minimum and average temperatures of North West

11.3 Rainfall

The mean annual rainfall in Mankwe region ranges from 401 – 600 mm per annum (AGIS, 2007). The figure below

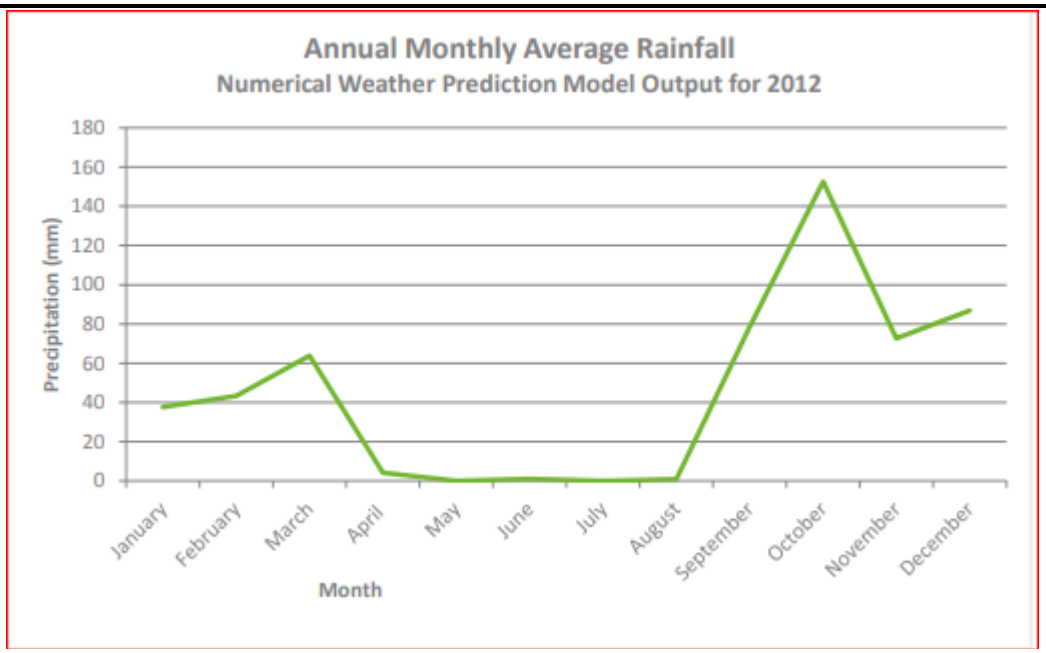

Figure 7: Rainfall Data in North West

11.4 Wind

The dominant wind direction of Boshof region is fairly constant ranging from north to west-north-west, with the average wind speed being ±6 knots (11.11 km/h) as shown in the figure 3 below (measured at the Kimberley Airport).

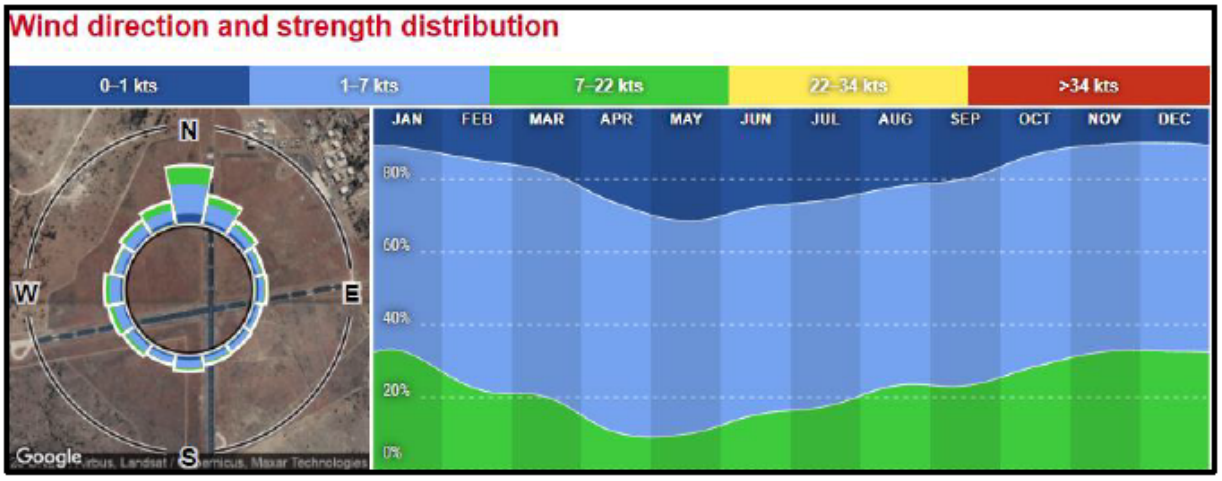

Figure 8: Wind chart data

11.5 Topography

The area is characterized by a combination of flat plains and isolated koppies. The average elevation of the project area is 1 100 metres above mean sea level (m amsl). There are several isolated koppies to the north of the mine area. These vary between 1 197 and 1 266 m amsl. To the south and east of the mine is the Pilanesberg National Park and the associated hills that vary between 1330 and 1534 m amsl

Figure 9: Topography map

11.6 Geology and Soil

According to Mucina & Rutherford (2006), the northern areas that are covered by Central Sandy Bushveld (the vegetation type of the area) are underlain by sedimentary rocks belonging to the Waterberg Group, Mokolian Erathem. These are mostly sandstone, shale and siltstone rocks of the Vaalwater Formation and sandstone, siltstone and conglomerate rocks of the Alma Formation. Large parts of the southern and eastern areas are underlain by granite rocks belonging to the Lebowa Granite Suite and granophyre (fine-grained igneous) rocks belonging to the Rashoop Granophyre Suite. Both of these suites belong to the Bushveld Complex, Vaalian (Mucina & Rutherford, 2006).

Soil forms found within the mining right area are predominately highly structured, relatively shallow soils with a high clay content which allows for high water retention. These soil forms are therefore not highly erodible but are susceptible to compaction as a result of water retention and swelling clays. Poor drainage capacity of these soil forms reduces the dry agricultural production potential as well as the irrigation potential.

11.7 Biodiversity

11.7.1 Vegetation

The Transvaal Bushveld is considered as one of the most southerly types of savanna woodland in Africa, comprising of various vegetation types with a continuous and dominant grass stratum interspersed with woody elements of varying height and density (Van der Meulen, 1979; Cole, 1996). According to the vegetation classification by Acocks (1975) and Low & Rebelo (1996), several broad veld types can be assigned to the western Central Bushveld (table below) that correspond with the physiographic divisions of the study area.

Acocks (1975)	Low & Rebelo (1996)	Habitat
Sourish Mixed Bushveld (A19)	Mixed Bushveld (L&R18)	**Hills and plateaux** (e.g. ridges and hills of the Bankenveld; Norite Koppies)
Mixed Bushveld (A18)		**Low -lying plains and valleys** (e.g. overlying the Bushveld Granites)
Other Turf Thornveld (A13)	Clay Thorn Bushvled (L&R14)	Low – lying flat bottomland (Overlying the Bushveld Complex)

KalahariThornveld (A16)	Kalahari Plains Thorn Bushveld (L&R30)	Low-lying flat bottomland (far north -west at Botswana border)
Arid Sweet Bushveld (A14)	Sweet Bushveld (L&R17)	Low-lying valley (Along. Limpopo River at Botswana Border)
Sour Bushveld (A20) and Mountain sourveld	Waterberg Moist Mountatin Bushveld (L&R12)	Hills and low mountain (e.g. Pilanesberg, Magaliesberg, Gatkop)

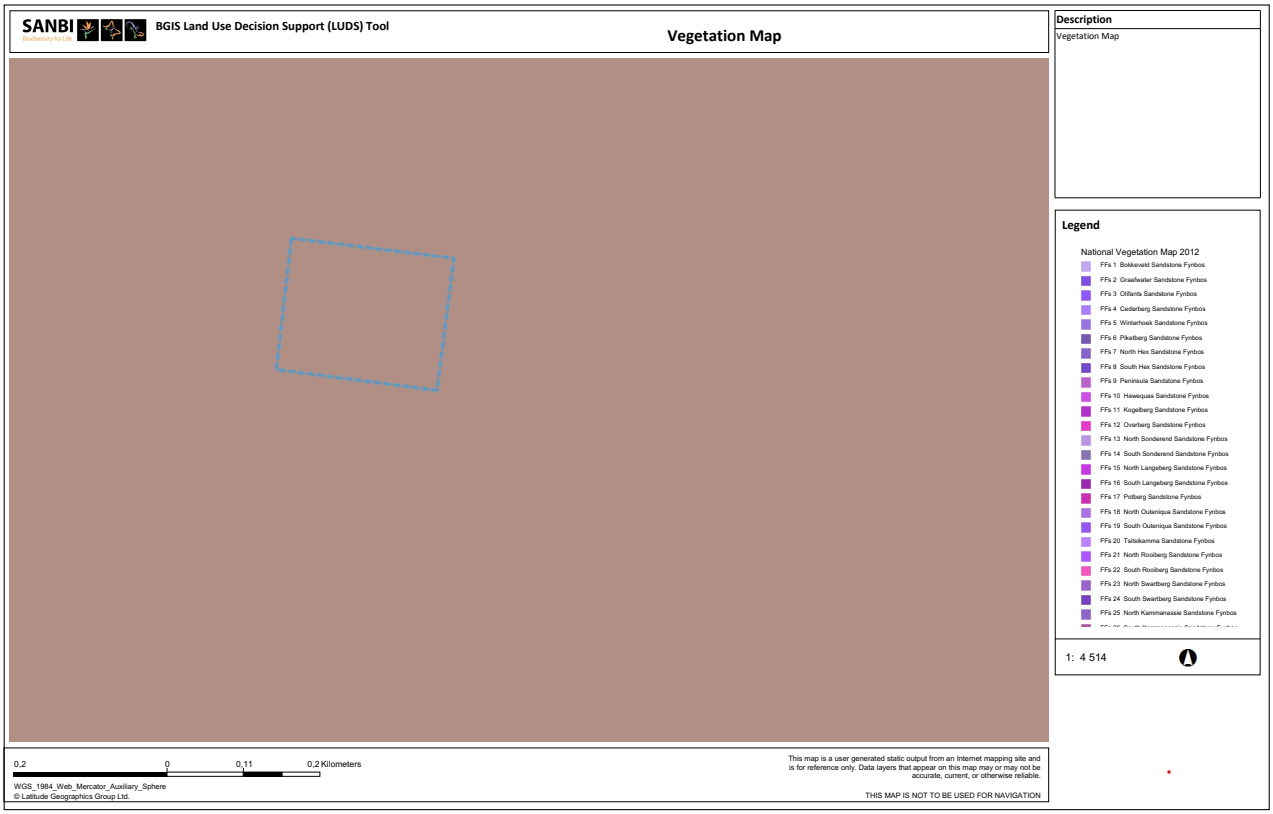

Figure 10: vegetation Map

11.7.2 **Critical Biodiversity**

According to the North West Biodiversity Site Inventory (NW DACET, 2003), the project site is situated within the Dwaalboom Thornveld vegetation type, which includes the Mabeskraal Ridge Bushveld (Sourish Mixed Bushveld [Acocks 1998]). The Mabeskraal Ridge Bushveld is one of the critically important habitat types of the province. It is a very limited vegetation type, restricted to a few ridges and hills in a vast plain with clay soils.

There are a number of conservation important faunal and floral species that could be located within the project area as it a broad expansive area however before commencement of the mining activities a detailed sensitivity map will be compiled indicating sensitive areas to be avoided.

11.7.3 Noise and Air pollution

Due to the low rainfall, the air quality of the study area is characterised as being dry, arid and dusty at times. Dust is the most important pollutant given the area's rural character predominantly affected by the nearby mining operations. The noise ambiance of the study area is classified as ambient rural or pastoral with noise levels mainly affected by traffic and mining activities taking place and the bordering mining related operations

11.8 Hydrology

Surface Water

The site is located in the Limpopo Basin, in the catchment of the Crocodile River. The chrome project area falls within the A24D quaternary catchment. The chrome project area is drained by the non-perennial Motlhabe River, which flows into the perennial Kolobeng River. The Kolobeng in turn flows into the perennial Bierspruit which then flows into the Lower Crocodile River to the west of Thabazimbi.

Groundwater

Groundwater in the project area varies between 8.14 and 33.8 m below ground level (mbgl) with an average of 22.5 mbgl. The overall water quality of the area is characterised by higher than average magnesium concentrations and high fluoride concentrations. The latter is expected due to runoff and groundwater through-flow from the neighboring alkaline complex of the Pilanesberg. The majority of the communities in the area rely on groundwater for domestic purposes.

11.9 Cultural Heritage

According to the Environmental Screening tool report, some parts of the site have high sensitivity of heritage environment. A Heritage Impact study will have to be undertaken to ascertain heritage features that may be on site. The study area is highly disturbed by the illegal mining activities taking place o site.

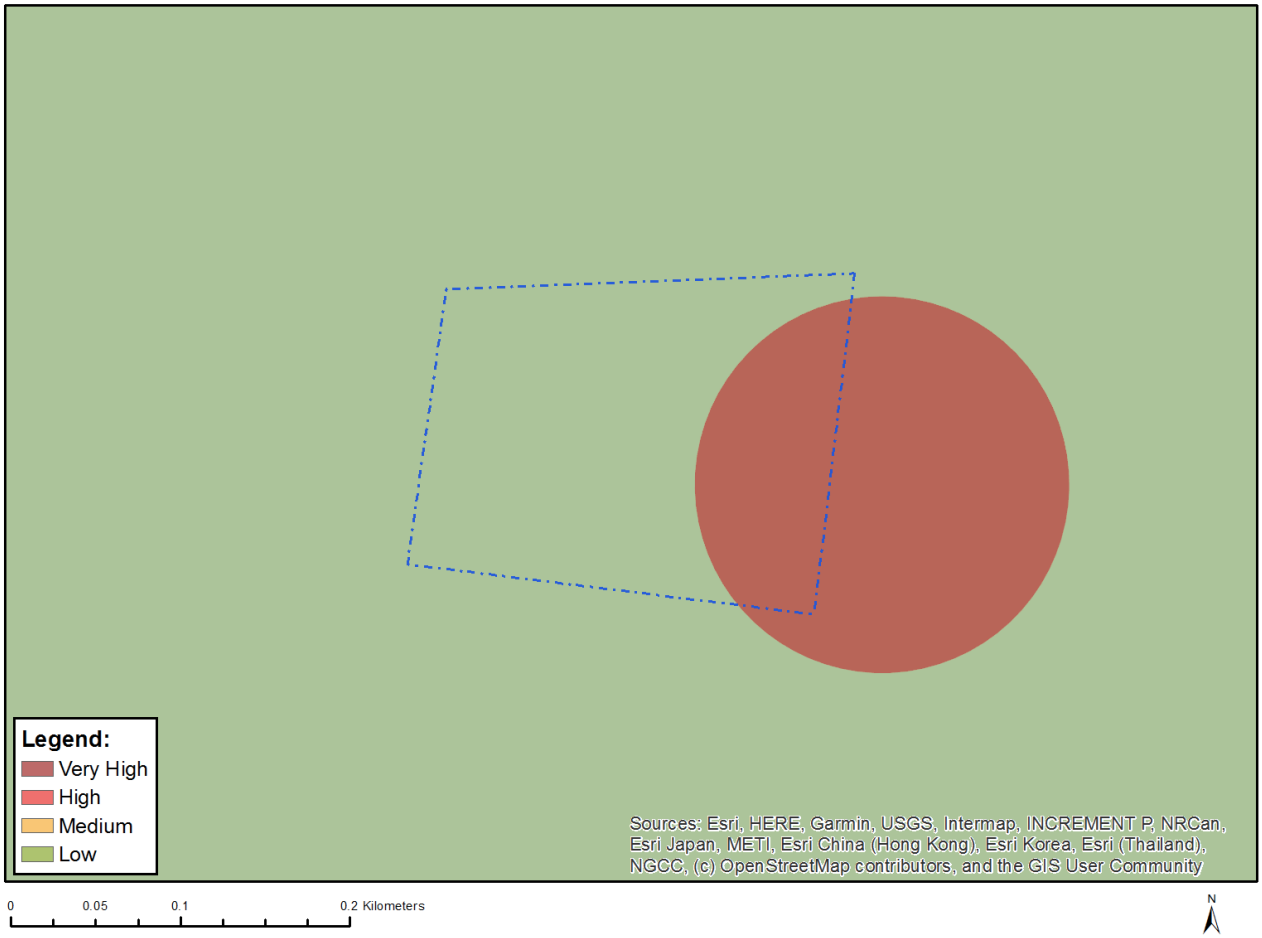

Figure 11: Cultural Heritage importance Map

The geographical area surrounding Boshof town represents archaeological sites dating from the Stone Age, Iron Age and Historical Age period.

11.10 Socio-economy

11.10.1 **Economic context**

Moses Kotane Local Municipality is a Category B Municipality and one of the five local Municipalities constituting Bojanala Platinum District Municipality. The Municipality covers an area of approximately 5220 km2 and comprise of 109 rural villages. As part of Municipal Development focus and priorities, social and economic development is considered key to the Municipal performance goals. Local Economic Development (LED) has become an essential means to create more equitable economic growth within the Municipality. LED is an integrated multi-disciplinary approach aimed at poverty alleviation through pro-poor economic growth. Central to this approach is support for Small Medium Micro Enterprises (SMME) as a source of wealth of job creation. LED places particular emphasis on creating partnership between all stakeholders within the Municipality and creating location-based cluster using local resources.

Moses Kotane Local Municipality is comprised of various sectors of the economy which include the following: Agriculture, Tourism, Mining, Manufacturing & Construction.

11.10.1.1 **Population**

According to the population estimate conducted in 2016, Moses Kotane local Municipality is estimated to have a population 243,649, and of that population, 51% comprises of woman and 49% is males. The widely spoken language is SeTshwana, with about 81% of the population speaking it, within the municipality.

11.11 Economy Structure and Performance

The main economic activities in the Bojanala District happened in the primary sector and the tertiary sector. The primary sector in Bojanala district is driven by agriculture and mining.

11.12 Description of specific environmental features and infrastructure on the site.

The site is inundated by illegal mining and there is no public infrastructure on site

In terms of the environmental features, refer to Baseline Environment section above.

12 IMPACTS AND RISKS IDENTIFIED

Table 4: Impacts identified

Impacts	Phase	Description
Flora	Establishment	Destruction / loss of indigenous natural vegetation due to site preparation activities.
Fauna	Establishment, Operational	Disturbance of species habitats (i.e. snake holes, spiders, reptiles, etc.)
Groundwater	Establishment and Operational	Spillage of fuels, lubricants and other chemicals
Geology	Operational	Removal of rocks and debris for analysis, disturbance of local geological formation.
Soils	Establishment and operational	Disturbance of soils during site clearance and during mining operations
Air Quality	Establishment and Operational	Dust stemming from mining and vehicles going to site
Traffic	Establishment and decommissioning	Increase of traffic in the area as vehicles access and exit the site
Noise nuisance	Establishment and Operational	Noise caused by moving vehicles and mining machinery
Economic	Operational	Project expenditure (incl. direct capital investment)
Visual	Establishment, Operational and Decommissioning	Visual disturbances with all the vehicles, signs and mining equipment.

Cultural/Heritage - historical	Establishment and Operational	Disturbance of artefacts of cultural and heritage importance (i.e. unidentified grave sites).
Waste	Establishment and Operational Phase	Generation of solid waste on site.

12.1 Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks

(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 potential environmental impacts associated with the project will be evaluated according to its nature, extent, duration, intensity, probability and significance of the impacts, whereby:

- **Status:** determines whether the potential impact is positive, negative, or neutral (i.e. no perceived cost or benefit to the environment). A positive impact will have a low score value as the impact is considered favourable to the environment;
- **Extent:** The area over which the impact will be expressed. Typically, the severity and significance of an impact have different scales and as such bracketing ranges are often required. This is often useful during the detailed assessment phase of a project in terms of further defining the determined significance or intensity of an impact. For example, high at a local scale, but low at a regional scale;
- **Duration:** Indicates what the lifetime of the impact will be;
- **Severity:** quantifies the impact in terms of the magnitude of effect on environment (receptor) and is derived by consideration of points 1, 2 and 3 above; and
- **Probability** – quantifies the impact in terms of the likelihood of the impact occurring on a percentage scale of <5% (improbable) to >95% (definite).

Table 5: Status of impact

Rating	Description	Quantitative Rating
Positive	A to the receiving environment (positive impact)	+
Neutral	No determined cost or benefit to the receiving environment	N
Negative	At cost the receiving environment (negative impact)	-

Table 6: Extent of Impacts

Rating	Description	Quantitative Rating
Very Low	**Site specific** – Impacts confined within the project site boundary	1
Low	**Proximal** – Impacts extend to within 1 km of the project site boundary	2
Medium	**Local** – Impacts extend beyond to within 5 km of the project site boundary	3

High	**Regional –** Impacts extend beyond the site boundary and have a widespread effect- i.e. >5 km from project site boundary	4
Very High	**Global** – Impacts extend beyond the site boundary and have a national or global effect	5

Table 7: Duration of impacts

Rating	Description	Quantitative Rating
Very Low	**Project duration** – impacts expected only for the duration of the project or not greater than 1 year	1
Low	**Short term** – impacts expected on a duration timescale of 1 to 2 years	2
Medium	**Medium term** – impacts expected on a duration timescale of 2-5 years	3
High	**Long term** – impacts expected on a duration timescale of 5-15 years	4
Very High	**Permanent** – impacts expected on a duration timescale exceeding 15 years	5

Table 8: Severity of Impacts

Rating	Description	Quantitative Rating
Very Low	Negligible – zero or very low impact	1
Low	Site specific and short-term impacts	2
Medium	Local scale and / or short-term impacts	3
High	Regional and / or long-term impacts	4
Very High	Global scale and / or permanent environmental change	5

Table 9: Probability of impacts

Rating	Description	Quantitative Rating
Highly Improbable	Likelihood of the impact arising is estimated to be negligible; <5%.	1
Improbable	Likelihood of the impact arising is estimated to be 5-35%.	2
Possible	Likelihood of the impact arising is estimated to be 35-65%	3
Probable	Likelihood of the impact arising is estimated to be 65-95%.	4
Very High	Likelihood of the impact arising is estimated to be > 95%.	5

These five criteria are combined to describe the overall significance rating (Table 10). Calculated significance of impact – determines the overall impact on (or risk to) a specified receptor and is calculated as: the product of the probability (P) of the impact occurring and the severity (S) of the impact if it were to occur (Impact = P × S). This is a widely accepted methodology for calculating risk and results in an overall impact rating of Low (L), Low/Medium (LM), Medium (M), Medium/High (MH) or High (H). The significance of a particular impact is depicted in and assigned a particular colour code in relation to its severity (Table 11).

Table 10: Significance of Impacts

Rating	Description	Quantitative Rating
Low	P x S=1-3 (low impact significance)	L
Low/Medium	P x S= 4-5 (low/medium impact significance)	LM
Medium	P x S=6-9 (medium impact significance)	M
Medium High	P x S=10-14 (medium/high impact significance)	M/H
High	P x S=15-25 (High impact significance)	H
Positive	P x S= (Positive impact significance)	Positive

Table 11: Perceived Significance of Impacts

Probability (P)	Severity (S)				
	1	2	3	4	5
1	L	L	L	LM	LM
2	L	LM	M	M	MH
3	L	M	M	MH	H
4	LM	M	MH	H	H
5	LM	MH	H	H	H

The impact significance rating should be considered by authorities in their decision-making process based on the implications of ratings ascribed below:

- **Insignificant**: the potential impact is negligible and will not have an influence on the decision regarding the proposed development;
- **Low**: the potential impact is very small and should not have any meaningful influence on the decision regarding the proposed development;
- **Low/Medium**: the potential impact may not have any meaningful influence on the decision regarding the proposed activity/development;
- **Medium**: the potential impact should influence the decision regarding the proposed activity/development;
- **Medium/High**: the potential impact will affect the decision regarding the proposed activity/development; and
- **High**: the proposed activity should only be approved under special circumstances.

Practicable mitigation and optimisation measures are recommended and impacts are rated in the prescribed way both without and with the assumed effective implementation of the recommended mitigation (and/or optimization) measures. Mitigation and optimization measures are either:

- Essential: measures that must be implemented and are non-negotiable; or
- Best Practice: recommended to comply with best practice, with adoption dependent on the proponent's risk profile and commitment to adhere to best practice, and which must be shown to have been considered and sound reasons provided by the proponent if not implemented.

12.2 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).

Table 12 Positive and Negative impacts

Impacted Environment	Impact	Status of impact
ESTABLISHMENT PHASE		
Fauna and Flora	Destruction / loss of indigenous natural vegetation and plant species during site preparation	Negative
	Impact on animal species	Negative
	Establishment and spread of declared weeds and alien invader plants	Negative
Groundwater	Damage/contamination of groundwater resulting in hydrological impacts	Negative
Air Quality	Dust emissions	Negative
Surface water	Deterioration of surface water from contaminated top soil run-off	Negative
Noise generation	Nuisance to surrounding landowners	Negative
	Disturbance of animals in surrounding game lodges	Negative
Soils	Physical disturbance of soils during land clearing	Negative
Socio Economic	Direct employment and skills development	Positive
Visual aspect	Visual Disturbance (vegetation clearance and temporary infrastructures including equipment on site)	Negative
Cultural/Heritage -historical resources	Potential impact on heritage and archaeological resources	Undetermined at this stage
Waste generation	Generation of solid waste (e.g. littering)	Negative
Traffic	Increase of traffic in the area as vehicles access the sites	Negative
OPERATIONAL PHASE		
Soils	Physical disturbance of soils during land clearing	Negative
Social	Disturbance of surrounding landowners and local businesses	Negative
	Direct employment and skills development	Positive
Water resource	Damage to groundwater and surface water resulting in hydrological impacts	Negative

Impacted Environment	Impact	Status of impact
Geology	Physical removal of rock material for logging and sampling purposes during mining	Negative
Noise generation	Nuisance to surrounding landowners and local businesses	Negative
	Disturbance of animals	Negative
Cultural-historical resources	Potential impact on heritage resources and archaeological resources	Undetermined at this stage
DECOMMISSIONING		
Air quality	Dust emissions	Negative
Soil	Soil degradation	Negative
Noise generation	Nuisance to surrounding landowners	Negative
	Disturbance of wild animals on surrounding farms	Negative
Traffic	Increase of traffic in the area as vehicles exit the site	Negative

12.3 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).

The mitigation measures have addressed in the Section 1 under Environmental Impact Assessment

12.4 Motivation where no alternative sites were considered.

The proposed mining permit application site, is targeted because of the historic data, current scientific data, of the chrome , occurrence. The geological literature also indicates that certain specific environment setting should occur for the bushveld igneous complex minerals to be deposited in an area, and geological desktop data support that the proposed site, had the required environmental setting for Chrome to be deposited, hence the application on this specific site only.

The proposed mining permit license area is therefore regarded as the preferred site and alternative site have not been considered.

12.5 Statement motivating the alternative development location within the overall site.

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

Each of the mining phases is dependant in the results of the preceding phase. The location and layout of mining will be determined based on information derived from the desktop and geophysical surveys (non-invasive activities). Proposed mining sites will be selected so as to avoid known heritage sites, water courses, dwellings and infrastructure where practicable

12.6 Full description of the process undertaken to identify, assess and rank the impacts and risks the activity will impose on the preferred site.

(In respect of the final site layout plan) through the life of the activity. (Including (i) a description of all environmental issues and risks that were identified during the environmental impact assessment process and (ii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures.)

In order to identify the potential impacts associated with the proposed mining activities the following steps were undertaken:

- The stakeholder consultation process is currently undertaken in a manner to be interactive, providing landowners and identified stakeholders with the opportunity to provide input into the project. This is a key focus, as the local residence has capabilities of providing site specific information, which may not be available in desktop research material. Stakeholders are requested to provide their views on the project and any potential concerns which they may have. All comments and concerns are captured and formulated into the impact assessment.
- A detailed desktop investigation was undertaken to determine the environmental setting in which the project is located. Based on the desktop investigations various resources were used to determine the significance and sensitivity of the various environmental parameters. The desktop investigation involved the use of:
  - Detailed mapping based on existing data sources applicable to the study area
  - Geographic Information System base maps;
  - Literature and existing data/reports for the study area
- A site visit was conducted on the 21st of June 2022. The site visit was to ensure that the information gathered as part of the Desktop investigation reflects the current status of the land.
- The ratings of the identified impacts were undertaken in a quantitative manner as provided in Impact Assessment Section. The ratings were undertaken in a manner to calculate the significance of each of the impacts. The EAP also assesses the outcomes of the calculation to determine whether the outcome reflects the perceived and the actual views.
- The identification of management measures are done based on the significance of the impacts and measures that have been considered appropriate and successful, specifically as Best Practical and Economical Options.

13 ASSESSMENT OF EACH IDENTIFIED POTENTIALLY SIGNIFICANT IMPACT AND RISK

(This section of the report must consider all the known typical impacts of each of the activities (including those that could or should have been identified by knowledgeable persons) and not only those that were raised by registered interested and affected parties).

Table 13: Impact Assessment

NAME OF ACTIVITY	POTENTIAL IMPACT	ASPECTS AFFECTED	SIGNIFICANCE If not mitigated	MITIGATION TYPE	SIGNIFICANCE if mitigated
Site Establishment and mining.	Disruption/alteration of ecological life cycles) due to noise, dust and lighting	Flora and fauna	Medium (-)	• Equipment with low noise emissions must be used. • A dust monitoring system should be implemented. • Reduce exterior lighting to that necessary for safe operation, and implement operational strategies to reduce spill light. • Keep noise levels down as per the local municipality or national standards.	Low (-)
Mining site	Loss of natural habitat/sensitivity	Flora and fauna	High (-)	• Clearings associated with mining should occur in as small a footprint as possible. • The surrounding natural area that is not part of the layout design may not be disturbed or damaged. • The site camps and laydown areas should be located in low sensitivity areas and should be demarcated. • mining should occur within disturbed areas or areas indicated as low sensitivity.	Low (-)

				• Mining should not take place within 30m of a watercourse/wetland. • Re-vegetation where required after clearance should commence immediately after mining • An environmental induction for all staff members must be mandatory.	
mining activity	Conflict amongst community members and landowners. (the proposed project is located in an area that some local work in the mines and some are in the tourism sector) so a difference in lifestyle maybe a challenge. Especially considering project location.	Community friction	Medium/high	• Community members in the tourism and nature conservation must be further engaged (preferably virtually), to address their concerns about mining and also highlight the importance • Social measures to mitigate conflict around the project must be explored, seeking to address all comments made by the community.	Low
mining operational activities	Staff and mining contractors poaching and hunting fauna	Fauna and flora	Medium (-)	• An environmental induction for all staff members must be mandatory. • No animals may be harmed or killed during the operation of this project. • Several staff members should complete a snake handling course in order to safely remove snakes from designated areas. Snakes should only	Low (-)

				be handled after inductions have taken place due to the risks of envenomation.	
Access roads, site establishment	Fauna mortality due to collisions with vehicles	Flora and fauna	Medium (-)	• An environmental induction for all staff members must be mandatory. • All vehicle speeds associated with the project should be monitored and should be limited to 40 km/h (maximum). • The ECO should monitor live animal observations in order to monitor trends in animal populations and thus implement proactive adaptable mitigation of vehicle movements. • The ECO should ensure that often used access roads are watered in order to reduce dust	Low (-)
mining	Fauna mortality due to vegetation and ground clearing	Fauna and flora	Medium (-)	• An environmental induction for all staff members must be mandatory. • Should holes or burrows be located at the mining sites, it is suggested to either avoid these areas, or if this is not possible, to contact a zoological specialist to investigate and possibly remove any species located within them. • Layout design should exclude natural areas, especially breeding habitat	Low (-)

Mining	Disruption/alteration of ecological life cycles) due to noise, dust and lighting	Flora and fauna	Medium (-)	• Equipment with low noise emissions must be used. • A dust monitoring system should be implemented. • Reduce exterior lighting to that necessary for safe operation, and implement operational strategies to reduce spill light. • Keep noise levels down as per the local municipality or national standards.	Low (-)
Mining	Alien Invasive species management	Fauna and Flora	Medium (-)	• An environmental induction for all staff members must be mandatory. • Alien vegetation control should take place during all phases of the proposed operation. • Disturbance of natural areas should be avoided and the spread of alien flora into natural areas should be controlled. • Continuous monitoring of the growth and spread of alien and invasive flora coupled with an adaptive management approach to identify suitable control mechanisms (e.g. mechanical, chemical or biological control). Mechanical control is preferred for this project. • Cleaning of vehicles and equipment before entering natural areas to remove large deposits of foreign soils and plant material sourced from elsewhere	Low (-)

Mining	Loss of wetland habitat	Aquatic and wetlands	High (-)	• mining activities undertaken within a watercourse or buffer area as determined by wetland specialist will result in application of a water use licence. Driving through wetland areas must be avoided when navigating towards mining locations. • All wetlands and associated 30 m buffer areas should be avoided • If not possible, the soil disturbance and clearance of vegetation at mining areas must be limited to the absolute minimum required.	Low (-)
	Hydrocarbon spillage	Aquatic and wetlands	High (-)	• Vehicles and equipment must be regularly serviced and maintained. • Refuelling of vehicles and equipment must be done with care to minimise the chance of spillages. • A spill kit must be available on each site where mining activities are in progress. • Any spillages must be cleaned up immediately to prevent further contamination	Low (-)
	Destruction of graveyards/graves	Heritage	Medium (-)	Avoid destroying or damaging any graves/graveyards during mining operations. All graves/graveyards must be protected *in situ*.	Low (-)

Socio-economic	Creation of temporary jobs	Economic	Positive		Positive
	Determining viability of economic resources	Socio-economic	Positive		Positive
	Investment and growth in the local economy	Socio-economic	Positive	mining contractors must use local companies to cater for their needs during the mining activities (i.e. supply of equipment).	
Mining and decommissioning	Disturbance of landowner's daily operations.	Socio-economic	Medium (-)	• Personnel are not permitted on other properties without permission. • No interference with daily farm operations. • Compensate the landowner where necessary	Low (-)
Mining	Surrounding neighbours	Socio-economic	Medium (-)	• Personnel are not permitted on other properties without permission. • Avoid conflict with surrounding landowners	Low (-)
Mining	Spillage of hydrocarbons and other chemicals	Groundwater	Medium/High	• Regular service of vehicles and machinery. • No storage or service of vehicles/machinery close to wetlands/watercourse. • Monitoring of groundwater during mining	Low (-)
Mining	Spillage of hydrocarbons and other chemicals..	Soil	Medium/High	• Contaminated soil must be rehabilitated immediately • The contractor must have spill kits, for soil remediation. • Prior to any work commence all vehicles should be checked for leaks, and vehicles needing to be fixed it should be done so, with drip trays underneath, to contain oil.	Low (-)

Mining	Spillage and runoff of fuel and hydrocarbons	Surface Water		• Extra care must be taken when re-fuelling to ensure that fuel doesn't over spill and reach the surface water bodies. • The contractor must have spill kits, to contain spillages. • All spillages must be cleaned - up immediately using appropriate measures and technology	Low (-)
Mining	Generated from vehicles movements and mining activities	Dust Pollution	Medium (-)	• The removal of vegetation will be minimized during stripping to reduce the effects of dust pollution. • Dust monitoring must be undertaken should dust emitted exceed the ambient dust levels.	Low (-)
Mining	Permanent removal of potential ore material and geological formations	Geology	High (-)	• Rehabilitate the mined area.	Medium (-)
Decommissioning	Loss of Temporary job	Socio-economic	High (-)	• Train temporary personnel above management skills that can be transferred to other available jobs	Medium (-)
	Rehabilitation of mined area	Flora and fauna	Medium/High	• Site must be rehabilitated as close as possible to its pre-mining conditions	Low (+)

a) Summary of specialist reports.

(This summary must be completed if any specialist reports informed the impact assessment and final site layout process and must be in the following tabular form):-

13.1 Environmental impact statement

13.1.1 Summary of the key findings of the environmental impact assessment

Mining comprises of both non-invasive and invasive activities. The impacts associated with mining are of medium to high in significance. The invasive impacts are associated with mining, incudes but not limited to; site preparations, mining, decommissioning and closure. To properly manage the negative impacts associated with mining, an experienced environmental officer must be employed on full time basis. Activities that results in negative impacts to the environment, such heavy vehicles moving on site generating dust, dust suppression must be managed by spraying of water or use of environmentally friendly chemicals. The mining activity result in negative environmental impact, to manage such impact, topsoil must be stored separately from subsoil in a way the stockpiles are not susceptible to soil erosion. The area where vehicles park the is possibility of hydrocarbons leaking, drip trays must be placed under the vehicles to trap the hydrocarbons, and vehicles on site must be serviced on regular basis. During mining if the resources of archaeological importance are intercepted the finding must be reported immediately to the South African Heritage Resources Agency (SAHRA), and the mining activities must stop immediately until gives written consent for mining to continue.

13.1.2 Final Site Map

Provide a map at an appropriate scale which superimposes the proposed overall activity and its associated structures and infrastructure on the environmental sensitivities of the preferred site indicating any areas that should be avoided, including buffers .Attach as Appendix 4

The exact location of mining areas have not been identified. The sensitive areas will be identified during the planning phase of the project and no activities will be undertaken at any sensitive area. A detailed map can be produced after the geophysical surveys has been undertaken, although the map will be subjected to changes depending on the results of the preliminary geophysical survey. Preliminary proposed mining areas have been identified by the geologist, however, the points are subject to changes depending on the desktop and geophysical studies planned.

13.1.3 Summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;

Positive and negative impacts associated with the proposed mining activities include:

- Destruction / loss of indigenous natural vegetation during site preparation;
- Impacts on plant species of concern during site preparation;

- Impacts on fauna;
- Establishment and spread of declared weeds and alien invader plants;
- Physical disturbance of soils during land clearing;
- Dust nuissance;
- Disturbance of the geological formation due to removal of rock material;
- Direct employment and skills development;
- Impact on groundwater system during invasive phase of the proposed development;
- Impact on surface water;
- Visual Disturbance ;
- Physical disturbance of soils during land clearing;
- Disturbance of surrounding landowners activities and/or livelihoods;
- Direct employment and skills development; and
- Potential impacts on heritage resources and archaeological resources

The proposed activities have low significance since these are short term activities, however socio-economic impacts such as employment has a medium significance. The probability of occurrence of an impact was determined and most of these activities can be controlled and impacts can be reduced or avoided. Generally mining activities have medium to high impact on the environment. The planned activities negative impacts can be controlled and avoided or minimized therefore the layout does not require revision. Mitigation measures will be utilized to control, avoid and/or minimize all identified potential impacts.

14 PROPOSED IMPACT MANAGEMENT OBJECTIVES AND THE IMPACT MANAGEMENT OUTCOMES FOR INCLUSION IN THE EMPR

Based on the assessment and where applicable the recommendations from specialist reports, the recording of proposed impact management objectives, and the impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorization.

Impact management objectives are described in terms of the Mitigation Hierarchy of the Davhana Geotech Impact Assessment Standard. The mitigation hierarchy is as follows:

- **Avoid at Source:** Reduce at Source: avoiding or reducing at source through the design of the Project (e.g., avoiding by placing or re-routing activity away from sensitive areas or reducing by restricting the working area or changing the time of the activity).
- **Abate on Site:** add something to the design to abate the impact (e.g., pollution control equipment, installation of noise silencers, operate in daylight hours).
- **Abate at Receptor:** if an impact cannot be abated on-site then control measures can be implemented off-site (e.g., noise barriers to reduce noise impact at a nearby residence or fencing to prevent animals straying onto the site).

- **Repair or Remedy:** some impacts involve unavoidable damage to a resource (e.g. agricultural land due to creating access, work camps or materials storage areas) and these impacts can be addressed through repair, restoration or reinstatement measures.
- **Compensate in Kind; Compensate Through Other Means:** where other mitigation approaches are not possible or fully effective, then compensation for loss, damage and disturbance might be appropriate (e.g., planting to replace damaged vegetation, financial compensation for damaged crops or providing community facilities for loss of resources, recreation and amenity space)

The EMPr will seek to achieve a required end state and describe how activities could have an adverse impact on the environment will be mitigated, controlled and monitored. The EMPr will address the environmental impacts during the Site establishment, Operational, and Decommissioning Phases of the proposed project. Due regard will be given to environmental protection during the entire project. A number of environmental recommendations will therefore be made to achieve environmental protection. The environmental and social objectives will be set to allow mining in an environmental and socially responsible manner while ensuring that sustainable closure can be achieved. To achieve closure, the correct decisions need to be taken during the planning phase of the project.

The overall goal for environmental management for the proposed is to construct and operate the project in a manner that:

- Minimizes the ecological footprint of the project on the local environment;
- Facilitates harmonious co-existence between the project and other land uses in the area;
- Contributes to the environmental baseline and understanding of environmental impacts of mining activities in a South African context.

The following environmental management objectives are recommended for the proposed mineral mining development and associated infrastructure:

- Monitor soils so as to avoid unnecessary erosion, and implement erosion control measures to preserve the quality of the soil for rehabilitation;
- Development planning must restrict the area of impact to minimum and designated areas only;
- Monitor and prevent contamination, and undertake appropriate remedial actions;
- Limit the visual and noise impact on receptors;
- Avoid impact on possible heritage and archaeological resources;
- Promote health and safety of workers; and
- Limit dust and other emissions to within allowable limits.

15 ASPECTS FOR INCLUSION AS CONDITIONS OF AUTHORISATION.

Any aspects which must be made conditions of the Environmental Authorisation

Bay Tower Properties 19 cc should comply with all Environmental legislations. Specific environmental legislation to be adhered to include; National Environmental Management Act, Act 107 of 1998 (NEMA) as amended in 2017 and Minerals and Petroleum Resources Development Act, Act 28 of 2002 (MPRDA)

- Notice must be given to landowners and surrounding landowners 1 month prior to any mining activities;
- Landowners and land occupiers should be engaged (re-consulted) at least 1 month prior to any site activities being undertaken once mining sites are known;
- A map detailing the mining locations should be provided to the landowners as well as the DMRE prior to commencement of mining activities;
- A record must be kept of the implementation of the EMPr measures and monitoring of the efficiency of the implemented measures;
- A buffer of 32m from wetlands and 100m from streams should be established during the site establishment and operational phase;
- Measures and recommendations suggested by specialist should be followed;
- An Environmental Control Officer should be appointed to do regular monitoring as suggested in the EMPr;
- All graves/graveyards should be protected in situ and a 30m buffer area should be applied where no mining activities may take place or take necessary steps to apply for the relocation of those graves.
- All wetlands and watercourses should be protected in situ and a 30m buffer area should be applied where no mining activities may take place;

  The combined sensitivity map should be followed where no activity may take place within high sensitive areas; and
- Rehabilitation of mining area should take place immediately after work has ceased and should be done in a responsible manner.

16 DESCRIPTION OF ANY ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE.

(Which relate to the assessment and mitigation measures proposed)

- The EAP does not accept any responsibility in an event that additional information comes to light at a later stage of the process
- All information provided by the EAP was correct at the time it was provided
- The data from unpublished researches is valid and accurate
- The scope of this investigation is limited to accessing the potential environmental impacts associated with the proposed project;

- The public participation process has sought to involve key stakeholders and individual landowners. It is assumed that where participation has been sought from the organizational representative/s, that these parties have the authority to comment on behalf of their organisations;
- Third party information provided by the applicant is correct at the time of writing this report;
- Mining activities will take place in Phases and each phase is determined and dependent on the previous phase. Accordingly, the final mining locations will only be determined later.

17 REASONED OPINION AS TO WHETHER THE PROPOSED ACTIVITY SHOULD OR SHOULD NOT BE AUTHORISED

17.1 Reasons why the activity should be authorized or not.

- Without implementation of mining activities, potential income will be lost
- People from the surrounding areas will not realize the full potential of their area economically and no jobs will be created without authorizing the mining activities.

It is opinion of the EAP that the proposed activity be authorized, on the assumption that the environmental and social management commitments included in this BA/EMPr are adhered to, the project description remains as per the description provided in this document and considering the positive social impacts associated with the project. It should also be ensured that proper rehabilitation is provided for and that risks are controlled by having emergency plans in place.

17.2 Conditions that must be included in the authorization

Based on the site investigations and analysis of the EAP it is suggested that the proposed activity should be authorized due to the following:

- Monitoring of the required mitigation measures is to take place on site daily by the site Geologist, Annual monitoring audits are to take place by an appointed independent Environmental Assessment Practitioner (EAP) to compile the required annual environmental compliance report required by the DMR;
- The environmental impacts associated with the limited mining activities are kept at minimal provided that the proposed mitigation measures are implemented;
- The option of not approving the activities will result in a significant loss to valuable information regarding the status of the alluvial diamonds present on these properties;
- In addition to this, should economically viable diamonds be present and the applicant does not have the opportunity to prospect, the opportunity to utilize these reserves for future phases will be lost as well;

- With appropriate care and consideration, the impacts resulting from mining can be suitably minimized or mitigated;
- It has also been noted that mining sector is the pillar of South African economy and also provides employment opportunities for many; and

18 PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED.

The Mining permit is applied for a period of two years. The Environmental Authorisation should therefore allow for the two years of mining and one year for decommissioning and rehabilitation.

19 UNDERTAKING

Confirm that the undertaking required to meet the requirements of this section is provided at the end of the EMPr and is applicable to both the Basic assessment report and the Environmental Management Programme report.

The EAP undertakes that the information provided is correct, and that the comments and inputs from stakeholders and Interested and Affected parties have been correctly recorded in the report.

20 FINANCIAL PROVISION

State the amount that is required to both manage and rehabilitate the environment in respect of rehabilitation.

In terms of the decommissioning rehabilitation (Rehabilitation quantum) the amount to be provided by bank guarantee or cash deposit is **R130 029,65**.

20.1 Explain how the aforesaid amount was derived.

CALCULATION OF THE QUANTUM

Applicant:	Bay Tower Properties (PTY) LTD			Ref No.:		NW 30/5/1/3/3/2/1/ (11065) EM
EAPs:	Davhana Geotech Solutions (PTY) LTD			Date:		Mar-23
No.	Description	Unit	A Quantity	B Master Rate	C Multiplication factor	D Weighting factor 1	E=A*B*C*D Amount (Rands)
1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	14,45	1	1	0
2 (A)	Demolition of steel buildings and structures	m2	25	201,35	1	1	5033,75
2(B)	Demolition of reinforced concrete buildings and structures	m2	0	296,72	1	1	0
3	Rehabilitation of access roads	m2	200	36,03	1	1	7206
4 (A)	Demolition and rehabilitation of electrified railway lines	m	0	349,71	1	1	0
4 (A)	Demolition and rehabilitation of non-electrified railway lines	m	0	190,75	0,52	2	0
5	Demolition of housing and/or administration facilities	m2	0	402,7	1	1	0
6	Opencast rehabilitation including final voids and ramps	ha	2	204951,85	1	1	409903,7
7	Sealing of shafts adits and inclines	m3	0	108,09	1	1	0
8 (A)	Rehabilitation of overburden and spoils	ha	1	140732,19	1	1	140732,19
8 (B)	Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	ha	0	175279,4	1	1	0
8 (C)	Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	ha	0	509094,45	1	1	0
9	Rehabilitation of subsided areas	ha	0	117842,01	1	1	0
10	General surface rehabilitation	ha	1	111483,63	1	1	111483,63
11	River diversions	ha	0	111483,63	1	1	0
12	Fencing	m	2000	127,17	1	1	254340
13	Water management	ha	0	42389,21	1	1	0
14	2 to 3 years of maintenance and aftercare	ha	0	14836,22	1	1	0
15 (A)	Specialist study	Sum	0	65000	1	1	0
15 (B)	Specialist study	Sum	0	0	1	1	0
					Sub Total 1		928699,27
1	Preliminary and General		111443,9124		weighting factor 2 1		111443,9124
2	Contingencies			92869,927			92869,927
					Subtotal 2		1133013,11
					VAT (15%)		169951,97
					Grand Total		1302965

Figure 12: Bay Tower Properties 19 cc quantum calculations.

20.2 Confirm that this amount can be provided for from operating expenditure.

(Confirm that the amount, is anticipated to be an operating cost and is provided for as such in the Mining work programme, Financial and Technical Competence Report or Prospecting Work Programme as the case may be).

The Applicant has direct access to sufficient financial resources required as per the budget to enable it to conduct the proposed mining activities. The applicant has provided proof of financial ability during the application phase on the DMRE SAMRAD system.

21 SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

21.1 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:-

21.1.1 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 an Appendix.

The proposed project will assist in the alleviation of illegal mining activities happening within the area and on the farm specifically. The people in the surrounding community will have job opportunities during the mining phase of the project. This project should be used as an educational vehicle to other people involved in the illegal mining activities, that they can formalize themselves and apply for mining permits and be authorized legally. Provincial government as the farm owner must take more responsibility in taking care of the land and ensure the land is utilized legally and appropriately.

21.1.2 **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).

Mitigation measures proposed in this report include that mining area will not be located within 20 m of any identified heritage site (which may occur during the mining or preparation to mining) based on the desktop work undertaken. Should any paleontological or cultural artefacts be discovered work at the point of discovery must stop, the location be clearly demarcated and SAHRA contacted immediately. Work at the discovery site may only be recommenced on instruction from SAHRA.

21.1.3 **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)**.

This Final BAR and EMPr has been compiled in accordance with the NEMA (1998), EIA Regulations (2014, amended April 2017) and MPRDA (2002). The EAP managing the application confirms that this BAR and EMPr is being submitted for Environmental Authorisation in terms of the National Environmental Management Act, 1998 in respect of listed activities that have been triggered by application in terms of the Mineral and Petroleum Resources Development Act, 2002 (MPRDA) (as amended). Should the DMRE require any additional information, this will be provided upon request. No reasonable or feasible alternatives exist for this mining permit Application and as such, motivation for no alternatives has been provided in the relevant sections above**.**

PART B
ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT

1 DETAILS OF THE EAP

(Confirm that the requirement for the provision of the details and expertise of the EAP are already included in PART A, section 1(a) herein as required).

The details of the EAP are provided in section 1.1 of part A of this document.

2 DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

(Confirm that the requirement to describe the aspects of the activity that are covered by the final environmental management programme is already included in PART A, section (1) (h) herein as required).

The requirement to describe the aspects of the activity that are covered by the final environmental management programme is already included in PART A.

3 COMPOSITE MAP

(Provide a map **(Attached as an Appendix**) at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that any areas that should be avoided, including buffers)

There is no composite map given the phased activities required to determine the location of the mining site. Once the mining site have been determined and the temporary infrastructure location has been determined can a composite map be created. The location of the mining sites as well as the infrastructure may not be located in sensitive areas or within their respective boundaries. Refer to Appendix 2 and Appendix 3 for maps created.

4 DESCRIPTION OF IMPACT MANAGEMENT OBJECTIVES INCLUDING MANAGEMENT STATEMENTS

4.1Determination of closure objectives.

(Ensure that the closure objectives are informed by the type of environment described)

- Rehabilitation of areas disturbed as a consequence of mining to a land capability that will support and sustain a predetermined post-closure land uses;
- Removal of all infrastructure/equipment that cannot be beneficially re-used, as per agreements established, and returning the associated disturbed land to the planned final land use;
- Removal of existing contaminated material from affected areas;
- Establishment of final landforms that are stable and safe in the long run;

  Establishment and implementation of measures that meet specific closure related performance objectives

Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated, and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option.

4.2 Volumes and rate of water use required for the operation.

Volumes of water required to operate the mine, optimally is calculated to be around +/- 5 000 cubic metres a day. The mine will depend on two water sources for the operations, namely; groundwater and Moses Kotane Local Municipality, However groundwater will be the primary source. The Municipal water will be required for potable water.

4.3 Has a water use license has been applied for?

Water Use Licence has not been applied for at this stage of the project.

5 IMPACTS TO BE MITIGATED IN THEIR RESPECTIVE PHASES

Measures to rehabilitate the environment affected by the undertaking of any listed activity.

Table 14: Impacts to be mitigated

POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION	MITIGATION TYPE	STANDARD TO BE ACHIEVED
SITE ESTABLISHMENT PHASE						
Site Establishment- access roads, to mining sites, establishment of the campsite, physical surveying of the site						
Loss of top soils and soil erosion	Soils, Land Use and Land Capability	Topsoil must be stored separately from subsoil and all soils must be stored in a way that there will be no erosion, also be less susceptible to being washed away.	Rehabilitation in terms of MPRDA and NEMA principles. Applicable guidelines from NEM:BA and Department of Agriculture, Forestry and Fisheries (DAFF) and Conservation of Agricultural Resources Act (CARA) regarding removal of species General implementation of activities taking Mining and Biodiversity Guidelines into account	During Establishment Phase	Control	Return as close as possible to pre-mining environment

Loss of natural vegetation in the affected areas.	Flora.	Site clearance will be limited to only areas where invasive mining activities will be undertaken Ensure minimal disturbance of vegetation when conducting geophysical surveys and geological mapping. No vegetation clearance or tree removal should take place prior to a suitable qualified specialist have identified the species and the necessary permits and licenses have been obtained for removal of protected or endangered species.	Rehabilitation in terms of MPRDA and NEMA principles. Permits to (DAFF) and CARA for removal of species in terms of NEM:BA General implementation of activities taking Mining and Biodiversity Guidelines into account	During Establishment phase	Control through visual monitoring and inspection	Adhere to rehabilitation standards and Biodiversity Guidelines
Migration of animal life due to disturbance caused proposed project	Fauna	Use sites with most degraded environment for the site development. Trapping and killing of fauna is prohibited at the mining area. mining activities must be done within working hours to ensure community around the farm are less impacted by noise and dust.	General implementation of activities taking Biodiversity Act and its guidelines into account.	During Establishment phase	Control through visual monitoring and inspection	Minimize impact on fauna
Deterioration of water quality in	Surface and Ground Water.	Only well maintained equipment may be used on site, to ensure less	Water management measures in compliance	During Establishment Phase	Avoid	Minimize the impacts on sensitive

the nearby Water courses and within the groundwater regime.		contamination of water bodies by hydrocarbons and oils as a result of spillages. The mine area must be rehabilitated after mining.	with NWA, 1998 and DWS guidelines			areas such as wetlands and streams.
Air pollution through emissions from the vehicles and equipment used on the mining area.	Air quality.	Dust suppression will be conducted in areas with excessive dust emissions. Traffic will be restricted to demarcated areas. Traffic volumes and speeds within the mining area will be regulated	National Environmental Management Air Quality Act.	Throughout Site establishment Phase	Minimize impact	The dust emissions are not to exceed the ambient air quality standards for rural areas
Increased noise levels.	Noise aspects	Limit the maximum speed to 30 km/h or less, subject to risk assessment. Less noisy equipment will be used, the equipment will be kept in good working order and the equipment will be fitted with correct and appropriate noise abatement measures.	National Noise Control Regulations, SANS10103:2008 guidelines.	Throughout the Site Establishment phase	Minimize impacts	The noise levels from the mining area will be managed and levels will be within the regulated noise levels as set by the regulations
Visual impacts on the surrounding communities, from the site establishment.	Visual aspects. Neighboring occupants	Lighting will be conducted in a way that will decrease the impacts on visual aspects at night times.	Measures will be undertaken to ensure that the visual aspects from the site comply with the relevant visual standards	Throughout the duration of the Site establishment phase	Minimize impact	Ensure that all operations during the site establishment phase do not result in detrimental visual impacts

			and objectives including Municipal By Laws.			on surrounding properties, communities and road
Impact from the influx of job seekers and employment of farm laborers.	Socio-Economic Aspect	Recruitment will not be undertaken on site. Farm laborers will not employed unless agreed to with the farm owners. Ensure that all laborers are trained and adhere to all health and safety standards	Measures taken will be in line with the company's recruitment policies. Occupational Health and Safety Act	Throughout Site establishment Phase	Control	Comply with all national health and safety standards as well as adhere to the company's recruitment policies.
Excessive Waste generation	Soil and Visual impacts	Minimize littering on site and ensure that all laborers are trained in environmental awareness. Bins (sufficient number and capacity) to store general and hazardous produced on a daily basis shall be provided at each mining area. The waste bins must be sealed to avoid, leakage of leachate material and must be waterproof so that rain water cannot enter into them. Bins shall be emptied on a weekly basis or if there is a nauseous smell	Waste Management Act	Throughout the site establishment phase	Avoid	Avoid the excessive generation of general waste during this phase

		coming from them or vectors are breading within them, at a registered landfill site An integrated waste management approach shall be used, based on the principles of waste minimization, reduction, re-use and recycling of materials.				
POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION	MITIGATION TYPE	STANDARD TO BE ACHIEVED
OPERATIONAL PHASE						
Mining						
Soils contamination, disruption of the Soil profile Disturbance of ecological systems through destruction of natural vegetation. Disturbance to current land use	Soils, Land Use, Land Capability and natural vegetation	Ensure that the land owners' borehole yield is observed during the mining operation. Should it be proven that the operation is indeed affecting the quantity and quality of groundwater available to users and surrounding water resources, the affected parties must be compensated	Rehabilitation in terms of MPRDA and NEMA principles. Operational control procedures (e.g. spill / leak handling). Incident Reporting System; Environmental Inspections; Planned Maintenance System; water quantity (abstraction) monitoring; continued communication with surroundin	Throughout operational phase	Control	Return as close as possible to pre-mining environment

			g landowners.			
Establishment of the site and mining area may result in contamination of surface water run-off by hydrocarbon fluids and sedimentation	Surface and water	All the machinery on site must inspected on twice a day (before and after use). All vehicles that needs to be fixed, it must be done off site. A designated person within the team must be tasked to ensure health and safety, also responsible for refuelling of vehicles, he/she must ensure there are no spillages on site.	Water management measures in compliance with NWA (National Water Act) 1998 and GN 704, 1999.	Throughout operational phase	Minimize	Maintain groundwater quality
Air pollution caused by vehicle emissions and mining activities	Air Quality	Dust suppression should be practiced during the operational phase. mining machinery should be regularly maintained in order to minimize greenhouse gas emission	National Environmental Management Air Quality Act	Throughout the operational phase	Control and minimize	Maintain air quality
Water courses -- destruction and loss of aquatic habitat	Aquatic and terrestrial components	A buffer of 32m from wetlands and 100m from watercourses should be maintained during the all mining activities. Remove or eradicate all alien invasive	National Environmental Management Act National Environmental Management Waste t Act	Throughout the operational phase	Avoid	Protect aquatic and terrestrial ecosystems in as far as possible.

		vegetation growing on stockpiles or in any area of the mining area footprint.	National Water Act (NWA) National Environmental Management: Biodiversity Act (NEMBA)			
Noise impacts	Fauna and Adjacent landowners/ occupants	Provide employees with ear plugs Use equipment that produces minimal noise as far as possible Avoid working outside normal working hours (i.e. 08:00 to 17:00) and during weekends All machinery and equipment must be maintained in good working order, and fitted with approved and specified muffler systems. Compliance with local by-laws and regulations regarding the noise and hours of operation	National Noise Control Regulations SANS 10103:2008	Throughout the operational phase	Minimize	Minimal noise
Visual impacts	Neighbouring occupants	Visual screening methods could be used on site to reduce visual impacts. Lighting will be conducted in a manner that will reduce the visual impact at night times.	National Road Traffic Act	Throughout the operational phase	Control	Minimize visual impacts
Impacts on	Heritage features on-site	If item(s) of historical importance/archa	South African Heritage	Throughout the	Stop and avoid	Protect heritage features

heritage features		eological resource is intercepted during mining, all mining activities must stop immediately, and SAHRA must be contacted and an archaeologist must be brought on site to make assessment on such item(s), and seek recommendations from SAHRA on the process of its removal and the removal must be monitored by an archaeologist and he/she can give a directive if mining can continue or not.	Resources Agency and Northern Cape Heritage Resources Authority.	operational phase		
Health and safety impacts	Socio economic aspects Employees and land occupants	Neighbouring occupants should be warned about any disruptions prior the commencement of the activity Ensure that health and safety measures are put in place to protect employees and Neighbouring occupants Provide employees with personal protective Equipment (PPE)	Occupational Health and Safety Act	Throughout the operational phase	Avoid	Avoid health risks and injury incidents
Traffic impacts	Traffic movement	mining vehicles must be restricted to the site and must adhere to designated speed limit at all times.	National Traffic Act	Throughout the operational phase	Avoid	Avoid traffic congestion

Introduction of weeds and alien invasive plants	Flora	All sites disturbed by mining activities must be monitored for exotic or invasive plant species and weeds. Site clearance will encourage the introduction of alien invasive plant species; Bay Tower Contractor should train the laborers on the removal and disposal of alien vegetation (mechanical and chemical). Chemical (herbicides) or mechanical removal may be used. If chemical methods are used the method of use is to be undertaken in accordance with manufacturer's specification for the weeds and this method and management is to be approved by the ECO Any eradicated exotic/invasive plant or weed vegetation must be removed from site and disposed of at an approved waste disposal facility or an alternative eradication method approved by the competent authority	NEM:BA CARA	Throughout the operational phase	Control and avoid	Control in order to avoid alien plants invasion

Soil erosion	Soil	Erosion protection measures are to be undertaken. Daily erosion protection monitoring is to take place at the mining area prior to commencement of the daily works. If any erosion is identified it is to be remediated prior to the commencement of works. Daily erosion checks are to be undertaken on the sump area. If cracks or erosion is identified the side walls are to be battered back to ensure a safe environment for all. Drainage channels must be kept free draining at all times. No pooling of water will be allowed, drainage diversions must be provided to prevent scour of the site, and this is also to direct water away from the impacted area to prevent erosion.	Rehabilitation in terms of MPRDA and NEMA principles. General implementation of activities taking National Environmental Management Biodiversity Act and its guidelines into account	Throughout the operational phase	Control and Remedy	Ensure that soil erosion is minimized
Waste generation	Soil and Visual impacts	Minimize littering on site and ensure that all laborers are trained in environmental awareness. Bins (sufficient number and	National Environmental Management: Waste Management Act	Throughout the operational phase	Avoid	Avoid the excessive generation of general waste during

		capacity) to store general and hazardous produced on a daily basis shall be provided at the mining area. The bins are to be vandal proof; sealed bins that cannot leak leachate material and waterproof that rain water cannot enter into them. Bins shall be emptied on a weekly basis or if there is a nauseous smell coming from them or vectors are breading within them. An integrated waste management approach shall be used, based on the principles of waste minimization, reduction, re-use and recycling of materials.				this phase
POTENTIAL IMPACT	ASPECTS AFFECTED	MITIGATION MEASURES	COMPLIANCE WITH STANDARDS	TIME PERIOD FOR IMPLEMENTATION	MITIGATION TYPE	STANDARD TO BE ACHIEVED
DECOMMISSIONING PHASE						
Removal of temporary infrastructure and final rehabilitation of disturbed areas						
Compaction and contamination of soils within the rehabilitation site.	Soil	All vehicles and machinery used at the rehabilitation site must be kept in good working order. No repairs of vehicles or machinery will be conducted at the	Rehabilitation in terms of MPRDA and NEMA principles. General implementation of activities taking	Throughout the Decommissioning Phase	Avoid	Rehabilitation of mining voids shall be undertaken in line with closure objective

		rehabilitation site unless it is emergency repairs, which will be conducted on protected ground. Movement of vehicles and machinery should be limited to demarcated routes, which will be rehabilitated when no longer in use	Biodiversity Act and its guidelines into account.			s and in consultation with landowners.
Re-instatement of soil productivity, land capability, land use and topographical patterns.	Soil	Ensure that the soil in the vicinity of the rehabilitation site is not detrimentally impacted. All the waste from demolition must collected from site for disposal. Once the area is shaped correctly the compacted areas are to be ripped at 300mm and topsoil is to be replaced. Areas that have not had topsoil striped are to be monitored for alien plant growth and vegetation recovery. If after a year the vegetation has not recovered the area is to be hand seeded with a Highveld indigenous grass	Rehabilitation in terms of MPRDA and NEMA principles General implementation of activities taking Biodiversity Act and its guidelines into account.	Throughout the Decommissioning Phase	Avoid	Rehabilitation of mining area shall be undertaken in line with closure objectives and in consultation with landowners.
Pollution of surface	Surface water	Ensure that the rehabilitation of the site does not have detrimental	The surface water leaving the rehabilitati	Throughout the Decommissioning Phase	Avoid	Rehabilitation of mining area shall

water environment		impacts on the surface water environment.	on site will comply with the Department of Water and Sanitation target of water quality parameters.			be undertaken in line with closure objectives and in consultation with landowners.
Potential injuries to fauna and residents due to Geological instability.	Geology and social	Ensure that all mine voids have been refilled with rocks and or cement to avoid potential injuries to fauna and residents.	Rehabilitation in terms of MPRDA and NEMA principles Occupational Health and safety Act	Decommissioning Phase	Avoid	Rehabilitation of mine voids shall be undertaken in line with closure objective
Air pollution from rehabilitation site.	Air Quality	Where necessary, wet suppression will be conducted at areas with excessive dust emissions. Vehicles and machinery will be well maintained. The traffic volumes and speed within the rehabilitation site will be controlled	National Environmental Management Air Quality Act	Throughout the Decommissioning Phase	Avoid	Rehabilitation of mining voids shall be undertaken in line with closure objectives and in consultation with landowners.
Migration of animal life due to disturbance caused proposed project	Fauna	Use sites with most degraded environment for the site development. Trapping and killing of fauna will be prohibited at the mining site.	General implementation of activities taking Biodiversity Act and its guidelines into account.	During mining phase	Control through visual monitoring and inspection	Minimize impact on fauna
Generated noise from the	Noise	Smaller or less disruptive equipment should, where possible, be	National Noise Control	Throughout the Decommissioning Phase	Avoid	Rehabilitation of mining voids

rehabilitation site		used when working near receptors. Equipment will be well maintained and fitted with the correct and appropriate noise abatement measures.	Regulations, SANS10103:2008 guidelines.			shall be undertaken in line with closure objectives and in consultation with landowners. Ensure that the rehabilitation activities do not have detrimental impacts on people.

FINANCIAL PROVISION

5.1Determination of the amount of Financial Provision.

A total of R 103 029,65. is required to both manage and rehabilitated the environment in respect of rehabilitation. Bay Tower Properties 19 cc must update and review the quantum of the financial provision annually.

5.2Describe the closure objectives and the extent to which they have been aligned to the baseline environment described under the Regulation.

For a mining operation such scale, the primary closure and environmental objectives are to:

- Minimize the area to be disturbed and to ensure that the areas disturbed during the mining activities are rehabilitated and stable, as per the commitments made in this EMP;
- The land used for mining must be repurposed after mining activities to ensure illegal mining is stopped; and
- To record and communicate the results of the monitoring programme during decommissioning to the participating stakeholders.

The closure objectives for mining internationally and in South Africa focuses on the restoration of previous land use capabilities, the zero-net loss of biodiversity, and the satisfaction of community requirements.

Rehabilitation measures have been designed to meet closure objectives:
The objectives of rehabilitation and closure are:

- To ensure closure complies with the Mineral and Petroleum Resources Development Act 28 of 2002;
- To ensure that the mining footprints are rehabilitated to an acceptable standard, where there is ecosystem functioning and that all environmental and social risks have been reduced and do not pose any threat to the environment post mine-closure;
- To ensure that the goals which were specified in the rehabilitation plan have been met and that the land may have a sustainable use;
- To implement management strategies that will ensure that the negative impacts (risks) associated with the Borrow pit is eliminated or minimized to acceptable standards;
- To leave the area in a manner that is environmentally safe and does not pose any health risks to the Neighboring communities.

6 CONFIRM SPECIFICALLY THAT THE ENVIRONMENTAL OBJECTIVES IN RELATION TO CLOSURE HAVE BEEN CONSULTED WITH LANDOWNER AND INTERESTED AND AFFECTED PARTIES.

The land owner is the provincial government and the institution is in position of the draft basic assessment report, however they have not engaged with the EAP. The community is not involved and wishes not to be involved with the project due to circumstances that prevails in the area. The main concern for them was that the area/farm is monopolized by illegal mining and elements of criminality was highlighted for those that participate.

7 PROVIDE A REHABILITATION PLAN THAT DESCRIBES AND SHOWS THE SCALE AND AERIAL EXTENT OF THE MAIN MINING ACTIVITIES, INCLUDING THE ANTICIPATED MINING AREA AT THE TIME OF CLOSURE.

Table 15: Rehabilitation Plan

Aspect/ Impact	Rehabilitation Measure	Monitoring Frequency & Responsibility
Removal of mining infrastructure structures	• Clear and completely remove from site all storage containers, signage, temporary services, fixtures and any other temporary works; and • Ensure that all access roads utilized during site establishment (which are not earmarked for closure and rehabilitation) are returned (as far as possible) to their state prior to site establishment.	Once-off; Bay Tower Properties
Vegetation clearing/Replanting	• Remove any emerging alien and invasive vegetation to prevent further establishment; • All planting work is to be undertaken by suitably qualified personnel making use of the appropriate equipment; • Transplant during the winter (between April and September); and • Plant indigenous plants to minimize the spread of alien and invasive vegetation.	When re-vegetation is done and in blooming season; Bay Tower Properties or sub-contractor appointed
Topsoil replacement	• Replace and redistribute stockpiled topsoil together with herbaceous vegetation, overlying grass and other fine organic matter in all disturbed areas of the mining site, including temporary access routes and roads. Replace topsoil to the original depth.	Once-off; Bay Tower Properties.

Aspect/ Impact	Rehabilitation Measure	Monitoring Frequency & Responsibility
	• Prohibiting the use of topsoil suspected to be contaminated with the seed of alien vegetation. Alternatively, the soil is to be sprayed with specified herbicides. • Where local soil has poor drainage, broken rock (Approx. 75 mm in diameter) must be placed to a depth of 150mm at the bottom of the planting hole prior to planting and backfilling with approved plant medium mixture.	
Waste and Rubble Removal	• Remove from site all domestic waste and dispose of in the approved manner at a registered waste disposal site.	Once-Off; Bay Tower Properties
Solid and Hazardous Waste	• Dispose of all hazardous waste not earmarked for reuse, recycling or resale at a registered hazardous waste disposal site. • Remove from site all temporary fuel stores, hazardous substance stores, hazardous waste stores and pollution control sumps. Dispose of hazardous waste in the approved manner. • Do not hose oil or fuel spills into a storm water drain or sewer, or into the surrounding natural environment. • Dispose of all visible remains of excess cement and concrete after the completion of tasks. Dispose of in the approved manner	Once-off; Bay Tower Properties
Erosion protection	• Protect all areas susceptible to erosion and ensure that there is no undue soil erosion resultant from activities within and adjacent to the mining area. • Retain shrubbery and grass species wherever possible. • Perform regular monitoring and maintenance of erosion control measures.	After rainfall events; Bay Tower Properties. or sub-contractor appointed

7.1 Explain why it can be confirmed that the rehabilitation plan is compatible with the closure objectives.

Bay Tower Properties 19 is required to make the prescribed financial provision for the rehabilitation or management of negative environmental impacts. If the Bay Tower Properties fails to rehabilitate or manage any negative impact on the environment, the DMRE may, upon written notice to the company, use all or part of the financial provision to rehabilitate or manage

the negative environmental impact in question. Bay Tower Properties will specify that the appointed contractor is required to comply with all the environmental measures specified in the EMP. This will include avoiding unnecessary disturbance of natural vegetation and the rehabilitation of mining voids, immediately after mining has been completed. All tracks to the mining sites must be rehabilitated at the end of the mining activities. The financial provision provides for the final checking of all sites before site clearance

7.2Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline.

The rehabilitation is calculated using the department quantum calculations to be R130 029,65. The quantum money will be made available to the department as and when requested.

7.3Confirm that the financial provision will be provided as determined.

The budget for rehabilitation will be deposited to the DMRE appropriate account within 30 days of the request by the department.

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8 MECHANISMS FOR MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT AGAINST THE ENVIRONMENTAL MANAGEMENT PROGRAMME AND REPORTING THEREON, INCLUDING

a) Monitoring of Impact Management Actions

b) Monitoring and reporting frequency

c) Responsible persons

d) Time period for implementing impact management actions

e) Mechanism for monitoring compliance

Table 16: Mechanisms for monitoring compliance

SOURCE ACTIVITY MONITORING AND REPORTING	IMPACTS REQUIRING MONITORING PROGRAMMES	FUNCTIONAL REQUIREMENTS FOR MONITORING	ROLES AND RESPONSIBILITIES	FREQUENCY AND TIME PERIODS FOR IMPLEMENTING IMPACT MANAGEMENT ACTIONS
Site Establishment /construction.	• Dust • Noise • removal of vegetation • disruption of animal life • habitat destruction • loss of geology • change in topography	• Daily dust suppression • Monthly dust bucket monitoring	Geologist and Project Manager	Daily and monthly

Traffic management	• Dust • noise • animal life disruption • Traffic Congestion	• Monitor dust fallout levels monthly and • Noise level • Monitor the time frames in which heavy vehicles travel on main roads and national roads.	Geologist and Project Manager	Monthly and when necessary
Ablution Facility	• Land contamination • Water contamination • health hazard	• service the toilet facility monitor water quality	Geologist and Project Manager	When necessary and monthly
Existing/Access routes	• dust • animal life disruption • Monitor dust.	• Monitor dust fall out levels • Monitor speed on the road	Geologist and Project Manager	Monthly and when necessary

9 INDICATE THE FREQUENCY OF THE SUBMISSION OF THE PERFORMANCE ASSESSMENT/ ENVIRONMENTAL AUDIT REPORT.

Regular monitoring of all the environmental management procedures and mitigation measures shall be carried out by Bay Tower Properties in order to ensure that the provisions of this EMPr are adhered to. Formal monitoring and performance assessment of the EMP will be undertaken on an annual basis.

10 ENVIRONMENTAL AWARENESS PLAN

10.1 Manner in which the applicant intends to inform his or her employees of any environmental risk which may result from their work.

The following Environmental Awareness Training that will be implemented by Bay Tower Properties in order to inform employees and contractors of the environmental risk that may result from their work, or the risk of their interaction with the sensitive environment. The training will be conducted as part of the induction process for all new employees (including contractors) that will perform work in terms of the proposed activities. Proof of all training provided must be kept on-site. The Environmental Awareness Training will, as a minimum cover the following topics within Table 17

Table 17: Environmental Awareness Plan

Air Quality	• Activities that may result or mitigate impact on air quality; speeding on roads, the requirements for dust suppression, etc. • Negative impacts on the receiving environment if mitigation measures are not implemented.
Surface and groundwater	• Risks to surface and groundwater, e.g. fuel and chemical handling and further risks of erosion or damage to riparian vegetation. • How incidents should be reported, and emergency requirements. • The importance to reuse water and to prevent spillages.
Cultural Heritage	• To respect all cultures and believes. • How to report any sightings of heritage importance as identified during operation activities (e.g. fossils)
Fauna	• Overview of the fauna found on/around site and the uniqueness thereof. • Mitigation measures that all contractors and employees need to abide by. • No contractor or personnel allowed to catch or kill any species, and how any sightings

	should be reported if further actions are required (e.g. to catch and release).
Flora	• Overview of the flora diversity on site, and the rare and endangered nature thereof. • Measures taken by the company to protect species. • No contractor or personnel allowed to remove, harvest or destroy any flora species unless clearly instructed based on the operational plans.
Waste management	• Measures to avoid waste generation and to participate in waste minimization/reduction.
Traffic strategies.	• To stay on designated roads and not create new roads on areas that will not be used for mining purposes. • To be aware of the fauna species and to be on the lookout and avoid collisions.
Emergency Preparedness and Response	• How to report any emergency or incident. • Incident and emergency reporting requirements
General rules and conduct	• Respect for the sensitive environment. • Do not litter. • Respect for each other and for different cultures. • Safety and health requirements

10.2 Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment.

All employees must be provided with environmental awareness training to inform them of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment. Employees should be provided with environmental awareness training before mining operations start. All new employees should be provided with environmental awareness training. Induction courses will be provided to all employees by a reputable trainer.

11 SPECIFIC INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

(Among others, confirm that the financial provision will be reviewed annually).

All potential risks have been identified within this document and are to be communicated to all contractors and all contractors and is indicated in the EMPr which will be available to all staff. Environmental training needs for each section should be identified and addressed to ensure environmental management is part of day to day operations. The environmental risk responsibilities guide the training requirements of each individual. Environmental training recommended for the different levels of management guide the training needs identification process. This is a minimum guideline and any additional training can be added where section

specific issues or high risk items require training and awareness. It is the responsibility of the line manager to ensure environmental training needs for individual staff members are identified, agreed to, facilitated and tracked.

An environmental audit report will be submitted annually as per DMR requirements.

12 UNDERTAKING

The EAP herewith confirms

f) the correctness of the information provided in the reports ☒

g) the inclusion of comments and inputs from stakeholders and I&APs ; ☐

h) the inclusion of inputs and recommendations from the specialist reports where relevant; ☐ and

i) That the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected. Parties are correctly reflected herein. ☒

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Signature of the environmental assessment practitioner:

Davhana Geotech Solutions (Pty) Ltd
Name of company:

March 2023
Date:

-END-

13 APPENDICES

Appendix 1: Qualifications of EAP

Appendix 2: C.V of EAP

Appendix 3: Locality Map

Appendix 4: Final Site Map

Appendix 5: Public Participation