EIMS | ENVIRONMENTAL IMPACT MANAGEMENT SERVICES

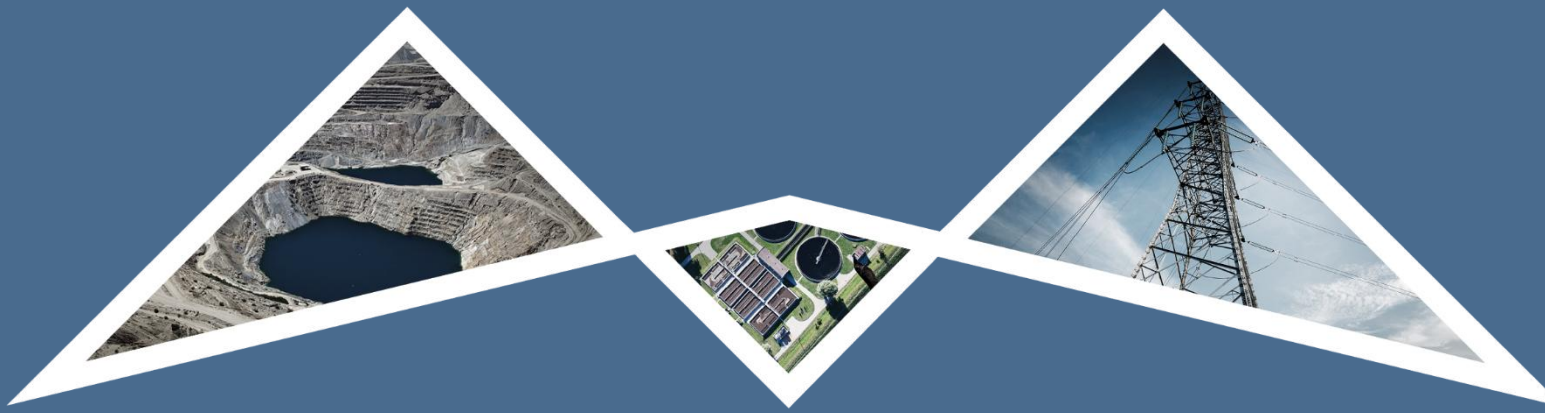
T 011 789 7170 E info@eims.co.za W www.eims.co.za

ENVIRONMENTAL MANAGEMENT PROGRAMME

BBM SANDGAT PROSPECTING RIGHT

REF: NC30/5/1/1/2/14410PR

JUNE 2026



DOCUMENT DETAILS

EIMS REFERENCE:	1675
DOCUMENT TITLE:	Environmental Management Programme – BMM Sandgat Prospecting Right

DOCUMENT CONTROL

	NAME	SIGNATURE	DATE
COMPILED:	Monica Niehof		2026/06/09
CHECKED:	Liam Whitlow		2026/06/09
AUTHORIZED:	Liam Whitlow		2026/06/09

REVISION AND AMENDMENTS

REVISION DATE:	REV #	DESCRIPTION
2026/06/09	ORIGINAL DOCUMENT	EMPr for Public Review

Table of Contents

List of Figures

List of Tables

1 INTRODUCTION

The Black Mountain Mining (Pty) Ltd (BMM) (the Applicant) has submitted an application for a Prospecting Right in terms of Section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA) and an Application for Environmental Authorisation in terms of Chapter 4 of GNR 982 promulgated under the National Environmental Management Act (Act 107 of 1998) (NEMA) to prospect for ferrous & base metals (Copper Ore, Iron Ore, Lead Ore, Zinc Ore, Manganese Ore, Nickel and Molybdenum) and associated metals and minerals , precious metals/Gemstones (Gold Ore, Silver Ore), and nuclear fuels/Ferrous and Base metals (Uranium ore) and all associated metals and minerals.

The proposed project that will aim to ascertain if economically viable mineral deposits exist within the application area. In order to undertake prospecting activities, Black Mountain Mining will require a Prospecting Right in terms of the Mineral and Petroleum Resources Development Act (MPRDA, Act No.28 of 2002). The Applicant is also required to obtain an Environmental Authorisation (EA) in terms of the National Environmental Management Act (NEMA, Act No. 107 of 1998) which involves the submission of a Basic Assessment Report (BAR). Environmental Impact Management Services (Pty) Ltd (EIMS) have been appointed by Black Mountain Mining to compile the BAR (this report) in support of the Prospecting Right application submitted by EIMS on behalf of Black Mountain Mining. The adjudicating authority for this Application will be the Department of Mineral and Petroleum Resources (DMPR). This BAR has been designed to meet the requirements for a BAR and Environmental Management Programme (EMPR) as stipulated in the 2014 EIA Regulations promulgated under the NEMA.

The area is located approximately 75 to 138 km east of Aggeneys and 31 to 85 km south-east of Pofadder, Namaqualand District, Northern Cape Province. The associated farms of the PR area are located across the Kai !Garib Local Municipality of the ZF Mgcawu District Municipality, and adjacent to the Khâi-ma Local Municipality of the Namakwa District Municipality, in the Northern Cape Province. The area is 46 940.02083 hectares). The prospecting area cover portions of twelve (12) farm portions namely:

- Remaining Extent of farm Lovedale 201;
- Remaining Extent of farm Quagga- Maag 200;
- Remaining Extent of farm Haartebeest-vlei 199;
- Remaining Extent of farm Vaal-kop 225;
- Portion 1 of the Farm Vaal-kop 225;
- Remaining Extent of farm Adjoining Geelvloer 197;
- Portion 8 of farm Adjoining Geelvloer 197;
- Portion 1 of farm Adjoining Geelvloer 197;
- Portion 2 of farm Adjoining Geelvloer 197;
- Portion 4 of farm Adjoining Geelvloer 197;
- Portion 3 of farm Adjoining Geelvloer 197; and
- Portion 6 of farm Adjoining Geelvloer 197

A Prospecting Work Programme (PWP) has been developed by the applicant to include both non-invasive and invasive prospecting activities. The Prospecting Right Application and Application for Environmental Authorisation was submitted to the DMPR via the South African Mineral Resources Administration (SAMRAD) on 10 February 2025. The DMPR subsequently accepted the associated EA Application on 27 November 2025 and the Prospecting Right Application on 27 November 2025.

An Environmental Management System (EMS) offers a structured framework and methodology to minimize risks and manage environmental aspects and impacts. The International Standards Organization's (ISO) international standard ISO 14001:2015 is a widely accepted standard for developing an EMS. The EMPr is developed as a

component of the EMS to ensure alignment with ISO 14001:2015 standards, and as required by the National Environmental Management Act 107 of 1998 (NEMA), Section 24, providing a structured framework for Environmental Management. The EMPr, will include the following:

- Environmental plans prepared for specific areas or management functions;
- Environmental impacts;
- Mitigation measures;
- Roles and responsibilities;
- Monitoring and recording; and
- Reporting methods.

This EMPr has also been compiled, as a guideline, in accordance with the Environmental Impact Assessment (EIA) Regulations (GNR 982 of 2014 as amended) for the requirements of an EMPr (Appendix 4 of GNR 982), to establish the mitigation and management measures that need to be implemented to avoid, reduce, and minimise potential environmental impacts arising out of any of the phases applicable to the project.

It should be noted, however, that an EMPr is a working document that should be updated on a regular basis, as and when necessary as outlined in Regulation 35 of the GN R 982. The EMPr thus supports an on-going proactive mitigation approach and duty of care to the environment. The EMPr shall allow for risk minimization and will ensure legal compliance. This EMPr will also allow the user to make minor amendments to ensure continual revision and improvement of risk mitigation through the continual re-assessment of risks associated with the activity.

1.1 DOCUMENT STRUCTURE

Table 1 provides an overview of the EMPr, as stipulated in Appendix 4 of the GN R982.

Table 1: EMPr Structure.

Appendix 4 Reference	Description	Section in EMPr
Appendix 4(1)(1)	(1) An EMPr must comply with section 24N of the Act and include-	
Appendix 4(1)(1)(a):	(a) details of- (i) the EAP who prepared the EMPr; and (ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae	Section 2 (Requirements of the EAP)
Appendix 4(1)(1)(b):	(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description	Section 3 (Description of Proposed Project) Figure 1 - map
Appendix 4(1)(1)(c):	(c) a map 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 should be avoided, including buffers	
Appendix 4(1)(1)(d):	(d) a description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including-	Section 10 (Impact Management and Mitigation Measures)

Appendix 4 Reference	Description	Section in EMPr
	(i) planning and design; (ii) pre-construction activities; (iii) construction activities; (iv) rehabilitation of the environment after construction and in the case of a closure activity, closure; and (v) where relevant, operation activities	
Appendix 4(1)(1)(e):	*(e) Para. (e) deleted by GN 326/2017*	*N/A*
Appendix 4(1)(1)(f):	(f) a description of proposed impact management actions, identifying the manner in which the impact management outcomes contemplated in paragraph (d) will be achieved, and must, where applicable, include actions to- (i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation; (ii) comply with any prescribed environmental management standards or practices; and (iii) comply with any applicable provisions of the Act regarding closure, in the case of a closure activity. *(iv) Sub-para. (iv) deleted by GN 517/2021*	Section 10 (Impact Management and Mitigation Measures)
Appendix 4(1)(1)(g):	(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f)	
Appendix 4(1)(1)(h):	(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f)	
Appendix 4(1)(1)(i):	(i) an indication of the persons who will be responsible for the implementation of the impact management actions	Section 4 (Roles and Responsibilities) Section 10 (Impact Management and Mitigation Measures)
Appendix 4(1)(1)(j):	(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented	Section 10 (Impact Management and Mitigation Measures)
Appendix 4(1)(1)(k):	(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	
Appendix 4(1)(1)(l):	(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations	Section 5 (Environmental Management System)

Appendix 4 Reference	Description	Section in EMPr
Appendix 4(1)(1)(m):	(m) an environmental awareness plan describing the manner in which- (i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and (ii) risks must be dealt with in order to avoid pollution or the degradation of the environment	Section 7 (Environmental Awareness and Training)
Appendix 4(1)(1)(n):	(n) any specific information that may be required by the competent authority.	N/A
Appendix 4(1)(2)	Where a government notice gazetted by the Minister provides for a generic EMPr, such generic EMPr as indicated in such notice will apply	

2 REQUIREMENTS OF AN EAP

In terms of Regulation 13 of the EIA Regulations, 2014, an independent Environmental Assessment Practitioner (EAP), must be appointed by the Applicant to manage the application. EIMS has been appointed by the Applicant as the EAP and is compliant with the definition of an EAP as defined in Regulations 1 and 13 of the EIA Regulations and Section 1 of the NEMA. This includes, inter alia, the requirement that EIMS:

- Is objective and independent;
- Has expertise in conducting Environmental Impact Assessments;
- Complies with the NEMA, the Regulations and all other applicable legislation;
- Considers all relevant factors relating to the application; and
- Provides full disclosure to the Applicant and the relevant environmental authority.

The declaration of independence of the EAPs involved and the Curriculum Vitae (indicating the experience with relevant application processes) of the consultants that were involved in the compilation of this report are attached as Appendix A of the BAR to avoid duplication.

2.1 DETAILS OF THE EAP

EIMS was appointed by the Applicant to fulfil the role of the Independent EAP to prepare and submit the EMPr, as part of the application process. The contact details of the EAP are as follows:

- Name of Practitioner: Monica Niehof
- Tel No: + 27 11 789 7170
- Fax No: +27 86 571 9047
- E-mail address: 1675bmm@eims.co.za

2.2 EXPERTISE OF THE EAP

EIMS is a private and independent environmental management-consulting firm that was founded in 1993. EIMS has in excess of 30 years experience in conducting EIAs. Please refer to the EIMS website (www.eims.co.za) for further details of expertise and experience.

Monica Niehof has 15 years working experience in the environmental field and 25 years work experience overall in a variety of fields including the tourism industry. Key experience in the environmental field include Environmental Impact Assessments, Water Use Licence (WUL) Applications, Waste Management Licence (WML) Applications, Atmospheric Emissions Licence (AEL) Applications, Environmental Management Programmes, Public Participation Processes, Environmental Authorisation, AEL and WML Auditing, Environmental Control and Monitoring for a variety of development projects including, residential, retail, mixed-use, commercial, infrastructure, industrial and mining projects. She is registered with he Environmental Assessment Practitioners Association of South Africa (EAPASA) Environmental Practitioner (2024/8835).

The Curriculum Vitae of the EAP responsible for the compilation of this Report is included in APPENDIX A of the BAR.

3 DESCRIPTION AND SCOPE OF THE PROPOSED PROJECT

Both non-invasive and invasive prospecting activities will be undertaken as part of the proposed Prospecting Work Programme (PWP). The application will follow a phased approach, where the prospecting work program is divided into several sequential phases.

It is anticipated that the invasive program will consist of a number of boreholes / drill sites with a footprint of approximately 300 m^2 each. Vegetation will be cleared at the borehole locations within the application area. Minor access tracks will be created to access the proposed borehole sites where there are no existing roads. The total length of the access routes might be more or less than 5 000 m and the approximate width is 3m. The targeting of all drilling activities will be dependent on the results obtained during the preceding phases of prospecting, namely the geological mapping and geophysical surveying and as such it is currently not possible to include a finalized surface plan showing the intended location, extent and depth of boreholes to be completed.

At the end of each phase there will be a brief period of compiling and evaluating results. The results will not only determine whether prospecting proceeds, but also the manner in which it will go forward. The applicant will only action the next phase of prospecting, once satisfied with the results obtained in the previous phases. In addition, smaller, non-core parts of the prospecting work program will be undertaken, if warranted.

Table 2: Locality details.

Nr.	Registered Land Description	Magisterial District	Extent (Ha)	Title Deed/Diagram Deed	SG Code
1	Lovedale 201 (Remaining Extent)	Kenhardt	8455.939081	KEQ8-14/1918	C03600000000020100000
2	Quagga- Maag 200 (Remaining Extent)	Kenhardt	7648.161839	G233/1952	C03600000000020000000
3	Haartebeest-Vlei 199 (Remaining Ex tent)	Kenhardt	7416.713163	G244/1949	C03600000000019900000
4	Adjoining Geelvloer 197 (Remaining Extent)	Kenhardt	3058.217982	KEQ4-9/1903	C03600000000019700000
5	Adjoining Geelvloer 197 (Portion 8)	Kenhardt	1515.757637	T8709/1943	C03600000000019700008
6	Adjoining Geelvloer 197 (Portion 1)	Kenhardt	3009.284506	T11186/1937	C03600000000019700001
7	Adjoining Geelvloer 197 (Portion 2)	Kenhardt	1527.340039	T11189/1937	C03600000000019700002
8	Adjoining Geelvloer 197 (Portion 4)	Kenhardt	1475.362198	T11191/1937	C03600000000019700004
9	Adjoining Geelvloer 197 (Portion 3)	Kenhardt	3035.423072	T11190/1937	C03600000000019700003
10	Adjoining Geelvloer 197 (Portion 6)	Kenhardt	1574.911537	T2013/1942	C03600000000019700006
11	Vaal-Kop 225 (Remaining Extent)	Kenhardt	8222.909774	G62/1950	C03600000000022500000
12	Vaal-Kop 225 (Portion 1)	Kenhardt	900.0000000	T53769/1984	C03600000000022500001
TOTAL AREA (HA)			**46 940.02083**		

A sensitivity map showing the location of the PR application area and identified sensitivities is included below in Figure 1. Note that the 22 m buffer around drainage areas are **not** no-go areas. Heritage sites have a 50 m buffer around graves and 30 m buffer around structures/other finds. Should these need to be destroyed or relocated, a permit application first need to be applied for with the South African Heritage Resource Agency (SAHRA). Any activities within river and or wetland and its buffers will require further impact studies and an application with the Department of Water and Sanitation (DWS) for a water use license. Activities within the 500 m regulated zones of wetlands and 100m regulated zones of a watercourse will require a General Authorisation and registration with DWS. The outcrops and 15 m buffer are no go areas.

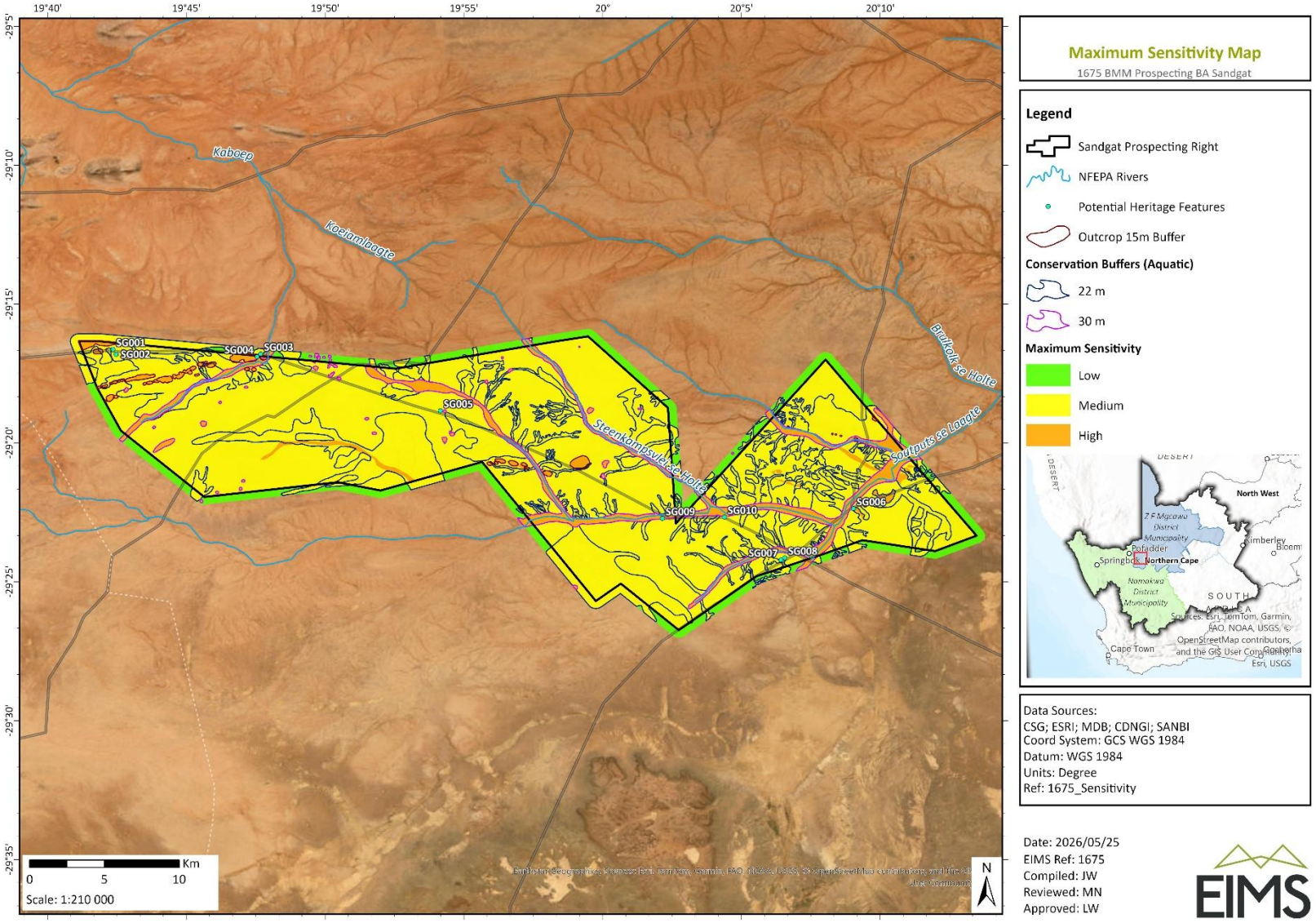


Figure 1: Sensitivity map.

3.1 PROJECT DESCRIPTION

This section of the EMPr provides a description of the project activities. A summary of activities include:

- **Non-invasive phases (Phases 1–3 & 6):** Information gathering with minimal land impact.
- **Invasive phases (Phases 4, 7 and 8):** Drilling and sampling to physically test mineralization.
- **Pre-/feasibility phases (Phases 5 and 9):** Data integration and economic evaluation to decide if mining is viable.

This sequence shows how prospecting progresses step by step—from **low-impact reconnaissance** to **advanced drilling and resource modelling**—ensuring that each stage builds on the results of the previous one. Refer to Table 3 for the sequencing and timeline of the various phases

3.1.1 DESCRIPTION OF PLANNED NON-INVASIVE ACTIVITIES

These activities do not disturb the land where prospecting will take place e.g., aerial photography, desktop studies, aeromagnetic surveys, field mapping and sampling, etc.

Phase 1: Desktop study

To include:

- Compilation of historical exploration data with the aim of developing a working plan of the prospecting area on a suitable scale (1:5,000 or 1:10,000).
- Analysis of existing data and maps to further understand prospecting area structure & geology
- Initial targeting and ranking of prospective areas

Phase 2: Geological field mapping

The field mapping will be focused on potentially prospective areas (Bushmanland Group rocks) to improve understanding of the structure & geology in order to define targets for ground-based geophysics as well as to be able to interpret geophysical results. Geological mapping will be on a scale suitable for the observed geological variability and will be conducted by an in-house well-trained and highly experienced geologist.

During the geological field mapping activity soil and litho-sampling along with analysis (XRF & or assaying) may be conducted to determine prospective horizons.

Phase 3: Semi-Regional Geophysical Survey (ground based)

The primary ground-based geophysical technique that will be employed will be time-domain electromagnetics (TDEM) utilizing state-of-the-art SQUID electromagnetic sensor. Existing airborne EM and aeromagnetic coverage will guide the ground follow-up strategy. Additional techniques, such as controlled source audio magnetotellurics (CSAMT) and direct current resistivity / induced polarization, might be employed over prospective targets.

Phase 6: Detailed Ground Geophysical Survey

Detailed Ground Geophysical Survey on individual positively mineralized targets to define possible extent. Survey report detailing individual targets. Plans for drill hole intersections supported by cross sections.

3.1.2 DESCRIPTION OF PLANNED INVASIVE ACTIVITIES

These activities result in land disturbances e.g. sampling, drilling, bulk sampling, etc.

a) Drilling

The targeting of all drilling activities will be dependent on the results obtained during the preceding phases of prospecting, namely the geological mapping and geophysical surveying and as such it is currently not possible to include a finalized surface plan showing the intended location, extent and depth of boreholes to be completed.

Diamond drilling will be of the standard PQ, HQ or NQ size. Down-hole surveys will be done every 50m in each hole. Core will be marked, logged, photographed and sampled according to the standard of the applicant's logging and sampling procedures.

Percussion Rotary Air Blast (RAB) or Reverse Circulation (RC) drilling may be carried out for pre-collaring of diamond drill boreholes or for obtaining samples if significant depth of cover is encountered over particular targets.

Down the hole geophysical surveying will take place upon completion of the exploratory boreholes along with Ground EM surveys to determine positions of conductors.

Rehabilitation of drill sites will be done according to an approved Environmental Management Plan.

b) Assaying

Rock chip / soil samples will be sent to a laboratory of the applicant's choice to be crushed, split, pulverized and assayed. Samples from core will be split using a core cutter before being sent to the laboratory for analysis.

c) Metallurgical Test Work

Metallurgical test work would start during phase 7 of the prospecting work programme. These tests will be done by and in consultation with a preferred and accredited Laboratory of the applicant's choice.

Phase 4: Boreholes

The initial planned invasive exploration activities will consist of diamond drill boreholes drilled to appropriate depths to target any anomalies identified during Phases 2 & 3 of the non-invasive portion of the prospecting work plan. The work will consist of:

- Access and drill site preparation
- Diamond core drilling
- Sampling and assaying
- Quality assurance and quality control programs
- Down hole geophysics
- Rehabilitation of drill sites
- Recording & Integration of data

Phase 5: See section 3.1.3

Phase 6: See section 3.1.1.

Phase 7: Boreholes

This phase of boreholes would determine the continuity of mineralization & potential deposit size. The work will consist of:

- Access and drill site preparation
- Widely spaced diamond drilling and analyses to confirm grade / tonnage potential
- Sampling and assaying
- Quality assurance and quality control programs
- Metallurgical test work
- Rehabilitation of drill sites
- Recording & Integration of data

Phase 8: Boreholes

This phase of boreholes would provide enough information to be able to calculate an inferred resource. The work would consist of:

- Access and drill site preparation
- Close spaced infill diamond drilling and analyses to determine actual grade / tonnage
- Sampling and assaying
- Quality assurance and quality control programs
- Metallurgical test work
- Geotechnical drilling program
- Rehabilitation of drill sites
- Recording & Integration of data.

3.1.3 DESCRIPTION OF PRE-/FEASIBILITY STUDIES

Activities in this section includes but are not limited to: initial, geological modelling, resource determination, possible future funding models, etc.

Phase 5: Compilation, interpretation and modelling of data

This phase will focus on compiling all the data gathered to date along with 3D modelling of any mineralized intersections. Any positively mineralized targets will be ranked. Should Phase 5 confirm mineralization with economic potential then that target will advance to Phase 6 (refer to Section 3.1.1).

Phase 9: Desktop Pre-Feasibility Study

This phase is designed to utilize the inferred resource to determine and would include:

- Closely spaced diamond drilling (Phase 8)
- 3D-modelling of the mineralized ore body
- Resource estimation
- A risk assessment to calculate if a full feasibility study is warranted
- Risk assessment studies

Table 3: Proposed duration of prospecting phases and associated activities

Phase	Activity (what are the activities that are planned to achieve optimal prospecting)	Skill(s) required (refers to the competent personnel that will be employed to achieve the required results)	Timeframe (in months) for the activity)	Outcome (What is the expected deliverable, e.g. Geological report, analytical results, feasibility study, etc.)	Timeframe for outcome (deadline for the expected outcome to be delivered)	What technical expert will sign off on the outcome? (e.g. geologist, mining engineer, surveyor, economist, etc.)
1	Non-Invasive Prospecting Desktop Study: Literature Survey / Review	Geologist	Month 1-12	Initial geological targeting report supported by historical records and existing data.	Month 12	Geologist
2	Non-Invasive Prospecting Geological Field Mapping	Geologist & field crew	Month 6-12	Detailed geological targeting report accompanied by maps & plans of ground truthing of initial geological targeting.	Month 12	Geologist
3	Non-Invasive Prospecting Semi-regional Ground Geophysical Survey	Geophysicist / Geologist / field crew	Month 12-24	Survey report detailing possible targets for further exploration, report supported by maps, plans & cross sections.	Month 24	Geophysicist
4	Invasive Prospecting Exploration Boreholes (16 RAB holes – 2400m; 4 DD holes – 2000m)	Geologist / drill rig team / field crew / laboratory technicians	Month 24-34	Borehole cored data & RAB data: lithological logs, geophysical down hole surveys, assay results for mineralized intercepts.	Month 34	Geologist
5	Non-Invasive Prospecting Compilation, interpretation and modeling of data	Geologist / Geophysicist	Month 34-36	Modelling of data. Interpretation and 3D modeling of potential deposit. Generation & ranking of mineralized targets for further exploration work.	Month 36	Geologist

Phase	Activity (what are the activities that are planned to achieve optimal prospecting)	Skill(s) required (refers to the competent personnel that will be employed to achieve the required results)	Timeframe (in months) for the activity)	Outcome (What is the expected deliverable, e.g. Geological report, analytical results, feasibility study, etc.)	Timeframe for outcome (deadline for the expected outcome to be delivered)	What technical expert will sign off on the outcome? (e.g. geologist, mining engineer, surveyor, economist, etc.)
6	Non-Invasive Prospecting Detailed Ground Geophysical Survey on individual positively mineralized targets to define possible extent	Geophysicist / Geologist / field crew	Month 36-42	Survey report detailing individual targets. Plans for drill hole intersections supported by cross sections.	Month 42	Geophysicist
7	Invasive Prospecting Boreholes to confirm continuity of mineralization & potential deposit size (20 DD holes – 8000m)	Geologist / drill rig team / field crew / laboratory technicians	Month 42-48	Widely spaced borehole cored data: lithological logs, geophysical down hole surveys, assay results for mineralized intercepts, metallurgical test work. Risk assessment study to advance to next phase.	Month 48	Geologist
8	Invasive Prospecting Resource definition drilling (40 DD holes – 16000m)	Geologist / drill rig team / field crew / laboratory technicians	Month 48-60	Closely spaced borehole cored data: lithological logs, geophysical down hole surveys, assay results for mineralized intercepts, metallurgical test work. Resource estimation work producing an Inferred Mineral Resource.	Month 60	Geologist

Phase	Activity (what are the activities that are planned to achieve optimal prospecting)	Skill(s) required (refers to the competent personnel that will be employed to achieve the required results)	Timeframe (in months) for the activity)	Outcome (What is the expected deliverable, e.g. Geological report, analytical results, feasibility study, etc.)	Timeframe for outcome (deadline for the expected outcome to be delivered)	What technical expert will sign off on the outcome? (e.g. geologist, mining engineer, surveyor, economist, etc.)
9	Non-Invasive Prospecting Analytical Desktop Pre-Feasibility Study	Economic Geologist / Mining Geologist	Month 54-60	Geological & Pre-feasibility reports, maps & plans. Risk assessment study to determine if a full feasibility is warranted.	Month 60	Geologist or other professionally qualified persons

4 ROLES AND RESPONSIBILITIES

The Applicant is responsible for ensuring full compliance with the stipulations outlined in the EMPr. Successful implementation of the EMPr is paramount. To guarantee the effective implementation of the EMPr and its associated mitigation measures, clear definitions and documentation of roles and responsibilities are essential prior to project commencement. This section provides a general guideline for assigning responsibilities. Specific roles are designated within the specific environmental management and mitigation requirements outlined in this EMPr.

4.1 THE PROJECT APPLICANT/PROPONENT

The Applicant is the principal party (Proponent) of the project. The legal accountability for correct implementation of the relevant requirements of the Environmental Authorisation, Water Use Licence and/or General Authorisation, and the EMPr falls primarily upon the Applicant and must therefore be built into all contractor's contractual agreements. The Applicant's role typically includes:

- Provide for all necessary supervision during the execution of the project including appointment of key personnel to act on his/her behalf during the different phases of the project phase (e.g. project manager). The key personnel will be tasked with ensuring that the various contractors/developers comply with the necessary provisions of the EA, WUL and/or GA, and the EMPr;
- Ensure that the principal appoints a competent Environmental Officer (EO) that will be responsible for among others, ensuring compliance (on a daily basis onsite) with the EMPr, WUL and/or GA, and EA conditions throughout the construction of the relevant project component.
- Notify the relevant competent authority of changes in the development resulting in significant environmental impacts;
- Assess the various contractors' environmental performance during operations;
- Ensure compliance with regulations;
- To implement the projects as per the approved project plan;
- To ensure that implementation is conducted in an environmentally acceptable manner;
- To comply with special conditions as stipulated by surrounding landowners during the negotiation process (if any); and
- To inform and educate all Employees about the environmental risks associated with the different activities that should be avoided during the reclamation process and lessen significant impacts to the environment.

Therefore, ultimately, the Applicant is responsible for the development and implementation of the EMPr and, where relevant, ensuring that the conditions in the EA and WUL or GA (if required), are satisfied. The Applicant is therefore responsible for liaising directly with the relevant authorities with respect to the preparation and implementation of the EMPr and meeting authorisation conditions.

4.2 THE PROJECT MANAGER

During the development, it is envisaged that there may be several contractors and sub-contractors undertaking various activities on the project. The Project Manager would oversee all contractors and sub-contractors from a project management point of view. The roles of the Project Manager typically include the following:

The Project Manager acts on behalf of the Applicant regarding the administration of contracts to sub-contractors, etc.;

- Provides and/or approves scheduling, aspects of co-ordination and estimating;

- Ensures implementation of the project plan within cost, time and quality constraints;
- Ensures that implementation of EMPr is executed as planned; and
- Keeps the asset owner informed of progress made during the life cycle of the project.

4.3 THE ENVIRONMENTAL OFFICER (EO)

An Environmental Officer (EO) is responsible for the on-site implementation of the EMPr. The EO ensures that all employees and contractors abide by the requirements of the EMPr.

The EO roles will include:

- Preparing activity based Environmental Method Statements where applicable and where required by the EMPr;
- Establishing and maintaining an environmental incident register;
- Taking required corrective action within specified time frame in respect of non-conformances and environmental incidents;
- Assist in finding environmentally acceptable solutions to problems;
- Attendance at Health, Safety and Environmental (HSE) meetings, toolbox talks and induction programmes (where relevant);
- Inspect the site as required to ensure adherence to the management actions of the EMPr on a daily basis;
- Recommendations for review and update of the EMPr;
- Liaison between the Applicant, Contractors, authorities and other lead stakeholders on high importance environmental concerns;
- Review the site induction training to ensure environmental issues receive adequate attention and important site-specific issues are included;
- Validating the regular site inspection reports, which are to be prepared by the relevant contractor EO's;
- Maintain a record of all non-conformances and incidents to ensure that measures are put in place to remedy such;
- Maintain a public consultation register in which all complaints are recorded, as well as action taken;
- Verification that all environmental monitoring programmes (sampling, measuring, recording etc. when specified) are carried out according to protocols and schedules; and
- Ensure adequate and compliant waste management.

It is important to note that where opportunity for interpretation occurs within the conditions of this EMPr, the interpretation of the EO will take preference.

4.4 THE INDEPENDENT AUDITOR / ENVIRONMENTAL CONTROL OFFICER

An independent auditor shall be appointed as per the requirements of the EIA Regulations (GN R 982) Section 34 which states that:

1) *The holder of an environmental authorisation must, for the period during which the environmental authorisation, EMPr, and the closure plan in the case of a closure activity, remain valid-*
    a) *ensure that the compliance with the conditions of the environmental authorisation, the EMPr, and the closure plan in the case of a closure activity, is audited; and*

b) submit an environmental audit report to the relevant competent authority.

2) The environmental audit report contemplated in sub-regulation (1) must-

a) be prepared by an independent person with the relevant environmental auditing expertise;

b) provide verifiable findings, in a structured and systematic manner, on-

i) the level of performance against and compliance of an organisation or project with the provisions of the requisite environmental authorisation, EMPr and the closure plan in the case of a closure activity; and

ii) the ability of the measures contained in the EMPr and closure plan to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity;

c) contain the information set out in Appendix 7; and

d) be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation.

With regards to the above legislated requirement, **the EAP recommends that an independent audit be undertaken once during construction and operational phase and one after the rehabilitation phase.**

4.5 THE AUTHORITIES

The authorities that should be involved include the DMPR, DFFE and DWS. The authorities may be required to perform the following roles:

- Review Monitoring and Audit reports, if required;
- Review whether there is compliance by the Applicant and Contractor with the terms of the EMPr and permit/license conditions. Whenever necessary, the authorities should assist the Applicant in understanding and meeting the specified requirements; and
- The authorities may perform random controls to check compliance. In case of persistent non-compliance, the Applicant will be required to provide an action plan with corrective measures, and have it approved by the authorities.

5 ENVIRONMENTAL MANAGEMENT SYSTEM

The purpose of this EMPr is to ensure that the environment is properly considered during the design, construction, operations, and decommissioning phases, and that negative impacts are minimised or prevented, and positive impacts enhanced. At the same time the EMPr should provide a logical extension of the EIA, specialist studies, or any other technical planning and assessment documentation, to ensure that recommendations are implemented, and that the project does not deviate from the environmental profile that formed the basis of the assessment.

5.1 RECORD KEEPING

The Applicant, or the Project manager (if assigned) is responsible for the identification, storage, protection, retrieval, retention, and disposal of records as part of the EMPr. Records must be legible, identifiable, and traceable.

5.2 GRIEVANCE PROCEDURE

This procedure outlines the procedure for stakeholders (e.g., local communities, affected parties, employees) to raise concerns or grievances related to the environmental impacts or performance of the project. The aim is to provide a transparent, accessible, and efficient mechanism for addressing and resolving grievances in a fair and timely manner.

5.2.1 PRINCIPLES OF THE GRIEVANCE PROCEDURE

- Accessibility: The procedure will be clearly communicated and easily accessible to all potential stakeholders.
- Transparency: The process will be open and transparent, with clear communication on the status of grievances.
- Fairness: All grievances will be treated seriously, impartially, and without prejudice.
- Confidentiality: Where requested and appropriate, confidentiality will be maintained.
- Responsiveness: Grievances will be addressed promptly and within defined timelines.
- Non-Retaliation: No person will face discrimination or retaliation for raising a grievance in good faith

5.2.2 GRIEVANCE SUBMISSION AND RECORDING

Grievances can be submitted through various channels, including but not limited to:

- Dedicated email address.
- Dedicated phone number.
- Written complaint forms.
- Direct communication with the Environmental Manager or Community Liaison Officer.
- While not mandatory, stakeholders are encouraged to provide the following information to facilitate investigation:
- Name and contact details of the grievant (unless anonymity is preferred).
- Date and time of the incident/concern.
- Clear description of the grievance, including specific details of the environmental impact or concern.
- Location of the incident/concern.

- Any supporting documentation or evidence (e.g., photos, videos, witness statements).
- Desired outcome or resolution (if any).

Upon receipt, all grievances will be formally acknowledged within 2 working days. Each grievance will be logged in a dedicated Grievance Register, assigning a unique reference number. The register will include:

- Date received,
- grievant details (if provided),
- nature of grievance,
- date of acknowledgement,
- assigned responsible person,
- status, and
- resolution date.

5.2.3 GRIEVANCE ASSESSMENT AND INVESTIGATION

The Environmental Manager (or designated responsible person/s) will conduct an initial assessment within 5 working days of receipt to:

- Determine the validity and scope of the grievance.
- Identify the relevant department/personnel responsible for investigation.
- Prioritize the grievance based on its severity and potential impact.

A thorough and impartial investigation will be conducted by the assigned responsible person. This may involve site visits, interviews with relevant parties (including the grievant, if willing), review of records, and consultation with technical experts. The investigation aims to understand the root cause of the grievance and gather all necessary information for informed decision-making.

5.2.4 GRIEVANCE RESOLUTION

Based on the investigation findings, a proposed resolution will be developed. This may include:

- Corrective actions to mitigate the environmental impact.
- Compensatory measures (if applicable and agreed upon).
- Changes to operational procedures.
- Communication and explanation of findings (e.g., if the grievance is unfounded).

The proposed resolution will be communicated to the grievant in a clear and understandable manner within 15 working days of the grievance being logged (or an agreed-upon extended timeframe if the investigation is complex). The grievant will be given an opportunity to provide feedback on the proposed resolution.

If the grievant accepts the proposed resolution, it will be formally documented and implemented. The grievant will be informed once the resolution has been fully implemented.

5.2.5 GRIEVANCE CLOSURE AND REVIEW

A grievance will be formally closed when:

- The grievant confirms satisfaction with the resolution.
- The agreed-upon resolution has been fully implemented and verified.

- The grievance is deemed unfounded after thorough investigation and communication with the grievant.

The effectiveness of implemented resolutions will be monitored to ensure the environmental issue is adequately addressed and does not recur. The Grievance Register will be reviewed regularly (monthly) by the Environmental Management Team. The review will assess trends in grievances, identify recurring issues, and evaluate the effectiveness of the grievance procedure itself. Lessons learned from grievances will be integrated into the Environmental Management System for continuous improvement of environmental performance and grievance handling processes.

All records pertaining to grievances, including submission forms, investigation reports, communication logs, and resolution documentation, will be securely maintained for a period of 10 years for auditing and review purposes.

5.3 RESPONDING TO NON-COMPLIANCES

Non-compliance will be identified and managed through the following key activities including:

- Inspections of the site and activities across the site;
- Audits of the site and relevant documentation as well as specific activities; and
- Reporting on a weekly and monthly basis by the EO, dependant on the phase in which the project is.

Non-compliance with the EMPr or any other environmental legislation, specifications or standards shall be recorded by the EO in the non-conformance register. This register shall be maintained by the EO and will be sent to the Applicant on a regular basis (Weekly), and the Applicant shall ensure that the responsible party takes the necessary corrective actions. Non-conformances may only be closed out in the register by the EO upon confirmation that adequate corrective action has been taken and/or documented proof provided. The register should be utilised to measure overall environmental performance.

5.4 ENVIRONMENTAL INCIDENTS AND NON-CONFORMANCES

A procedure for Incident and Non-Conformance Classification and Reporting should be implemented by the Applicant and will form part of the EMS. The purpose of the procedure is to accelerate the proper reporting and classification of environmental incidents and Non-Conformances (NCs), and thus assign priority to all serious environmental occurrences. The procedure will ensure that the environmental incident and NC assessment criteria and reporting method used are uniform and implemented across all segments and business units at the BMM operations. Incidents and NCs are classified according to different ratings defined in Table 4 and Table 5, respectively, below.

Table 4: Incident Rating Classification

Rating	Description
Minor incidents	These involve minimal or no environmental impact, such as minor non-conformances or deviations from established procedures.
Moderate incidents	These incidents may result in short-term, limited, and non-ongoing adverse environmental impacts.
Critical incidents	These are potentially the most serious incidents, often involving breaches of environmental legislation, regulations, or permits, and have the potential for significant harm to the environment or human health.

Table 5: Non-Conformance Classification

Rating	Description
Major NC	Major non-conformances have a significant impact on the effectiveness of the EMS, often indicating systemic failures or breakdowns in processes. They may pose risks to the environment or human health and safety and may potentially violate legal or regulatory requirements.
Minor NC	Minor non-conformances exhibit limited impact on the overall effectiveness of the EMS. They are typically isolated incidents that can be easily rectified with minimal effort and resource allocation.
OFI	Opportunity for Improvement (OFI) is a potential area where changes can be made to enhance the environmental performance of the organization's EMS.

6 REVIEW AND REVISION OF THE EMPR

This EMPr is applicable to the Planning, Construction, Operation and Decommissioning phases of the project. It is important to note that this EMPr is made legally binding on the Applicant through the approval of the EMPr by the decision-making authority. It is important to consider that the EMPr is a dynamic document which may require such alteration and /or amendment as the project evolves. Conditions under which the EMPr would require revision include:

- Changes in legislation;
- Occurrence of unanticipated impacts or impacts of greater intensity, extent and significance than predicted;
- Inadequate mitigation measures (i.e. where environmental performance does not meet the required level despite the implementation of the mitigation measure);
- Secondary impacts occur because of the mitigation measures; and
- Instances where the implementation of the specified management, as a result of changes in circumstances, may become impractical or unreasonable to implement.

The Applicant in consultation with the EO should be responsible for ensuring that the registration and updating of all relevant EMPr documentation is carried out. It shall be the responsibility of the Applicant, in consultation with the EO, to ensure that all personnel are performing according to the requirements of the document control procedure, and to initiate the revision of controlled documents, when required by changes in process or operations.

7 ENVIRONMENTAL AWARENESS PLAN AND TRAINING

Training and environmental awareness is an integral part of a complete EMPr. The overall aim of the training will be to ensure that all site staff are informed of their relevant requirements and obligations pertaining to the relevant authorisations, licences, permits and the approved EMPr and protection of the environment.

The Applicant and contractor must ensure that all relevant employees are trained and capable of carrying out their duties in an environmentally responsible and compliant manner and are capable of complying with the relevant environmental requirements. To obtain buy-in from staff, individual Employees need to be involved in:

- Identifying the relevant risk;
- Understanding the nature of risks;
- Devising risk controls; and
- Given incentive to implement the controls in terms of legal obligations.

The Applicant shall ensure that adequate environmental training takes place. All employees shall have been given an induction on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees.

8 EMERGENCY RESPONSE PLAN

The Applicant must identify potential environmental emergencies and develop procedures for preventing and responding to them. There are several options for dealing with high priority impacts and risks, as the paradigm has two components, probability, and consequence. The design of control measures rests on understanding the cause and effect. Best practice is to intervene with the ultimate factors where feasible, rather than treat the outcomes. Emergency response therefore has the option of reducing probability or reducing the consequence while reducing the probability is the preferred option. Below are some common emergency preparedness approaches:

- **All-Hazards Approach:** This approach involves preparing for a wide range of potential emergencies, regardless of their specific cause.
- **Mitigation:** Implementing measures to reduce the likelihood or severity of an emergency.
- **Preparedness**: Developing and maintaining plans, training personnel, and acquiring resources.
- **Response:** Taking immediate action to protect lives and property during an emergency.
- **Recovery:** Restoring affected areas and returning to normal operations.

A robust emergency response plan should include the elements described in Table 6.

Table 6: Emergency Response Procedure.

Element	Procedure
Risk assessment	- Identify potential hazards and vulnerabilities. - Evaluate the likelihood and severity of each risk. - Prioritize risks based on their potential impact.
Emergency Response Team	- Establish a dedicated team responsible for responding to emergencies. - Assign specific roles and responsibilities to team - members. - Conduct regular training and drills to ensure preparedness.
Emergency Procedures	- Develop clear and concise procedures for handling different types of emergencies. - Include steps for evacuation, containment, cleanup, and reporting. - Practice these procedures regularly to ensure familiarity.
Emergency Equipment and Supplies	- Maintain adequate supplies of essential equipment, such as protective gear, spill kits, and firefighting equipment. - Ensure that equipment is regularly inspected and maintained.
Communication Plan	- Establish effective communication channels for alerting employees, emergency responders, and the public. - Develop a system for disseminating information during an emergency. - Notifying the Relevant Government Authorities, including when and how to report emergencies to the relevant authorities.

Element	Procedure
Reporting	- Develop protocols for emergency reporting, including the specific circumstances under which emergencies should be reported and the appropriate reporting channels.
Emergency Drills and Training	- Conduct regular drills to test emergency procedures and response times. - Provide training to employees on emergency response protocols, first aid, and CPR.
Documented information	- Specify the essential information and documentation to be provided to emergency response teams.

8.1 SPILL RESPONSE

In the event of a spill, follow the "3 C's" principle: Control, Contain, Cleanup.

8.1.1 INITIAL DISCOVERY & ALARM

1. Alert others within the site.
2. Assess the immediate danger:
    - Identify all fire or explosion risks.
    - Identify direct threats to personnels (e.g., fumes, corrosive materials).
    - If immediate danger exists, evacuate personnel to a safe assembly point and prevent re-entry.
3. Notify Site Manager/Supervisor: Immediately contact the Site Manager/Supervisor (or designated alternate) and provide the following information:
    - Location of the spill.
    - Type of substance spilled (if known).
    - Estimated quantity.
    - Any immediate hazards (e.g., fire, fumes).
    - Whether injuries have occurred.

8.1.2 ASSESSMENT

Once the immediate danger is controlled and the Site Manager/Supervisor is notified:

1. Refer to labels or MSDS for information on the spilled material's hazards and required PPE.
2. Determine Quantity and Extent: Estimate the volume of the spill and observe its spread.
3. Determine where the spill is likely to travel (e.g., towards drains, watercourses, permeable ground).
4. Consider potential risks to human health, environment, and property.

8.1.3 CONTROL THE SOURCE (STOP THE LEAK)

1. Only attempt to stop the source if it is safe to do so and you have the appropriate PPE.
2. Close valves, cap containers, or upright overturned drums.

3. Use plugs, patches, or other temporary measures to stop or reduce the flow from damaged containers or equipment.
4. If safe, transfer the contents from a leaking container to an intact one.

8.1.4 CONTAINMENT (STOP THE SPREAD)

1. Immediately deploy absorbent booms or create earthen berms downstream of the spill to prevent entry into drains, streams, rivers, or other water bodies.
2. Use absorbent socks, booms, or granular absorbents to create a perimeter around the spill to prevent further spread over land.
3. If on a slope, dig trenches or build berms to divert the flow of the spill away from sensitive areas.
4. If near storm drains, cover them with drain covers or absorbent mats.

8.1.5 CLEANUP

1. Use absorbent pads, socks, or granular absorbents to soak up the spilled material. Start from the outside of the spill and work inwards.
2. Once absorbed, collect all contaminated absorbents, soil, and debris using non-sparking tools.
3. Place all contaminated materials into clearly labelled, sealed, and appropriate containers (e.g., hazardous waste drums, heavy-duty bags).
4. Clean tools and equipment used in the cleanup process. Decontaminate affected surfaces as appropriate, following MSDS guidelines.

8.1.6 WASTE MANAGEMENT

1. Segregate contaminated waste by type (e.g., oily rags, chemical absorbents) as per waste management procedures.
2. Clearly label all waste containers with the contents, date, and origin.
3. Store contaminated waste in a secure, designated area awaiting proper disposal.
4. Arrange for the safe and compliant disposal of all contaminated waste by a licensed waste management contractor. DO NOT dispose of contaminated materials in regular waste bins or on site.

8.1.7 REPORTING & NOTIFICATION

The Site Manager/Supervisor is responsible for all internal and external notifications.

1. Internal Notification:
    - Immediately notify the Environmental Manager and relevant company management.
    - Provide a detailed incident report as soon as possible, including:
        - Date and time of spill.
        - Location.
        - Substance spilled.
        - Estimated quantity.
        - Cause of spill.
        - Actions taken (containment, cleanup).
        - Environmental impacts observed.

- Injuries (if any).

2. External Notification (Regulatory Bodies):
    - The Environmental Manager will determine if the spill meets the threshold for mandatory reporting to relevant environmental authorities (e.g., DWS, DFFE etc.).
    - Notifications will be made within the required timeframe (e.g., immediately, within 24 hours).
    - Maintain records of all communications.

8.1.8 POST-INCIDENT ACTIONS

1. Investigation
    - Conduct a thorough investigation to determine the root cause of the spill.
    - Identify contributing factors (e.g., equipment failure, human error, inadequate procedures).
    - Document findings and recommendations to prevent recurrence.
2. Remediation
    - Develop and implement a remediation plan for any contaminated soil or water, in consultation with environmental specialists and regulatory bodies.
    - This may involve further sampling, excavation of contaminated soil, or water treatment.
3. Review and Update
    - Review this SRP after any spill incident or at least annually.
    - Update the plan based on lessons learned from incidents, changes in regulations, equipment, or site conditions.
    - Ensure all personnel are re-briefed on any changes.

9 MEASURES TO CONTROL OR REMEDY ANY CAUSES OF POLLUTION OR DEGREDATION

The high-level measures to control or remedy any causes of pollution or environmental degradation as a result of the proposed activities taking place on the project are provided below:

- Ensure adequate storm water runoff measures;
- Contain potential pollutants and contaminants (where possible) at source;
- Handling of potential pollutants and contaminants (where possible) must be conducted in bunded areas and on impermeable substrates;
- Ensure the timeous clean-up of any spills;
- Implement a waste management system for all waste streams present on site;
- Investigate any I&AP claims of pollution or contamination as a result of the project activities; and
- Rehabilitate the site in line with the requirements of the rehabilitation / decommissioning plan.

10 IMPACT MANAGEMENT AND MITIGATION MEASURES

This section provides management and mitigation measures that need to be implemented at the operation phase of the proposed project to ensure that the identified impacts are properly managed and mitigated to avoid or minimise degradation of the surrounding environment and to positively impact the socio-economic aspects of the area. Table 7 below encapsulates the management and mitigation measures for all identified impacts. This table also includes the party responsible for ensuring compliance with each management or mitigation measure, the party responsible for monitoring (and frequency thereof) compliance and the performance indicators that can be utilized to ensure that the target for each management and mitigation measure is achieved.

Table 7: Impact Management and Mitigation Measures.

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.1 PLANNING AND DESIGN PHASE					
10.1.1	The Applicant to consult duly and properly with the landowners prior to any physical prospecting activities on the study area so as to engage mutually acceptable model which can, when relevant, be taken up in a legal and binding agreement between the parties regarding the use of the surface.	Applicant	Avoid and or minimize impact on present and future land uses and landowners.	Once-off	Signed Agreement
10.1.2	Local workforce to be utilised as far as possible.	Applicant	Local job creation.	Once-off	EA Audit reports
10.1.3	A method statement is required from the Contractor(s) that includes the layout of the drilling site, amenities and wastewater / water management during drilling. Site establishment must be undertaken in an orderly manner and all amenities must be installed before the onset of drilling. All prospecting sludge and wastewater must be contained in lined sumps or tanks; no discharge to the environment is permitted.	Site Manager / EO	Reduction in waste related impacts.	Once-off at start of construction	ECO Monitoring reports EA Audit reports
10.1.4	A pre-drilling survey undertaken by an Archaeologist is proposed once borehole locations are determined. A supplementary report is to be prepared highlighting any additional impacts on heritage features identified. A 30m buffer around all confirmed heritage structures must be	Site Manager / EO	No loss of or damage to important heritage features	Once-off - Survey to be completed prior to drilling taking place	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	implemented, within which no proposed activities are to take place.				
10.1.5	A follow-up assessment, with the proposed development footprint, must be performed during the correct flowering season for the biome, or at the very least a site walkdown and micro-siting must be performed, to establish a more comprehensive species composition for the habitats on site and to locate and mark any flora SCC and protected species which may occur on site. **High and Quartz Outcrops and Rocky Outcrops (High SEI) areas, together with a 15 m buffer area, must be declared no-go areas, in addition to the other no-go areas identified. High SEI areas should be avoided.** **A conservative buffer zone of 30 m for all the NFEPA rivers, in-stream dams and temporary depression wetlands, and a 22 m conservative buffer for the drainage areas were assigned according to the buffer guidelines, the maximum required buffer should be applied to a system (Macfarlane, et al., 2014). These post-mitigation buffers considered the projects description (to avoid all sensitive areas), localised and minimal impacts of prospecting, ephemeral nature these systems. These buffer areas (with exception of drainage areas and 22 m conservation buffer) serve as No-go zones for any *unauthorised activities.* The site development plan should therefore be created accordingly. Ensuring buffers**	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise loss of SCC and important flora and degradation of watercourses.	Once-off - Survey to be completed prior to drilling taking place	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	are intact increases the resilience of a watercourse to future disturbances. It should be noted that these conservation buffers only apply to the prospecting activities, not Mining activities. *(For clarity, drainage areas and 22m buffer is not no-go areas for the activities applied for).* **Buffers should be placed around each of the identified heritage features, with proposed activities not taking place within 30 meters of the buildings or structures, and 50 meters of the grave sites.** **(refer to Figure 1 for no-go areas).**				
10.1.6	Prior to vegetation clearing activities, the area to be cleared should be walked on foot by 1-2 individuals to create a disturbance in order for fauna to move off. Disturbance must occur as soon before vegetation clearing as possible and no unnecessary disturbance to the area is permitted ○ Any tortoises present should be removed from the affected areas before the start of site clearing/ construction and relocated to safe areas within the project area. ○ Any fauna threatened by the construction activities should be removed safely by an appropriately qualified	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise loss of SCC and important flora.	Survey to be completed prior to drilling taking place	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	environmental officer or removal specialist. ○ Should nests be found an avifauna specialist must be consulted on the appropriate actions to take. ○ Should this project continue to mining- special consideration should be paid to the habitat requirements for the endemic Red Lark. Safely relocate any wildlife at risk from construction activities with the help of a qualified environmental officer or specialist.				
10.2 CONSTRUCTION PHASE					
10.2.1	Clearly demarcate drill site footprint areas and limit all activities to within this area. Prospecting site footprints should be kept to a minimum. Restrict all drilling related activities to within the designated footprint area. Minimise the time between clearing an area and starting development to prevent wildlife from returning to disturbed sites.	Site Manager / EO / Contractors	Decrease in the loss of CBA1, CBA2 and ESA and sections of area classed as moderate and highest biodiversity importance.	Weekly	ECO Monitoring reports EA Audit reports
10.2.2	Rehabilitation of any disturbed areas due to prospecting. Rehabilitation of the area must be initiated from the onset of the project. All disturbed and compacted footprint areas must be rehabilitated and landscaped after drilling is	Site Manager / EO / Contractors	Decrease in the loss of CBA1, CBA2 and ESA and sections of area classed as moderate and highest biodiversity importance.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	complete. These areas must either be rehabilitated to the original land use or an agreed upon land use. The area must be shaped to a natural topography.				
10.2.3	Store all chemicals, fuels, and lubricants in clearly marked, sealed containers within a bunded area with 110% capacity of the largest container. Should any leaks/ spillages take place, immediate rehabilitation of the affected area/s should be considered in order to not further contaminate the groundwater/ soils.	Site Manager / EO / Contractors	Minimal to negligible aquifer degradation and groundwater user impacts.	Weekly	ECO Monitoring reports EA Audit reports
10.2.4	Should the newly established boreholes be used for agricultural or industrial water supply after prospecting, then the water quality and groundwater levels should be monitored once before handover by the prospecting right and environmental authorisation holder to establish baseline conditions and if there are any pollution caused by prospecting that needs to be corrected. Thereafter, the responsibility of the user of the water supply will be to monitor groundwater at least quarterly, and any changes should be addressed. The user should be cognisant of any legislative requirements in terms of abstraction of water. The identified boreholes should be pump tested and sampled to determine the current groundwater quality and borehole yields. Should the boreholes not be utilised for groundwater supply purposes, it is recommended that they are appropriately closed and rehabilitated to restore safety and prevent any environmental	Site Manager / EO / Contractors / water user.	Minimal to negligible aquifer degradation and groundwater user impacts.	Quarterly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	degradation from occurring. If rehabilitation is not done, there is a risk of groundwater contamination or collapse.				
10.2.5	Portable chemical toilets must be used during the exploration phase.	Site Manager / EO / Contractors	Minimal to negligible aquifer degradation and groundwater user impacts.	Weekly	ECO Monitoring reports EA Audit reports
10.2.6	Cap and seal all prospecting boreholes to prevent surface water from entering the borehole, if the boreholes will not be used by any other user after prospecting.	Site Manager / EO / Contractors	Minimal to negligible aquifer degradation and groundwater user impacts.	Weekly	ECO Monitoring reports EA Audit reports
10.2.7	No invasive prospecting activities to be undertaken within the regulated area of a watercourse – 100m from a river and 500m from a wetland - unless approval for this has been obtained from DWS. Prevent uncontrolled access of vehicles through the watercourse.	Site Manager / EO / Contractors	Minimal or negligible Impacts on surface water features (e.g. streams, rivers, wetlands, saltpans) – which may be recharged by groundwater	Weekly	ECO Monitoring reports EA Audit reports
10.2.8	Should any watercourse be affected, then the necessary water use licences should be obtained from the Department of Water and Sanitation.	Site Manager / EO / Contractors	Minimal or negligible Impacts on surface water features (e.g. streams, rivers, wetlands, saltpans) – which may be recharged by groundwater	Weekly	ECO Monitoring reports EA Audit reports
10.2.9	Should any major spills of hazardous materials take place, such should be reported in terms of the Section 30 of the NEMA. In the event the freshwater	Site Manager / EO / Contractors	Minimal or negligible Impacts on surface water features (e.g. streams,	Weekly	ECO Monitoring reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	watercourses are contaminated by means of an unforeseen spill/ leak, relevant specialists should be consulted for suitable mitigation or rehabilitation measures.		rivers, wetlands, saltpans) – which may be recharged by groundwater		EA Audit reports
10.2.10	Manage location of topsoil stripping stockpiling, demarcation of topsoil stockpiles and prevention of stockpile erosion and contamination for the drilling sites or boreholes. This can protect the topsoil stockpiles to keep it viable for rehabilitation purposes. Implementation of embedded controls such as geotextiles, mulching to effectively control soil erosion on-site where required.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.11	All hazardous substances (e.g. fuel, grease, oil, brake fluid, hydraulic fluid) must be handled, stored and disposed of in a safe and responsible manner so as to prevent pollution of the environment or harm to people or animals.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.12	The Contractor should inform all site staff to the use of supplied ablution facilities and under no circumstances shall indiscriminate excretion and urinating be allowed other than in supplied facilities.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.13	Create and implement a Solid Waste Management Plan. Prioritise waste management by ensuring all waste is collected, stored, and disposed of properly. It is recommended to remove waste from the site at	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	least weekly. The Contractor should supply sealable and properly marked domestic waste collection bins and all solid waste collected shall be disposed of at a licensed disposal facility. Temporary storage of domestic waste shall be in covered waste skips		Minimal to no pollution, including littering.		
10.2.14	Appropriate measures must be implemented to prevent spillage and appropriate steps must be taken to prevent pollution in the event of a spill; and way that does not pose any danger of pollution even during times of high rainfall.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.15	Adequate spill prevention and clean-up procedures should be developed and implemented during the prospecting activities.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.16	No storage of vehicles or equipment will be allowed outside of the designated prospecting area. Laydown yards, camps and storage areas must be located outside the watercourse areas – at least 150m away.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil and water resources Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.17	Any possible contamination of topsoil by hydrocarbons, concrete or concrete water must be avoided. Any contaminated soil must be treated in situ or be placed in containers and removed from	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	the site for disposal in a licensed facility. Drip trays or any form of oil absorbent material must be placed underneath vehicles/machinery and equipment when not in use.		Minimal to no pollution, including littering.		
10.2.18	The Contractor shall be in possession of an emergency spill kit that must be complete and available at all times on site.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.19	All vehicles and equipment must be well maintained to ensure that there are no oil or fuel leakages;	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.20	Compacting of soil must be avoided as far as possible, and the use of heavy and construction machinery and vehicles must be restricted to areas inside the of the proposed prospecting sites and predetermined access routes to reduce the compaction of soils.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.21	Should any major spills of hazardous materials (50 litres or more) take place, such should be reported in terms of the Section 30 of the NEMA.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.22	Access to the project area must be strictly controlled. No flora theft may be tolerated. Routine monitoring and checks of personnel must be performed for the duration of the project	Site Manager / EO / Contractors	Access roads and tracks will be maintained and promptly repaired to ensure continued usability. Safety and security risks for landowners and lawful occupiers will be effectively managed and minimised. Existing land uses will continue with minimal, temporary, and pre-agreed interference. No theft of flora.	Weekly	ECO Monitoring reports EA Audit reports
10.2.23	The applicant must implement a grievance mechanism and ensure that it is community-friendly. BMM must continue to address and keep record of community grievances. BMM must continue to keep a grievance register. It is important to have documented evidence of community/applicant interactions. This will assist BMM to track the issues, and the community to see what actions the applicant has taken. The BMM Project Manager should establish relationships with the landowners to keep them informed regarding the project. Any meetings should be recorded, and records must be included in the communication register. No hunting or collection of wood to be allowed. This will be included in the environmental awareness training.	Site Manager / EO / Contractors	Access roads and tracks will be maintained and promptly repaired to ensure continued usability. Safety and security risks for landowners and lawful occupiers will be effectively managed and minimised. Existing land uses will continue with minimal, temporary, and pre-agreed interference.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.24	Noise-generating activities associated with construction activities should be kept to a minimum. Implement noise and light mitigation measures for any nighttime construction activities to minimise disturbances to nocturnal species expected in the area.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.25	Local residents (landowners and directly adjacent landowners) should be notified of any potentially noisy activities or work and these activities should be undertaken at reasonable times of the day. Should work be required during weekends and or at night, the access agreement with the landowner should include this and must permit these activities, and if the noise is problematic, a grievance can be lodged by the landowner.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.26	Compliance with the appropriate legislation/ any local by-laws and regulations regarding the generation of noise must be adhered to.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.27	Noises that could cause a major disturbance should only be carried out in areas located in close proximity to communities and/or residences during normal working hours. Should noise-generating activities have to occur at night communities and/or landowners in the vicinity of the drilling should be warned about the noise well in advance and the activities should be kept to a minimum.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.28	Awareness training should be provided to construction staff on safety, health and environmental matters. All personnel should undergo environmental induction with regards to avifauna and in particular awareness about not harming, collecting, or hunting terrestrial species, and owls, which are often persecuted out of superstition. Signs must be put up to enforce this. Prohibit staff from bringing any plant species into or out of the project area. This includes both indigenous and exotic plants to prevent the spread of invasive species and illegal plant collection.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.29	Provide appropriate Personal Protective Equipment (PPE) where required.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.30	Compliance with the Occupational Health and Safety Act (Act No. 85 of 1993) and associated regulations.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.31	The Applicant and Contractor must ensure that he/she has the contact details of the nearest emergency rooms (hospitals) to the site, of both private and public hospitals.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.32	Clearing of vegetation should be minimized and avoided where possible.	Site Manager / EO / Contractors	Minimal to no impacts on the environmental air quality.	Weekly	ECO Monitoring reports EA Audit reports
10.2.33	Dust emission should be within acceptable levels and dust control mechanisms must be in place from start to the end of prospecting activities and must be strictly adhered to. Limit construction during extreme weather conditions (e.g., high wind and dust storms) that can intensify dust generated from construction activity.	Site Manager / EO / Contractors	Minimal to no impacts on the environmental air quality.	Weekly	ECO Monitoring reports EA Audit reports
10.2.34	Use of suitable dust suppression measures such as water spraying; All stockpiles of fine material must be covered.	Site Manager / EO / Contractors	Minimal to no impacts on the environmental air quality.	Weekly	ECO Monitoring reports EA Audit reports
10.2.35	Construction vehicles much be well serviced, in roadworthy condition and comply with speed limits. Avoid or reduce (as far as practicable) project vehicle traffic near communities and ensure vehicles follow journey management plans with designated routes.	Site Manager / EO / Contractors	Minimal to no impacts on the environmental air quality.	Weekly	ECO Monitoring reports EA Audit reports
10.2.36	A “Chance Find Protocol” must be implemented during the proposed prospecting activities and incorporated in the PWP of this project. *Chance Find Protocol:*	Site Manager / EO / Contractors	Minimise losses to fossil heritage.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	• If a chance find is made, the person responsible for the find must immediately stop working, and all work in the immediate vicinity of the find must stop as well. • Finds should not be displaced. Instead, their location should be recorded, and a short description prepared for further evaluation to follow. • A qualified palaeontologist must be consulted to, firstly, record the find and evaluate its significance. The palaeontologist should provide recommendations on how to approach the finds moving forward. This may include recommendations for the mitigation of impacts on the heritage resources in question. Should the palaeontologist recommend, development can resume following the application of recommendations and mitigation measures.				
10.2.37	If fossil or heritage remains are discovered during any phase of construction, either on the surface or exposed by fresh excavations the Chance Find Protocol must be implemented by the ECO in charge of these developments. These discoveries ought to be secured (preferably in situ) and the ECO ought to alert SAHRA so that appropriate mitigation (e.g. documented and collection) can be undertaken by a professional palaeontologist.	Site Manager / EO / Contractors	Minimise losses to fossil and cultural heritage.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.38	All personnel and contractors to undergo Environmental Awareness Training. A signed register of attendance must be kept for proof. Discussions are required on sensitive environmental receptors within the project area.	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.	Weekly	ECO Monitoring reports EA Audit reports
10.2.39	Areas of indigenous vegetation, even secondary communities outside of the direct project footprint, should under no circumstances be fragmented or disturbed further. Clearing of vegetation should be avoided where possible, otherwise minimized. All activities must be restricted within the very low-medium sensitivity areas. No further loss of high sensitivity areas and associated buffers should be permitted. It is recommended that areas to be developed be specifically demarcated so that during the construction phase, only the demarcated areas be impacted upon. Minimise vegetation clearing to the minimum required. Areas should be cleared and disturbed on a needs basis only, as opposed to clearing and disturbing a number of sites simultaneously. Vegetation clearing to commence only after the necessary permits have been obtained.	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.	Weekly	ECO Monitoring reports EA Audit reports
10.2.40	All laydown, chemical toilets etc. should be restricted to Very Low SEI areas. Laydown areas are	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct	Weekly	ECO Monitoring reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	only allowed within Medium SEI areas if all Very Low SEI areas have been considered and exhausted. No laydown areas are allowed within High SEI areas. Any materials may not be stored for extended periods of time and must be removed from the project area once the construction/closure phase has been concluded. No permanent structures should be permitted sites. No storage of vehicles or equipment will be allowed outside of the designated project areas		mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.		EA Audit reports
10.2.41	Implement a stormwater management plan for all developable areas.	Site Manager / EO / Contractors	Proper stormwater management	Weekly	ECO Monitoring reports EA Audit reports
10.2.42	An Alien Invasive Plant (AIP) Management Plan for the prospecting sites and access routes must be compiled prior to and implemented during any on-site activities. The plan must identify areas for action (if any) and prescribe the necessary removal methods and frequencies to be applied. This plan must also include a monitoring plan.	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.	Weekly	ECO Monitoring reports EA Audit reports
10.2.43	The footprint area of the construction should be kept to a minimum. The footprint area must be clearly demarcated to avoid unnecessary disturbances to adjacent areas. Footprints of the roads must be kept to prescribed widths. Avoid the creation of new access roads; use existing roads	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching).	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	where possible. All vehicles should use existing roads as much as possible, however 2 track roads over the surface are acceptable. Make use of existing roads to crossing the river and drainage areas. Crossing of these features should only be considered in when dry.		Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.		
10.2.44	Design and limit outdoor lighting to reduce its impact on wildlife. Use fixtures with baffles, hoods, or louvres, directing light downward and away from sensitive areas like wetlands. Avoid fluorescent and mercury vapor lights, opting for sodium vapor (yellow) lights whenever possible. Utilise motion detection lighting where feasible to minimise unnecessary illumination.	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.	Weekly	ECO Monitoring reports EA Audit reports
10.2.45	If fencing is required: wildlife-permeable fencing with holes large enough for mongoose and other smaller mammals should be installed, the holes must not be placed in the fence where it is next to a major road as this will increase road killings in the area. An approximately 15 m x 15 m temporary barrier shall be installed around the active work area for the duration of the relevant activities. The barrier must be restricted to the minimum footprint required and may not be expanded beyond what is necessary for safe and effective operations.	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.46	No trapping, killing, or poisoning of any wildlife is to be allowed and signs must be put up to enforce this. Monitoring must take place in this regard.	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.	Weekly	ECO Monitoring reports EA Audit reports
10.2.47	Minimise the time between clearing an area and starting development to prevent wildlife from returning to disturbed sites. Conduct excavations progressively and cover any open holes overnight to prevent wildlife from falling in. Inspect these areas before backfilling. Focus work on one area at a time as far as possible, to reduce the extent of on-site activities, allowing wildlife to relocate as the project progresses. Where possible, instead of clearing the entire area at once, work on specific sections as needed. This approach involves focusing on one area at a time and following a systematic process.	Site Manager / EO / Contractors	Minimise displacement of faunal community due to habitat loss, direct mortalities and minimise disturbances (road collisions, noise, light, dust, vibration and poaching). Minimise continued displacement and fragmentation of the faunal community (including threatened species) due to habitat degradation/loss.	Weekly	ECO Monitoring reports EA Audit reports
10.2.48	During the construction phase, a maximum speed limit of 40 km/h must be strictly adhered to at all times, and appropriate signage should be installed to ensure compliance and safety throughout the duration of the project. Limit the use of vehicles at night to what is absolutely necessary, with speed limits of 20 km/h applied.	Site Manager / EO / Contractors	Minimise destruction, further loss and fragmentation of the vegetation community. Prevention of encroachment of an indigenous vegetation community by alien invasive plant species as well as	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
			prevention of erosion due to disturbed soils.		
10.2.49	Establish a route plan for access to each drill location in advance, prioritizing existing roads, tracks, and disturbed areas.	Site Manager / EO / Contractors	Minimise disturbance to natural vegetation and prevent the increase in pioneer and weedy species. Prevention of altered hydrology from creation of preferential flow paths and hardened surfaces with increased risk of erosion.	Weekly	ECO Monitoring reports EA Audit reports
10.2.50	Backfill all excavations promptly after drilling, placing material in the correct order, with topsoil replaced on the surface. All alterations or hardened surfaces must not induce sedimentation, erosion, or flooding, or cause detrimental changes in flow.	Site Manager / EO / Contractors	Minimise disturbance to natural vegetation and prevent the increase in pioneer and weedy species. Prevention of altered hydrology from creation of preferential flow paths and hardened surfaces with increased risk of erosion.	Weekly	ECO Monitoring reports EA Audit reports
10.2.51	Immediately rehabilitate and revegetate drilling footprint and vehicle tracks after drilling, using shallow soil berms to prevent preferential flow paths and limit erosion. Signs of erosion must be addressed immediately. Install sedimentation/erosion protection measures (sandbags, silt traps, fences).	Site Manager / EO / Contractors	Minimise disturbance to natural vegetation and prevent the increase in pioneer and weedy species. Prevention of altered hydrology from creation of preferential flow paths and hardened surfaces with increased risk of erosion.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.52	Schedule drilling during the dry season where possible to limit the potential for erosion and sedimentation.	Site Manager / EO / Contractors	Minimise disturbance to natural vegetation and prevent the increase in pioneer and weedy species. Prevention of altered hydrology from creation of preferential flow paths and hardened surfaces with increased risk of erosion.	Weekly	ECO Monitoring reports EA Audit reports
10.2.53	Prevent formation of preferential flow paths by landscaping and rehabilitating vehicle ruts and disturbed areas.	Site Manager / EO / Contractors	Minimise disturbance to natural vegetation and prevent the increase in pioneer and weedy species. Prevention of altered hydrology from creation of preferential flow paths and hardened surfaces with increased risk of erosion.	Weekly	ECO Monitoring reports EA Audit reports
10.2.54	Use bund trays to contain any contaminated water and spills. Store drilling additives in appropriate containers on drip trays.	Site Manager / EO / Contractors	Prevention of contamination from spills and leaks of hydrocarbons (i.e. oil, grease etc.), cement, waste generated on site, and temporary toilets used on site.	Weekly	ECO Monitoring reports EA Audit reports
10.2.55	Conduct weekly inspections of storage and machinery areas for signs of leaks or spills, and document findings and corrective actions.	Site Manager / EO / Contractors	Prevention of contamination from spills and leaks of hydrocarbons (i.e. oil, grease etc.), cement, waste generated on site, and temporary toilets used on site.	Weekly	ECO Monitoring reports EA Audit reports
10.2.56	Remove all waste, including drill sludge/cuttings, from the site for proper disposal. Ensure no	Site Manager / EO / Contractors	Prevention of contamination from spills and leaks of hydrocarbons (i.e. oil, grease etc.), cement, waste generated	Weekly	ECO Monitoring reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	hazardous chemicals or Hydrocarbon materials remain on site.		on site, and temporary toilets used on site.		EA Audit reports
10.2.57	Prohibit fuel storage, machinery servicing, and vehicle cleaning on site, especially within wetland habitats. Adherence to the wetland buffer areas is important. These should be visibly demarcated on site to avoid encroachment into these areas	Site Manager / EO / Contractors	Prevention of contamination from spills and leaks of hydrocarbons (i.e. oil, grease etc.), cement, waste generated on site, and temporary toilets used on site.	Weekly	ECO Monitoring reports EA Audit reports
10.2.58	Weekly or monthly internal ECO monitoring should be undertaken.	ECO	Compliance with the EA, EMPr and WUL/GA	Weekly	ECO Monitoring reports
10.2.59	Progressive rehabilitation must take place to enable topsoil to be returned more rapidly, thus ensuring more recruitment from the existing seedbank. Any woody material removed can be shredded and used in conjunction with the topsoil to augment soil moisture and prevent further erosion.	Site Manager / EO / Contractors	Decrease in the loss of CBA1, CBA2 and ESA and sections of area classed as moderate and highest biodiversity importance.	Monthly	ECO Monitoring reports EA Audit reports
10.2.60	Ensure vehicles and equipment are in good working order.	Site Manager / EO / Contractors	Minimal to negligible aquifer degradation and groundwater user impacts.	Weekly	ECO Monitoring reports EA Audit reports
10.2.61	Place oil traps under stationary machinery, install temporary fuel trap to trap fuel spills on site when refuelling, immediately clean oil and fuel spills and dispose contaminated material (soil, etc.) at licensed sites only.	Site Manager / EO / Contractors	Minimal to negligible aquifer degradation and groundwater user impacts.	Monthly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.62	Ensure that good housekeeping rules are applied.	Site Manager / EO / Contractors	Minimal to negligible aquifer degradation and groundwater user impacts.	Weekly	ECO Monitoring reports EA Audit reports
10.2.63	Mud pits (if to be used) must be lined and properly covered with impermeable material after completion of exploration boreholes	Site Manager / EO / Contractors	Minimal to negligible aquifer degradation and groundwater user impacts.	Weekly	ECO Monitoring reports EA Audit reports
10.2.64	Cap and seal all exploration boreholes to prevent surface water from entering the borehole, if not used by another water user after prospecting.	Site Manager / EO / Contractors	Minimal to negligible aquifer degradation and groundwater user impacts.	Monthly	ECO Monitoring reports EA Audit reports
10.2.65	No invasive prospecting activities to be undertaken within 50m of a watercourse.	Site Manager / EO / Contractors	Minimal or negligible Impacts on surface water features (e.g. streams, rivers, wetlands, saltpans) – which may be recharged by groundwater	Monthly	ECO Monitoring reports EA Audit reports
10.2.66	No ablution of site laydown areas are to be located within 50m of a watercourse.	Site Manager / EO / Contractors	Minimal or negligible Impacts on surface water features (e.g. streams, rivers, wetlands, saltpans) – which may be recharged by groundwater	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.67	A site plan of the camp must be provided indicating domestic waste areas, chemical storage areas, fuel storage area, site offices and placement of ablution facilities.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Plan to be in place before construction begins in that area	ECO Monitoring reports EA Audit reports
10.2.68	The Contractor should supply sealable and properly marked domestic waste collection bins and all solid waste collected shall be disposed of at a licensed disposal facility.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.69	Where a registered disposal facility is not available close to the prospecting area, the Contractor shall provide a method statement with regard to waste management. Under no circumstances may domestic waste be burned on site.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.70	All vehicles and equipment must be well maintained to ensure that there are no oil or fuel leakages. Leaking equipment shall be repaired immediately or be removed from site to facilitate repair.	Site Manager / EO / Contractors	Appropriate waste management and disposal practices. Minimal impacts on the soil Minimal to no pollution, including littering.	Weekly	ECO Monitoring reports EA Audit reports
10.2.71	Employees shall operate clearly marked vehicles and wear clearly marked uniforms.	Site Manager / EO / Contractors	Access roads and tracks will be maintained and promptly repaired to ensure continued usability.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
			Safety and security risks for landowners and lawful occupiers will be effectively managed and minimised. Existing land uses will continue with minimal, temporary, and pre-agreed interference.		
10.2.72	Noise-generating activities associated with construction activities should be kept to a minimum.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.73	Local residents (landowners and directly adjacent landowners) should be notified of any potentially noisy activities or work and these activities should be undertaken at reasonable times of the day. Should work be required during weekends and or at night, the access agreement with the landowner should include this and must permit these activities, and if the noise is problematic, a grievance can be lodged by the landowner.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna.	Weekly	ECO Monitoring reports EA Audit reports
10.2.74	Compliance with the appropriate legislation/ any local by-laws and regulations regarding the generation of noise must be adhered to.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.75	Noises that could cause a major disturbance should only be carried out in areas located in close	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	proximity to communities and/or residences during normal working hours. Should noise-generating activities have to occur at night communities and/or landowners in the vicinity of the drilling should be warned about the noise well in advance and the activities should be kept to a minimum.				EA Audit reports
10.2.76	Provide appropriate Personal Protective Equipment (PPE) where required.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.77	The Applicant and Contractor must ensure that he/she has the contact details of the nearest emergency rooms (hospitals) to the site, of both private and public hospitals.	Site Manager / EO / Contractors	Minimal to no noise impacts on the surrounding community and fauna	Weekly	ECO Monitoring reports EA Audit reports
10.2.78	Clearing of vegetation should be minimized and avoided where possible. Maintain small patches of natural vegetation within the prospecting site to accelerate restoration and succession of cleared patches.	Site Manager / EO / Contractors	Minimal to no impacts on the environmental air quality.	Weekly	ECO Monitoring reports EA Audit reports
10.2.79	Dust emission should be within acceptable levels and dust control mechanisms must be in place from start to the end of prospecting activities and must be strictly adhered to.	Site Manager / EO / Contractors	Minimal to no impacts on the environmental air quality.	Weekly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.2.80	Use of suitable dust suppression measures such as water spraying; All stockpiles of fine material must be covered. No non-environmentally friendly suppressants may be used as this could result in pollution of water sources.	Site Manager / EO / Contractors	Minimal to no impacts on the environmental air quality.	Weekly	ECO Monitoring reports EA Audit reports
10.2.81	Construction vehicles much be well serviced, in roadworthy condition and comply with speed limits.	Site Manager / EO / Contractors	Minimal to no impacts on the environmental air quality.	Weekly	ECO Monitoring reports EA Audit reports
10.2.82	Machinery must be inspected daily for oil, fuel, and hydraulic leaks; any leaks must be repaired before equipment is used on site.	Site Manager / EO / Contractors	Minimise impacts water and biodiversity resources	Daily	ECO Monitoring reports EA Audit reports
10.2.83	Quarterly groundwater monitoring and once after site activities and rehabilitation, prior to handover to landowner/ new water user.	EO	Compliance with the EA, EMPr and WUL/GA	Quarterly	ECO/Groundwater Monitoring reports EA Audit reports
10.3 OPERATIONAL PHASE					
10.3.1	Continued implementation of an alien vegetation management plan on prospecting sites and along access routes to be implemented during any onsite activities.	Site Manager / Contractors	Prevention of environmental degradation during prospecting activities.	As stipulated in AIP	EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.3.2	Any waste and all hazardous substances must be handled, stored and disposed of in a safe and responsible manner so as to prevent pollution of the environment or harm to people or animals.	Site Manager / Contractors	Prevention of environmental degradation during prospecting activities.	As stipulated in WMP	EA Audit reports
10.3.3	The applicant must continue to implement a grievance mechanism and ensure that it is community-friendly. BMM must continue to address and keep record of community grievances.	Site Manager / Contractors	Existing land uses will continue with minimal, temporary, and pre-agreed interference.	Ongoing throughout operations	ECO Monitoring reports EA Audit reports
10.3.4	Any leaks or spills during operations shall be dealt with in line with the spill response procedure. Document findings and corrective actions. .	Site Manager / Contractors	Prevention of contamination from spills and leaks of hydrocarbons.	As required	ECO Monitoring reports EA Audit reports
10.3.5	Quarterly groundwater monitoring and once after site activities and rehabilitation, prior to handover to landowner/ new water user.	EO	Compliance with the EA, EMPr and WUL/GA	Quarterly	ECO/Groundwater Monitoring reports EA Audit reports
10.4 DECOMMISSIONING, CLOSURE AND REHABILITATION PHASE					
10.4.1	Implementation of a closure / rehabilitation plan from the onset of the operation of infrastructure. Rehabilitation must be conducted concurrently. Monitoring of the rehabilitated area must be undertaken at quarterly intervals for 3 years after the decommissioning phase	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Quarterly	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
10.4.2	The rehabilitated areas must be revegetated with indigenous vegetation. Areas other than the footprint areas and existing surface infrastructure areas, should be declared as 'no-go' areas to vehicles (only). All essential staff – machinery must be limited to decommissioning areas (no need to go outside the authorised area). Document and report restoration outcomes to relevant authorities.	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Annually	ECO Monitoring reports EA Audit reports
10.4.3	All erosion problems observed to be created during any onsite activities by the holder, should be rectified as soon as possible, using the appropriate erosion control structures and revegetation techniques.	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning Annual during close and rehab phases	ECO Monitoring reports EA Audit reports
10.4.4	All infrastructure must be removed after decommissioning and the site must be rehabilitated. Areas that are denuded during construction must be re-vegetated with indigenous vegetation to prevent erosion. This will also reduce the likelihood of encroachment by alien invasive plant species.	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning	ECO Monitoring reports EA Audit reports
10.4.5	Continued implementation of an alien vegetation management plan.	Site Manager / ECO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning Annual during close and rehab phases	ECO Monitoring reports EA Audit reports
10.4.6	All hazardous materials, if any, should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning	ECO Monitoring reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	spills that occur at the site should be cleaned up in the appropriate manner. Remove all waste oils, used filters, and contaminated materials from site for disposal at a licensed hazardous waste facility.				EA Audit reports
10.4.7	Decompact soils in areas affected by heavy machinery (use subsoiling or deep ripping.)	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning	ECO Monitoring reports EA Audit reports
10.4.8	A hydrocarbon spill management plan must be put in place to ensure that should there be any chemical spill out or over that it does not run into the surrounding areas. The Contractor shall be in possession of an emergency spill kit that must always be complete and available on site. Drip trays or any form of oil absorbent material must be placed underneath vehicles/machinery and equipment when not in use. No servicing of equipment on site unless necessary. All contaminated soil / yard stone shall be treated in situ or removed and be placed in containers	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning	ECO Monitoring reports EA Audit reports
10.4.9	Trees (or vegetation stands) removed must be replaced with species indigenous to the area. No grazing must be permitted within the rehabilitating area to allow for vegetation recovery. Alternatively, the area must remain fenced or otherwise barriered off for the duration of the rehabilitation period to prevent disturbance and allow recovery to take place. Continued implementation of an alien	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities. Proper rehabilitation.	Annually	ECO Monitoring reports EA Audit reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	vegetation management plan. Continued implementation of an alien vegetation management plan.				
10.4.10	It should be made an offence for any staff to /take bring any plant species into/out of any portion of the project area without permission. The only exception to this involves the removal of exotic or invasive species from the site, and the introduction of indigenous species for rehabilitation of the site post development. Introductions and removals, however, must be closely monitored to ensure that the correct species are being removed/reintroduced.	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Annually	ECO Monitoring reports EA Audit reports
10.4.11	A fire management plan must be compiled and implemented to minimise the risk of veld fires around the project site, unless suitable internal fire management and prevention procedures already exist, in which case these may be utilised and implemented, provided that they are adequate for the nature and scale of the proposed activities.	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning	ECO Monitoring reports EA Audit reports
10.4.12	All construction waste must be removed from site at the closure of the construction phase.	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning	ECO Monitoring reports EA Audit reports
10.4.13	Dust-reducing mitigation measures must be put in place and must be strictly adhered to. This includes the wetting of exposed soft soil surfaces. No non-	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning	ECO Monitoring reports

Item no.	Impact Management Actions	Responsible Party	Impact Management Outcome	Monitoring Frequency	Performance Indicators (Monitoring Tool)
	environmentally friendly suppressants may be used as this could result in the pollution of water sources. Limit the extent and duration that areas are exposed.				EA Audit reports
10.4.14	During the decommissioning and rehabilitation phase, a speed limit of 40 km/h must be strictly adhered to at all times, and appropriate signage should be installed to ensure compliance and safety throughout the duration of the project.	Site Manager / EO / Contractors	Prevention of environmental degradation post prospecting activities.	Weekly during decommissioning	ECO Monitoring reports EA Audit reports
10.4.15	Annual ECO monitoring should be undertaken.	EO	Compliance with the EA, EMPr and WUL/GA	Annual	ECO Monitoring reports EA Audit reports
10.4.16	Quarterly groundwater monitoring and once after site activities and rehabilitation, prior to handover to landowner/ new water user.	EO	Compliance with the EA, EMPr and WUL/GA	Quarterly	ECO/Groundwater Monitoring reports EA Audit reports

11 ENVIRONMENTAL MONITORING SCHEDULE

Table 8 includes the environmental monitoring activities that are required to be undertaken as stipulated in the EMPr and the EA. This includes the monitoring frequencies, responsible party, and the relevant conditions.

Table 8: Auditing and Monitoring Schedule.[1]

Environmental Monitoring	Frequency	Responsible Person	Reports to be submitted to Authority
Environmental Compliance Monitoring	Fortnightly or monthly during all onsite phases.	Qualified EO / Site Manager	DMPR, only where requested/required.
Groundwater Monitoring	Quarterly and once after site activities and rehabilitation, prior to handover to landowner/ new water user.	Qualified EO / Site Manager	DWS/DMPR, if required/requested.
Internal EA/EMPr Audit	Quarterly during construction, operation and decommissioning/rehabilitation or as stipulated in EA.	Qualified EO / Site Manager	DMPR, if required or requested.
External EA/EMPr Audit	Once during onsite activities and once after rehabilitation.	Independent qualified ECO / Auditor / EAP	DMPR
Internal WUL/GA Audit	As stipulated in WUL/GA (if WUL/GA is required)	Independent qualified ECO / EO / Site Manager	DWS

[1] The monitoring and auditing schedule will be updated once the EA, EMPr and relevant WUL/GA is approved and granted.