PROPOSED PROSPECTING RIGHT PORTIONS 1, 2 AND 3 OF THE FARM KAMBREEK NO 38 AND KLEIN PELLA NO 40 (1 546.52 HA), FOR COPPER ORE, IRON ORE, LEAD, LITHIUM ORE, RARE EARTHS AND ZINC ORE IN THE NAMAQUALAND MAGISTERIAL DISTRICT IN THE NORTHERN CAPE PROVINCE.

REHABILITATION AND CLOSURE PLAN

MAY 2024

REFERENCE NUMBER: *NC 30/5/1/1/2/13459 PR*

PREPARED FOR:
African Exploration Mining and Finance Corporation SOC Ltd
Mr. Phillip Motsoeneng
PO BOX 78969
Sandton
2146
Tel: 010 010 6100
Email: phillipm@aemfc.co.za

PREPARED BY:
Greenmined Environmental (Pty) Ltd
Sonette Smit
Postnet Suite 62
Private Bag X15
Somerset West
7129
Tel: 021 851 2673
Fax: 086 546 0579
Cell: 084 585 5706
E-mail:sonette.s@greenmined.co.za

EXECUTIVE SUMMARY

Greenmined Environmental (Pty) Ltd are the consultants responsible for the prospecting right application, and in light of this, an Annual- and Final Rehabilitation, Decommissioning and Prospecting Closure Plan (*in aliis verbis* Closure Plan) was accordingly drafted for the proposed prospecting activities.

The purpose of this document is to provide site management with an Annual Rehabilitation Plan as well as the Final Rehabilitation, Decommissioning and Closure Plan, compiled in terms of the NEMA Amendment Act, 2014 (Act No. 25 of 2014) read with the Regulations pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations, November 2017 (GN 1228, Financial Provision Regulations 2017. The amendment of the closure plan entails a review of the following aspects:

1. Annual rehabilitation as reflected in the annual rehabilitation plan;
2. Final rehabilitation, decommissioning and closure of the prospecting operations at the end of the life of operations as reflected in the final rehabilitation, decommissioning and prospecting area closure plan;
3. Remediation of latent or residual environmental impacts, which may become known in the future, as, reflected in the environmental risk assessment report.

Annual Rehabilitation Plan:

Upon approval of the prospecting right application and receipt of the EA, the prosecting right holder will annually report on the planned rehabilitation actions.

Rehabilitation, Decommissioning and Prospecting area Closure Plan:

The decommissioning phase will entail the removal of the drill rig and any foreign material from site; progressive closing of the drill holes and using material from around the boreholes and landscaping any compacted surfaces (if needed) will be implemented as they move from one borehole to the next. Upon closure of the prospecting right the area will return to its natural state. Due to the nature of the activity no buildings or permanent infrastructure needs to be demolished and the access roads will remain intact to be used by the landowner.

The decommissioning activities will therefore consist of the following:

- Removal of all prospecting machinery from the prospecting area;
- Removal of the chemical toilet from the prospecting area;

- Capping of all the boreholes with sand material from around the boreholes;
- Landscaping and replacing the topsoil (if removed); and
- Controlling the invasive plant species.

Environmental Risk Assessment Report:

At this stage, no latent risks that will potentially arise during closure phase of the prospecting area were identified. By reason of the fact that no latent risks with regard to the management of the prospecting area were identified no additional monitoring, auditing or reporting requirements are required at this stage.

LIST OF DEFINITIONS

Abandonment: The act of abandoning and relinquishment of a prospecting claim or intention to prospect a voluntary surrender of the claim or mine to the next party.

Appropriately qualified: A person who has training in the skills appropriate to the type of work to be done, and experience of the type of prospecting area and of the size, complexity and safety classification of the deposit or the environmental conditions (or both) pertaining to the specific project.

Closure Plan: Annual Rehabilitation and Final Rehabilitation, Decommission and Closure Plan.

Biodiversity: Biodiversity is an abbreviation of “biological diversity”. It means the variety of living things – the different plants, animals and microorganisms, the genes they contain and the ecosystems of which they are a part.

Closure: The act of reinstating a redundant prospecting area which is acceptable for final prospecting area closure.

Context of an environmental impact: The overall environmental setting in which an environmental impact occurs. It includes all "natural" components and characteristics (or both) and all "human and social" components and characteristics (or both). It has both spatial and time dimensions.

Design: The documented result of a systematic process during which all relevant factors and criteria are taken into account. The design includes the design report, the working drawings and the operations manual.

Environmental impact: Any change in the state of a component of the environment, whether adverse or beneficial, that wholly or partially results from activities, projects or developments.

Environmental integrity: The reliability of performance of the environmental impact management measures associated with the facility, with respect to the environmental performance objectives.

Environmental management programme: A programme contemplated in the Mineral and Petroleum Resources Development Act, 2002 submitted to and approved by the Director: Mineral Development, and detailing the plan to be adopted and implemented by a mine for managing the environmental effects of the operations of the mine.

Environmental objectives: Those objectives that represent the desired state of environmental components that have been adopted for the mine.

Intensity of an environmental impact: The severity of the consequences of an environmental impact, as judged by suitably qualified persons.

Manager of a mine (general manager): Any competent person appointed in terms of the Mine Health and Safety Act, 1996 (Act 29 of 1996), to be responsible for the control, management and direction of a mine.

Rehabilitated land: Is defined as land that has previously been mined through or areas, which have been disturbed by the prospecting process. These areas have been levelled, covered with topsoil, fertilized, seeded and are capable of supporting a sustained long-term vegetation cover.

Redundant: No longer required for prospecting operation.

Reliability: The probability that a specified event will not occur in a specified time (usually expressed as a ratio, when measured in quantitative terms).

Risk: The probability that a specified event, such as failure, will occur in a specified time.

Scheduled closure: Planned closure of mine.

Significant environmental impact: An impact in respect of which consultation (with the relevant authorities and other interested and affected parties) on the context and intensity of its effects provides reasonable grounds for mitigating measures to be included in the environmental management programme. Significance is determined by the integration of the context and intensity of the effects of the impact, and the likelihood that the impact will occur.

Topsoil: means the layer of soil covering the earth which –
(a) provides a suitable environment for the germination of seed;
(b) allows for penetration of water; and
(c) Is a source of microorganisms, plant nutrients and in some cases seed.

Unscheduled closure: The closure cost associated with immediate closure and provision.

LIST OF ABBREVIATIONS

BAR	Basic Assessment Report
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
EIA	Environmental Impact Assessment
EIS	Ecological Importance Sensitivity
ESA	Ecological Support Areas
EPA	Environmental Performance Assessment
EMPR	Environmental Management Program
I&AP's	Interested and Affected Parties
MPRDA	Mineral and Petroleum Resources Act, 2002 (Act No 28 of 2002)
NWA	National Water Act, 1998 (Act No. 36 of 1998)
NEMA	National Environmental Management Act, 1998 (Act No. 107 of 1998)
NEM:WA	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
PAOI	Project Area of Influence
PES	Present Ecological State
WCMR	Waste Classification and Management Regulations
WWF	World Wildlife Fund

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1. INTRODUCTION

The applicant African Exploration Mining and Finance Corporation SOC Ltd, applied for environmental authorisation (EA) and a prospecting right to prospect for Copper ore, Iron ore, Lead, Lithium ore, Rare Earths and Zinc ore on portions 1, 2 and 3 of the farm Kambreek no 38 and Klein Pella no 40 within the Namaqualand Magisterial District in the Northern Cape Province.

Greenmined Environmental (Pty) Ltd ("Greenmined") are the consultants responsible for the prospecting right application related environmental assessment and consultation, as well as EA, and in light of this, an Annual- and Final Rehabilitation, Decommissioning and Mine Closure Plan (*in aliis verbis* Closure Plan) was accordingly drafted for the proposed prospecting activities. This report (the Closure Plan) stipulates the rehabilitation methods to be followed in the restoration of the earmarked prospecting footprint. The report was compiled in line with Government Notice 940 of the National Environmental Management Act, 1998 [NEMA] (Act No. 107 of 1998) together with Regulation 62 of the Minerals and Petroleum Resources Development Act, 2002 [MPRDA] (Act No. 28 of 2002). The information used in this report was sourced during the EIA process.

The purpose of this document is to provide site management with an Annual Rehabilitation Plan as well as the Final Rehabilitation, Decommissioning and Closure Plan, compiled in terms of the NEMA Amendment Act, 2014 (Act No. 25 of 2014) read with the Regulations pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations, November 2017 (GN 1228, Financial Provision Regulations 2017).

1.1 PROJECT PROPOSAL

In light of the above, African Exploration Mining and Finance Corporation SOC Ltd (hereinafter referred to as "the Applicant") has applied for a prospecting right for Copper ore, Iron ore, Lead, Lithium ore, Rare Earths and Zinc ore on portions 1, 2 and 3 of the farm Kambreek no 38 and

Klein Pella no 40 within the Namaqualand Magisterial District in the Northern Cape Province. The proposed activity will make use of non-invasive as well as invasive prospecting that will include borehole drilling to retrieve geological core samples. No bulk sampling will be done.

The proposed prospecting footprint applied for is approximately 1 546.52 ha over the above-mentioned properties and all activities will be contained within the boundaries of the site. The proposed prospecting area is a natural area. And will involve the following invasive activities:

Invasive Activities will consist of the following:

Drilling/Trenching

The implementation of trenching and/or drilling will be determined based on the results from initial exploratory work. Either technique will be implemented at spacing grid capable of providing an Inferred Mineral Resource. This Resource is defined at a low degree of confidence but is sufficient to be used to complete a Scoping Study and to evaluate the economic feasibility of the project to advise the decision to continue to feasibility study work.

Drilling/Trenching will be carried out to provide sample material from intersections of the targeted strata or geological features. A small excavator or tractor-loader-backhoe will be used for trenching. On the other hand, the preferred method to employ for drilling is Reverse Circulation (RC) and/or diamond drill techniques. The objective of drilling/trenching programme is to assess the presence of potentially economic mineralisation. The number of drill holes to be dug and their depths to the top will depend on the results of Phase 1 and initial part of Phase 2.

The prospecting site will contain the following:

1. Surveying Equipment;
2. Chemical Toilet;
3. Drilling equipment;
4. Geophysical logging equipment;
5. Field Vehicles;
6. Sample Analysis equipment; and
7. Other relevant field equipment.

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, etc.)

Phase 1:

Database compilation

Upon granting of the Prospecting Right, the initial activity will be to source additional public domain data from agencies such as the Council for Geoscience and Department of Mineral Resources. In particular, historical exploration work such as sample data, geophysics, and diamond drill information is particularly relevant to inform the ongoing exploration programme.

Preliminary project logistical activities

Prior to engaging in exploration of any new area, it is necessary to contact and obtain the permission of the surface rights holders to engage in exploration activities on their land. Initially, the site exploration works will be the low-key activities mentioned below; therefore, accommodation will be at a suitable local commercial facility. Should the project progress, certain, logistical activities such as identification of a suitable site office/accommodation will require completion prior to commencing Phase 3 activities.

Remote sensing/Field mapping/Geochemical survey/Geophysical survey

These activities will be conducted to outline potential deposits of the metals being applied for. Remotely sensed data such as ASTER and Sentinel multispectral data will be processed using GIS software to locate features diagnostic to these deposits. As for field mapping, it will be conducted by walking over the prospecting right and taking field observations and samples of the rocks that outcrop; Geochemical survey will be conducted preferably through hand-held XRF techniques.

With regards to geophysics, public and private domain geophysical data that exists over the project area will be procured and utilised to facilitate and inform the ongoing exploration. At any stage of the project, it may be decided that additional, more detailed geophysical surveys may be required for various technical reasons. These surveys may comprise magnetic and electromagnetic surveys although other techniques may also be considered. The decision to utilise additional geophysical methods will be taken by the Competent Person, in consultation with the companies consulting geophysicists, at the appropriate stage of the project. All the above work will be continually compiled

and interpreted within the GIS environment. This will enable the focus of ongoing activities on the areas of potential.

DESCRIPTION OF PLANNED INVASIVE ACTIVITIES:

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

Phase 2-3

Drilling/Trenching

Drilling/Trenching will be carried out to provide sample material from intersections of the targeted strata or geological features. A small excavator or tractor-loader-backhoe will be used for trenching. On the other hand, the preferred method to employ for drilling is Reverse Circulation (RC) and/or diamond drill techniques. The objective of drilling/trenching programme is to assess the presence of potentially economic mineralisation. The number of drill holes to be dug and their depths to the top will depend on the results of Phase 1 and initial part of Phase 2.

At this stage of the project, it is impossible to define the exact locations of drill sites or number of drillholes to be dug. However, the detailed drilling spacing will be planned to allow the defining of an Inferred Mineral Resources as per the SAMREC code. Should there be a need to conduct an extra exploration work, which is not indicated herein, in order to clearly define Mineral Resource Category, the Department of Mineral Resources will be provided with an addendum in respect to the Prospecting Work Programme. Due to the small scale and nature of the prospecting activities the pollution potential is of low significance. Prior to moving to the next drill block these sites will have to be fully rehabilitated as per the mitigation measures set out in this document as well as in consultation with the landowner / landowners, thereby keeping the impact on the receiving environment as low as possible.

DESCRIPTION OF PRE-/FEASIBILITY STUDIES:

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

Scoping study

Following the completion of the Phase 2 and initial stages of Phase 3 work and should a potentially economic Mineral Resource have been defined that is metallurgically recoverable;

a Scoping Study will be completed as per normal industry practice. This will include a preliminary mine and plant design, provisional environmental and social impact studies, and a financial model that will provide an indication whether the project is potentially viable. This work is generally performed by a Competent Person and will be done off-site. Should the Scoping study prove positive, the decision will be taken to move the project to the Feasibility study.

Feasibility study

A multi-disciplinary pre-feasibility study will be done based on the geological model and mineral resource category outlined above. The outcome of the pre-feasibility Study will be a complete mine and plant design, together with a preliminary EMPR for the operations. Should this prove positive, feasibility study work will commence.

Feasibility study will essentially improve the degree of accuracy of the pre-feasibility. This may include the detailed mine design, bulk sampling, or trial mining; preparation and application for the water use license, EMPR, and mining license; and placement of provisional orders for construction. The outcome of the feasibility study will provide a blueprint for construction, and the procurement of permitting and project finance.

1.2 OBJECTIVE OF THE CLOSURE PLAN

The purpose of the Closure Plan is to describe the rehabilitation processes that need to take place to ensure that the prospecting right reaches its full environmental potential upon closure.

The primary objective, at the end of the mine's life, is to obtain a closure certificate at minimum cost and in as short a period as possible whilst still complying with the requirements of the Minerals and Petroleum Resources Development Act (Act No. 28 of 2002) [MPRDA]. To realise this, the following main objectives must be achieved:

- Remove all temporary infrastructure and waste from the site as per the requirements of the EMPR and of the Provincial Department Mineral Resources and Energy.
- Shape and contour all disturbed areas in compliance with the EMPR.
- Ensure that permanent changes in topography (due to prospecting) are sustainable and do not cause erosion or the damming of surface water.
- Make all excavations safe.
- Use the topsoil effectively to promote the re-establishment of vegetation.
- Ensure that all rehabilitated areas are stable and self-sustaining in terms of vegetation cover.
- Eradicate all weeds/invader plant species by intensive management of the prospecting site.

2. DETAILS OF THE AUTHOR

The Applicant, African Exploration Mining and Finance Corporation SOC Ltd , appointed Greenmined Environmental to prepare the final rehabilitation, decommissioning and prospecting area closure plan. Sonette Smit is an Environmental Consultant with 17 years' experience in the environmental sector. She specialized in the last 12 years in the mining sector where she conducted the mining related report and programs. She has also been involved in a number of other environmental and water use application projects where she compiled environmental management plans, environmental impact assessments, environmental audits, IWULA's/IWWMP's.

Mrs. S Smit is a registered Environmental Assessment Practitioner (registration no: 2020/2467) with EAPASA (Environmental Assessment 19 Practitioners Association of South Africa) since 2020. See a list of past projects attached as Appendix I.

Name of the Practitioner:	Mrs Sonette Smit (Senior Environmental Consultant)
Tel No.:	021 851 2673
Fax No.:	086 546 0579
E-mail address:	sonette.s@greenmined.co.za

Declaration of Independence:

I, Sonette Smit, in my capacity as environmental control officer declare that–

- I act as independent environmental control officer in this compliance audit;
- I will perform the work relating to the audit in an objective manner, even if the results and findings are not favourable to the holder of the authorisation;
- I have expertise in conducting environmental compliance audits, including knowledge of the Act and regulations that have relevance to the activity;
- I will adhere to and comply with all responsibilities as indicated in the National Environmental Management Act and Environmental Impact Assessment Regulations.
- I do not have and will not have any vested interest in the activity other than remuneration for work performed in terms of the Environmental Impact Assessment Regulations, 2014.

Prepared by: Sonette Smit	Date:
	28 May 2024

3. LEGAL BACKGROUND AND BEST PRACTICES

This section provides an overview of the legislative requirements applicable to the project, including the acts, guidelines and policies considered in the compilation of the Closure Plan.

3.1 THE CONSTITUTION OF SOUTH AFRICA, 1996 (ACT NO. 108 OF 1996)

The legislative motivation for this project is underpinned by The Constitution of South Africa, 1996 (Act No. 108 of 1996), which states that:

The State must, in compliance with Section 7(2) of the Constitution, respect, protect, promote and fulfil the rights enshrined in the Bill of Rights, which is the cornerstone of democracy in South Africa. Section 24 of the Constitution:

24. Environment

-Everyone has the right-

(a) To an environment that is not harmful to their health or well-being; and

(b) To have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-

(i) Prevent pollution and ecological degradation;

(ii) Promote conservation; and

(iii) Secure ecologically sustainable development and use of natural resources while promoting a justifiable economic and social development.

Section 24 of the Constitution of South Africa requires that all activities that may significantly affect the environment and require authorisation by law must be assessed prior to approval. In addition, it provides for the Minister of Environmental Affairs or the relevant provincial Ministers to identify:

- New activities that require approval;
- Areas within which activities require approval; and
- Existing activities that should be assessed and reported on.

Section 28(1) of the Constitution of South Africa states that:

"Every person who causes, has caused or may cause significant pollution or degradation of the environment must take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring".

If such pollution or degradation cannot be prevented, then appropriate measures must be taken to minimise or rectify such pollution or degradation. These measures may include:

- Assessing the impact on the environment.
- Informing and educating employees about the environmental risks of their work and ways of minimising these risks;
- Ceasing, modifying or controlling actions which cause pollution/degradation;
- Containing pollutants or preventing movement of pollutants;
- Eliminating the source of pollution or degradation; and
- Remedying the effects of the pollution or degradation.

3.2 THE MINERALS AND PETROLEUM RESOURCES ACT, 2002 (ACT NO. 28 OF 2002) [MPRDA]

The table below summarises the relevant sections in terms of the MPRDA, 2002.

Table 1: Summary of the relevant rehabilitation sections of the MPRDA, 2002

AREA OF CONCERN	SECTION	LEGAL REQUIREMENTS
Environmental Management	Section 37	*Requires that the principles set out in section 2 of NEMA must apply to all prospecting and mining operations, and that the generally accepted principles of sustainable development must be applied by integrating social, economic and environmental factors during the planning and implementation phases of mining projects.*
	Section 38	*Requires the applicant to manage all environmental impacts in accordance with his or her environmental management plan (EMP) or the approved EMPR.*
	Section 39	*Deals with the requirements of an EMP/EMPR, whichever is applicable.*
Financial Provision	Section 41	*Financial provision needs to be provided and annually asses the environmental liability.*
Closure Certificate	Section 43	*Holder of a mining permit is responsible for all environmental liabilities as may be identified in the EMP, application needs to be made to the regional manager for the closure certificate.*
Removal of Infrastructure	Section 44	*When the mining operation comes to an end the mine may not remove buildings, structures or objects which may not be demolished or removed in terms of any other law.*

3.2.1 Regulation 527 of the MPRDA, 2002

Government Notice No. R.527, as published in the Government Gazette, 23 April 2004 (GG No. 26275, Volume 466) of MPRDA stipulate that the following closure objectives must form part of the EMPR:

- Identify the key objectives for closure of the operation to guide the project design;

- Development and management of environmental impacts;
- Provide future land use objectives for the site; and
- Provide proposed closure costs.

Table 2: Requirements of Government Notice 527

AREA OF CONCERN	REGULATION	LEGAL REQUIREMENTS
The need to prevent and alleviate pollution arising from mining activities.	Regulation 42(1)	*Section 42(1) of the MPRDA stipulates that the closure process must start at the commencement of a mining operation and continue throughout the entire life of the mine. Furthermore, future closure and land use objectives must be included in the EMP Section 42(1) d stipulates that any environmental damage or residual impacts that are identified during the Environmental Risk Assessment (ERA) phase must be acceptable to all Interested and Affected Parties (I&AP's) in line with Section 24(a) of the National Constitution.*
Mine Closure	Regulation 43	*A closure plan contemplated in Section 43(3)(d) of the Act, forms part of the EMPR or EMP, as the case may be, and must include – a summary of the results of progressive rehabilitation undertaken.*
Part III of R 527 deals with environmental regulations for mineral development, petroleum exploration and production.	Regulation 56	*In accordance with applicable legislative requirements for mine closure, the holder of a prospecting right, mining right, retention permit or mining permit must ensure that –The land is rehabilitated, as far as is practicable, to its natural state, or to a predetermined and agreed standard or land use which conforms with the concepts of suitable development.*

3.3 THE NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998) [NWA]

The National Water Act, 1998 (Act No. 36 of 1998) (NWA) aims to provide management of the national water resources to achieve sustainable use of water for the benefit of all water users. This requires that the quality of water resources is protected as well as integrated management of water resources with the delegation of powers to institutions at the regional or catchment level. The purpose of the NWA is to ensure that the nation's water resources are protected, used, developed, conserved, managed and controlled in ways, which take into account:

- Meeting the basic human needs of present and future generations;
- Promoting equitable access to water;
- Redressing the results of past racial discrimination;
- Promoting the efficient, sustainable and beneficial use of water in the public interest;
- Facilitating social and economic development;
- Providing for growing demand for water use;
- Protecting aquatic and associated ecosystems and their biological diversity;
- Reducing and preventing pollution and degradation of water resources;
- Meeting international obligations; and
- Managing floods and droughts.

The following sections of the NWA, 1998 are relevant.

Table 3: NWA, 1998 applicable sections

AREA OF CONCERN	SECTION	LEGAL REQUIREMENTS
Prevention and remedying effects of pollution.	Section 19	*Any situation exist or which may cause or is likely to cause pollution of a water resource, must take all reasonable measures to prevent any such pollution from occurring, continuing or recurring.*
Control of emergency incidents.	Section 20	*Incidences of pollution needs to be reported the Department and the relevant catchment agency*
General principles: Water uses	Section 21	*The MR Holder has a valid General Authorisation issued by DWS in 2017.*

3.4 THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO 107 OF 1998) [NEMA]

The National Environmental Management Act (NEMA) strives to regulate national environmental management policy and is focussed primarily on co-operative governance, public participation and sustainable development. NEMA makes provisions for co-operative environmental governance by establishing principles for decision making on matters affecting the environment, institutions that will promote co-operative governance and procedures for co-ordinating environmental functions exercised by organs of state and to provide for matters connected therewith.

The following sections are relevant.

Table 4: NEMA, 1998 applicable sections

AREA OF CONCERN	SECTION	LEGAL REQUIREMENTS
Principles that may significantly affect the environment.	Section 28	*General duty of care on every person who causes, has caused or may cause significant pollution or degradation of the environment to take reasonable measures to prevent such pollution or degradation from occurring, continuing or recurring, or, in so far as such harm to the environment is authorised by law or cannot reasonably be avoided or stopped, to minimise and rectify such pollution or degradation of the environment.*
Control of emergency incidents.	Section 30	*Incidences of pollution needs to be reported the Department.*
Environmental Management Plan.	Section 34	*A EMP must include –* *information on any proposed management or mitigation measures that will be taken to address the environmental*

AREA OF CONCERN	SECTION	LEGAL REQUIREMENTS
		impacts that have been identified in a report contemplated by these Regulations, including environmental impacts or objectives in respect of – *(iv) rehabilitation of the environment;* *as far as reasonably practicable, measures to rehabilitate the environment affected by the undertaking of any listed activity or specified activity to its natural or predetermined state or to a land use which conforms to the generally acceptable principle of sustainable development, including where appropriate, concurrent or progressive rehabilitation measures.*

3.4.1 Regulation 1228 of NEMA, 1998

NEMA, GNR 1228 GG 41236, known as the NEMA Financial Provision Regulations, 2015 (amended 2017), was promulgated in November 2015, and in terms of these regulations holders of a mining permit are allowed a transitional period of 39 months (19 February 2019) from the date of promulgation to comply. The compliance date was extended to June 2021.

As mentioned earlier the prospecting right holder must annually update the annual rehabilitation, final rehabilitation and remediation of latent environmental impacts and ensure it is compliant with the Financial Provision Regulations of 2015. The reports need to be conducted in the format that was supplied in the regulations as per Appendix 5 and Appendix 6.

3.5 THE NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT NO 57 OF 2008) [NEM:WA]

The rehabilitation measures must be aligned with the objections of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) (NEM: WA) which includes:

(a) To protect health, well-being and the environment by providing reasonable measures for—
   (i) Minimising the consumption of natural resources;
   (ii) Avoiding and minimising the generation of waste;
   (iii) Reducing, re-using, recycling and recovering waste;
   (iv) Treating and safely disposing of waste as a last resort;
   (v) Preventing pollution and ecological degradation;

(vi) Securing ecologically sustainable development while promoting justifiable economic and social development;
(vii) Promoting and ensuring the effective delivery of waste services;
(viii) Remediating land where contamination presents, or may present, a significant risk of harm to health or the environment; and
(ix) Achieving integrated waste management reporting and planning;

(b) To ensure that people are aware of the impact of waste on their health, well-being and the environment;
(c) To provide for compliance with the measures; and
(d) Generally, to give effect to Section 24 of the Constitution in order to secure an environment that is not harmful to health and well-being

3.5.1 Waste Classification and Management Regulations, 2013 (GNR 634)

Waste Classification and Management Regulations (WCMR) promulgated under the National Environmental Management: Waste Act, 2008 (NEM:WA) (effective 2013) provides mechanisms to:

- Facilitate the implementation of the waste hierarchy to move away from landfill;
- Reuse, recovery and treatment;
- Separate waste classification from the management of waste;
- Divert waste from landfill and into utilisation where possible; and
- Provide measures to monitor the progress

The Waste Classification and Management Regulations ultimately enables the improved and more efficient classification and management of waste; provide for safe and appropriate handling, storage, recovery, reuse, recycling, treatment and disposal of waste and will also enable accurate and relevant reporting on waste generation and management. All waste generators, excluding domestic generators, must ensure that the waste they generate is classified within 180 days of its generation.

All wastes that were classified in terms of the “Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste in terms of the Department of Water Affairs’’ (2nd Edition, 1998; Department of Water Affairs and Forestry) or alternative classifications that were approved prior to the WCMR taking effect, must be re-classified and assessed within three years from the commencement of these Regulations.

Reference is made to the NEM:WA, part 8 of Chapter 4 regarding contaminated land:

All owners of land that is significantly contaminated become obliged to report that contamination is occurring. Part 8 of Chapter 4 is concerned with the remediation of contaminated land. This new legal regime for identifying contaminated land, determining its status and the risk that it poses, and regulating the remediation process is introduced. This law imposes significant legal obligation on the owners of land and on those who cause contamination, with potentially serious financial consequences. Part 8 applies where the pollution only manifest sometime after the contamination occurred and also where the action of a person (for example, the excavation of land pursuant to a development) results in a change to pre-existing contamination. Along with the notice brining Part 8 into effect, norms and standards for the remediation of contaminated land and soil quality (list certain contaminants and specify soil screening values for human health and environmental protection). This act also has several important implications for the sale of and, sellers who know that their lands is contaminated can no longer keep silent and this is classified as an offence.

3.6 FURTHER ACTS RELEVANT TO MINE REHABILITATION

- The Conservation of Agricultural Resources Act, 1983 (Act 43 of 1983).
- The South African Mineral Resource Committee (SAMREC) Code. Of particular importance in this regard is the determination of whether the mine has made an adequate provision for environmental rehabilitation in terms of Section 41 of the MPRDA.

3.7 BEST PRACTICE AND INTERNATIONAL GUIDELINES

Mine closure is an international challenge. South Africa has produced various well-known and reputable guidelines on matters directly linked and or associated with mine closure. Such was the need for guidelines to manage mine closure provisions in a consistent manner provided for by the DMRE (2005).

These guidelines are the only official mine closure guideline as contemplated in Regulation 54(1) in the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002). Of particular importance is that this guideline document governs the closure cost assessment process in South Africa and is applied by the DMRE through its respective regional managers in each province.

The Chamber of Mines (CoM) (2007) issued a guideline for the rehabilitation of mined land. This document is a result of scientific knowledge experts. It is an on the ground reference document which provides written guidelines on the best rehabilitation techniques. Of value is how the document distinguishes between the financing, the planning and the licensing components of a typical mining program.

The World Wildlife Fund (WWF) in 2012 published a discussion document named the "Financial provision for the rehabilitation and closure in South African Mining: Discussion Document on Challenges and recommended improvements". The document focuses on the adequacy of financial provisions and pulls a very strong link between insufficient financial allocations and that of derelict and abandoned mines in South Africa. The document further emphasizes the importance of establishing a dependency between the EMPR/EMP and financial provision which is updated and adequate.

Recently a released guideline from the Government of Western Australia (GWA 2011) provides insight to the importance of mine closure. The guidelines (GWA 2011) in particular state that planning for mine closure is a critical component of environmental management in the mining industry. Notably is that this industry leading practice also requires that planning for mine closure should start before mining commence and should continue throughout the life of the mine until final closure and relinquishment. This approach enables better environmental outcomes. It is also good business practice, as it should avoid the need for costly remedial earthworks late in the project lifecycle.

4. ENVIRONMENTAL AND PROJECT CONTEXT

4.1 PROJECT LOCATION

The prospecting right application covers an extent of 1 546.52 ha over portions 1, 2 and 3 of the farm Kambreek no 38 and Klein Pella no 40 within the Namaqualand Magisterial District in the Northern Cape Province.

The table below lists the GPS coordinates of the proposed prospecting footprint.

Table 5: GPS coordinates of the proposed prospecting footprint.

Name	DEC DEGREES	
	LAT	LONG
A	-28.93635	18.96683
B	-28.93465	18.99153
C	-28.94143	18.99518
D	-28.94943	19.00578
E	-28.96824	19.00167
F	-28.98312	19.00348
G	-28.98774	18.99197
H	-28.97577	18.9767
A	-28.93635	18.96683

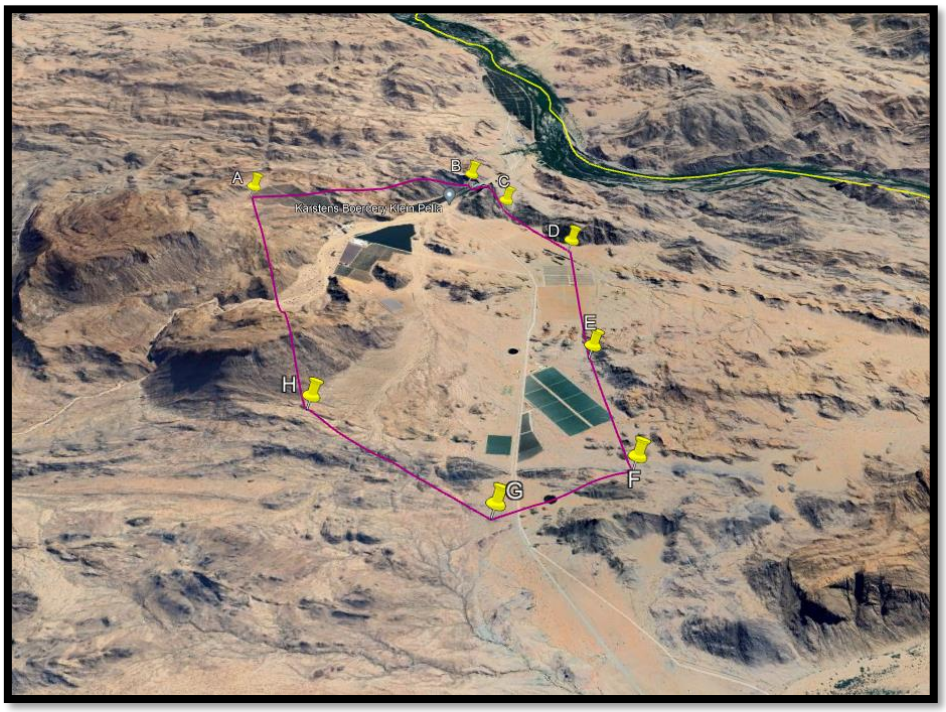

*Figure 1: Satellite view showing the position of Site Alternative 1 (purple polygon) within the surrounding landscape.**no alternative was identified for this site**.*

4.2 PROPOSED PROSPECTING OPERATION

4.2.1 Demarcation of Prospecting Boundaries

Pursuant to receipt of the Environmental Authorisation (EA) and Prospecting Right (PR), and prior to site establishment, the boundaries of the prospecting area will be demarcated with visible beacons.

4.2.2 Access Road

Access routes to the drill sites will also be located (existing roads will be used and new tracks will be made where needed).

4.2.3 Vegetation Clearing

Vegetation will be cleared for new access roads where required and for the water reticulation trenches.

4.2.4 Topsoil Stripping

No topsoil will be removed during the prospecting activities.

4.2.5 Introduction of Prospecting Machinery and Site Equipment

Drilling/Trenching will be carried out to provide sample material from intersections of the targeted strata or geological features. A small excavator or tractor-loader-backhoe will be used for trenching. On the other hand, the preferred method to employ for drilling is Reverse Circulation (RC) and/or diamond drill techniques. The objective of drilling/trenching programme is to assess the presence of potentially economic mineralisation. The process does not require highly specialised technology and no secondary processing will be required. The applicant plans to establish an area of 1m X 1m area per drilling site no extensive trenching will be done. The only equipment to be used during the invasive phase of the prospecting activities is the percussion drill rig, two vehicles and a small excavator or tractor-loader-backhoe to be used for trenching. No other infrastructure is needed or will be established. The drilling crew will reside at the nearest accommodation in the area and therefore no campsite is needed on the earmarked properties. No other infrastructure is needed or established.

The prospecting site will contain the following:

- Surveying Equipment;

- Chemical toilet:
- Drilling equipment;
- Geophysical logging equipment;
- Field Vehicles;
- Sample Analysis equipment; and
- Other relevant field equipment.

4.3 OPERATIONAL PHASE

The operational phase can be described in the following phases:

Drilling/Trenching

The implementation of trenching and/or drilling will be determined based on the results from initial exploratory work. Either technique will be implemented at spacing grid capable of providing an Inferred Mineral Resource. This Resource is defined at a low degree of confidence but is sufficient to be used to complete a Scoping Study and to evaluate the economic feasibility of the project to advise the decision to continue to feasibility study work.

Drilling/Trenching will be carried out to provide sample material from intersections of the targeted strata or geological features. A small excavator or tractor-loader-backhoe will be used for trenching. On the other hand, the preferred method to employ for drilling is Reverse Circulation (RC) and/or diamond drill techniques. The objective of drilling/trenching programme is to assess the presence of potentially economic mineralisation. The number of drill holes to be dug and their depths to the top will depend on the results of Phase 1 and initial part of Phase 2.

4.4 TOPOGRAPHY

The topography of the study area consists of sloping plains, sharply contrasting with the surrounding rocky hills and mountains. The altitude varies between 420–640m.

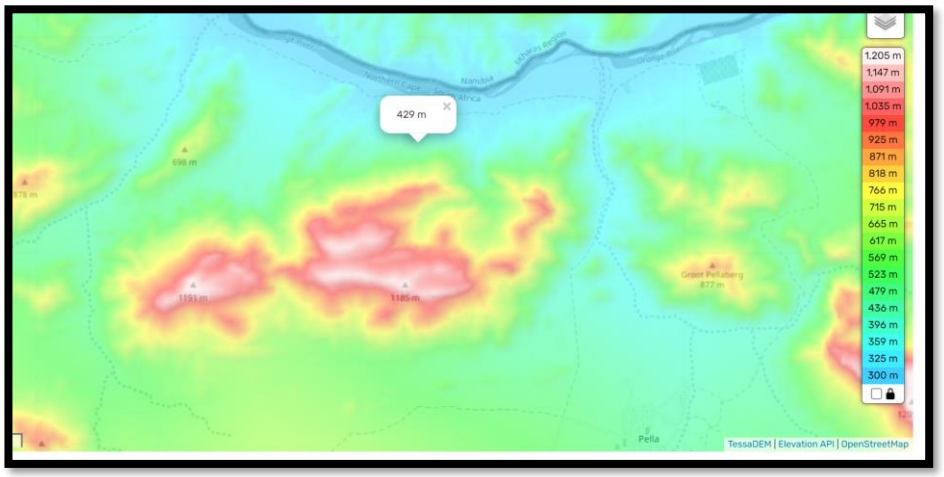

Figure 2: Map showing the topography of the prospecting area (image obtained from www.en-za.topographic-map.com/maps/gwpq/South-Afica/.

4.5 AIR AND NOISE QUALITY

The proposed activity will contribute the emissions of drilling equipment and field vehicles the receiving environment for the duration of the operational phase. Should the prospecting right holder implement the mitigation measures proposed in this document and the EMPR the impact on the air quality of the surrounding environment is deemed to be of low significance and compatible with the current land use. The potential impact on the noise ambiance of the receiving environment is expected to be of low significance and representative of the machinery already operational at the property.

Emission into the atmosphere is controlled by the National Environmental Management: Air Quality Act, 2004. The proposed prospecting activity does not trigger an application in terms of the said act. Should the prospecting right holder implement the mitigation measures proposed in this document and the EMPR the impact on the air quality of the surrounding environment is deemed to be of low significance and compatible with the current land use.

4.6 GEOLOGY

The mineral deposits being applied for are within Pella Domain Geology of the Namaqualand Metamorphic Province and predominately associated with pegmatite hosting

zones; also, bright-red banded iron-formation bed (varying from massive to fine-grained specularite and/or euhedral magnetite crystals) exist.

Pegmatites are associated with lithium-bearing minerals, including rare earth metals. Further, a large portion of the minerals in the area are silicates with varying amounts of sulphides, carbonates and borates. Minerals such as sphalerite (ZnS), galena (PbS), etc. are some of the common components of the sulphide minerals. Moreover, there are known mines and reported mineral occurrences of the minerals being applied for in the vicinity of the proposed area.

4.7 HYDROLOGY

The site falls within quaternary catchment D82A which forms part of the Orange Water Management Area (WMA). The collecting Rivers occur within the catchment namely the Orange River. The proposed application area will fall parallel to the Orange River.

As per the Aquatic Biodiversity Specialist Assessment (Appendix K1) the site is located within sub-quaternary reach SQR D82A-03607 (Fontein se) flowing into D82A-03675 (Orange River). The SQR is considered to be in a Largely Natural state (Class B), whilst the ecological importance (EI) and ecological sensitivity (ES) are rated as High and High (DWS, 2021).

The site falls within an area in close proximity to the Orange River and it is Least Threatened, the project is unlikely to impact the river. However, mitigation measures should therefore be adhered to.

The Orange River has been identified as an Endangered National catchment. This is due to the Lower Gariep Alluvial Vegetation which is Endangered due to it supporting a complex riparian thicket (dominated by *Ziziphus mucronate, Euclea psuedebenus* and Tamariz *ueneoides*). The Endangered vegetation would be affected by prospecting. Therefore, mitigation measures should be adhered to minimise the impact. The applicant is in the process of applying for a water uses authorisation to the Department of Water and Sanitation, in terms of the National Water Act, 1998 (Act No 36 of 1998) which will be submitted for the applicable waters uses.

4.8 TERRESTRIAL BIODIVERSITY, CONSERVATION AREAS AND GROUNDCOVER

The prospecting activities do not require the removal of any large trees or vegetation of significance. The proposed prosecting area falls in small sections of an Ecological Support area which correlates with the Aquatic sensitivity of the area. However, it can be considered that due to the small footprint of a borehole, the drill position can be manipulated to drill between the trees to prevent any impacts. In light of this, the impact

of the prospecting operation on the vegetation cover of the receiving environment is deemed to be of Low significance.

Table 6: Summary of habitat types delineated within field assessment area.(table obtained from Terrestrial Impact Assessment (Appendix K2)

Habitat Type	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance Guidelines
Alluvial Vegetation	**Low**	**Very High**	**Medium**	**Low**	**High**
	< 50% of receptor contains natural habitat with limited potential to support SCC.	High habitat connectivity serving as functional ecological corridors, limited road network between intact habitat patches.		Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor	Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted, limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Plains Desert	**Medium**	**High**	**Medium**	**Low**	**High**
	> 50% of receptor contains natural habitat with potential to support SCC.	Large (> 20 ha but < 100 ha) intact area for any conservation status of ecosystem type		Habitat that is unlikely to be able to recover fully after a relatively long period: > 15 years required to restore ~ less than 50% of the original species composition and functionality of the receptor	Avoidance mitigation wherever possible. Minimisation mitigation – changes to project infrastructure design to limit the amount of habitat impacted, limited development activities of low impact acceptable. Offset mitigation may be required for high impact activities.
Rocky Desert	**High**	**High**	**High**	**Very Low**	**Very High**
	Confirmed or highly likely occurrence of CR, EN, VU species that have a global EOO of > 10 km^2	Large (> 20 ha but < 100 ha) intact area for any conservation status of ecosystem type		Habitat that is unable to recover from major impacts, or species that are unlikely to remain at a site even when a disturbance or impact is occurring	Avoidance mitigation – no destructive development activities should be considered. Offset mitigation not acceptable/not possible (i.e., last remaining populations of species, last remaining good condition patches of ecosystems/unique species assemblages). Destructive impacts for species/ecosystems where persistence target remains.
Modified	**Very Low**	**Very Low**	**Very Low**	**Very High**	**Very Low**

Habitat Type	Conservation Importance	Functional Integrity	Biodiversity Importance	Receptor Resilience	Site Ecological Importance Guidelines
	No natural habitat remaining.	Several major current negative ecological impacts.		Habitat that can recover rapidly (~ less than 5 years) to restore > 75% of the original species composition and functionality of the receptor	Minimisation mitigation – development activities of medium to high impact acceptable and restoration activities may not be required.

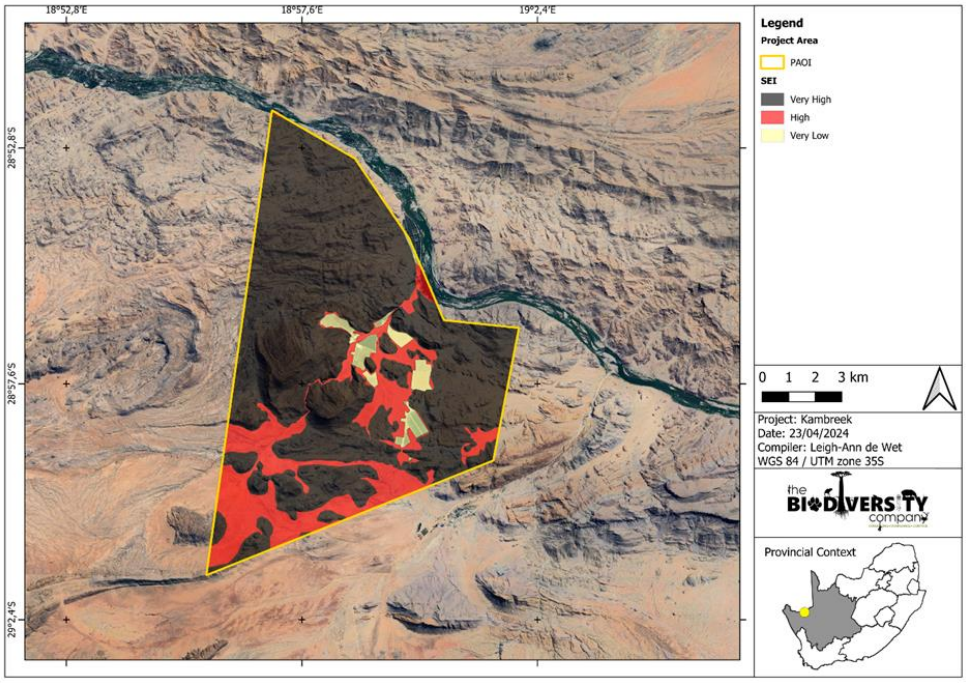

Figure 3: Site Ecological Importance of the Project Area. (image obtained from the Terrestrial Biodiversity Impact Assessment attached as Appendix K2)

As per the Terrestrial Impact Assessment (Appendix K2) the PAOI falls within the Nama Karroo Biome as well as the Desert Biome and also includes a small portion of Azonal vegetation.

The Nama Karoo biome is found in the central plateau of the western half of South Africa. The geology underlying the biome is varied, as the distribution of this biome is determined primarily by rainfall. The rain falls in summer, and varies between 100 and 520 mm per year. This also determines the predominant soil type - over 80% of the area is covered by a lime-rich, weakly developed soil over rock. Although less than 5% of rain reaches the rivers, the

high erodibility of soils poses a major problem where overgrazing occurs (SANBI, 2019).

The dominant vegetation is a grassy, dwarf shrubland. Grasses tend to be more common in depressions and on sandy soils, and less abundant on clayey soils. Grazing rapidly increases the relative abundance of shrubs. Most of the grasses are of the C4 type and, like the shrubs, are deciduous in response to rainfall events (SANBI, 2019).

The Desert Biome presents incredibly harsh environmental conditions, surpassing even those of the Succulent Karoo and Nama-Karoo Biomes (SANBI 2019). Its climate is marked by summer rainfall but experiences high levels of aridity during the summer months. Annual rainfall varies widely, ranging from around 10 mm in the west to 70 or 80 mm towards the desert's inland boundaries, with significant year-to-year variability. Most of southern Africa's true desert lies in Namibia, though a small portion extends into South Africa, notably in the Springbokvlakte area of the Richtersveld within the lower Orange River valley (SANBI, 2019).

Vegetation in the Desert Biome is characterized by the prevalence of annual plants, particularly annual grasses (SANBI 2019). Following seasons of sporadic abundant rains, the desert plains can be blanketed by a profusion of short-lived annual grasses. In typical years, however, the plains may appear barren, with annual plants enduring in the form of seeds. Perennial plants are usually found in specialized habitats linked to localized water concentrations, such as broad drainage lines or washes. Examples include the well-known shrub Welwitschia mirabilis in the Namib Desert and the perennial grass *Stipagrostis sabulicola*, which sporadically grows on large dunes with significant water reserves. Along the Namibian coast, coastal fog influences the distribution of certain species commonly associated with the desert (SANBI 2019).

Azonal vegetation is formed in and around flowing and stagnant freshwater bodies. Habitats with high levels of salt concentration form a highly stressed environment for most plants and often markedly affect the composition of plant communities. Invariably, both waterlogged and salt-laden habitats appear as ‘special’, deviating strongly from the typical surrounding zonal vegetation. They are considered to be of azonal character.

The Project Area is situated in the Bushmanland Arid Grassland (NKb 3), Eastern Gariep Plains Desert (Dg 9), Eastern Gariep Rocky Desert (Dg 10) and Lower Gariep Alluvial Vegetation (Aza 3) vegetation types according to SANBI (2018) . Descriptions of the vegetation types are taken directly from Mucina & Rutherford (2006).

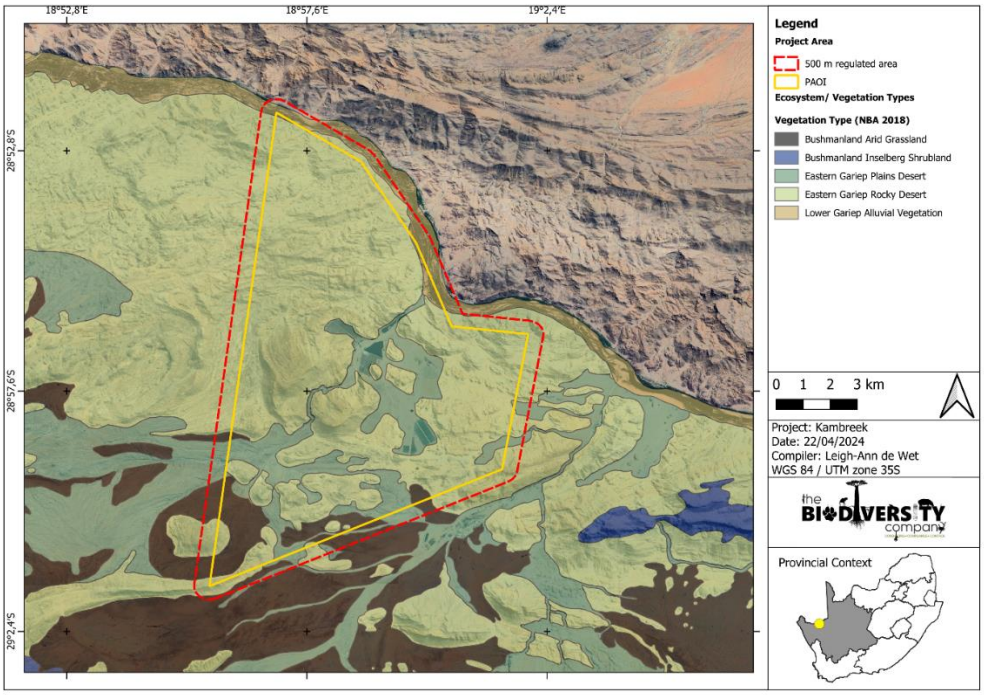

Figure 4: Map illustrating the vegetation types associated with the Project Area, (image obtained from Terrestrial Impact Assessment (Appendix K2)

Bushmanland Arid Grassland (Nkb 3)

Bushmanland Arid Grassland occurs in the Northern Cape Province from around Aggeneys in the west to Prieska in the east (Mucina & Rutherford 2006). It occurs on extentsive to irregular plains on a slightly sloping plateau sparsly vegetated by grassland dominated by white grasses (Stipagrostis species) giving this vegetation type the character of semidesert ‘steppe’. In places low shrubs of Salsola change the vegetation structure. In years of abundant rainfall rich displayes of annual herbs can be expected (Mucina & Rutherford 2016).

Eastern Gariep Plains Desert (Dg 9)

Eastern Gariep Plains Desert occurs on often sloping plains, sharply contrasting with the surrounding rocky hills and mountains (Mucina & Rutherford 2006). Typical wash vegetation in the breaks between the

mountains to the Orange River. Grassland dominated by 'white grasses', some spinescent (*Stipagrostis* species), on much of the flats with additional shrubs and herbs in the drainage lines or on more gravelly or loamy soil next to the mountain (Mucina & Rutherford 2006).

Eastern Gariep Rocky Desert (Dg 10)

Eastern Gariep Rocky Desert occurs on hills and mountains (up to 650 m of relative altitude from their base), mostly with bare rock outcrops and covered with very sparse shrubby vegetation in crevices (Mucina & Rutheroford 2006). Separated by broad sheet-wash plains (Dg 9 Eastern Gariep Plains Desert). Habitats are mainly controlled by topography, aspect, local climate and lithology. On the Groot Pellaberg, for example, there is a sparse shrubland on the southern foothills (with, for example, *Aloe dichotoma*, *Rhigozum trichotomum* and *Petalidium setosum*) and a higher cover of plants in the southern ravines and rocky drainage lines (e.g. *Abutilon pycnodon, Asparagus suaveolens, Ficus cordata, Searsia populifolia* and *S. viminalis*). On the higher southern slopes *Justicia orchioides* is often dominant, with localised grassland directly below steep cliffs (*Enneapogon scaber, Triraphis ramosissima* and *Danthoniopsis ramosa*). The south-facing quartzite cliffs and steep slopes support chasmophytes (cremnophytes) such as *Ficus ilicina, Aloe dabenorisana* and *Bowiea gariepensis*. On the summits and higher northern slopes there is a much higher preponderance of succulent plants including *Euphorbia avasmontana, Aloe dichotoma, A. microstigma* subsp. *microstigma, Pelargonium aridum* and *Kleinia longiflora*. Succulent plants are also important on the northern foothills and also include *Aloe dichotoma, Euphorbia avasmontana, Sarcostemma viminale* and the diminutive *Lapidaria margarethae* (Mucina & Rutheroford 2006).

Lower Gariep Alluvial Vegetation (AZa 3)

Lower Gariep Alluvial Vegetation occurs in the Northern Cape Province as broad alluvium of the Oranger (Gariep) River between Groblershoop and the mouth into the Atlantic Ocean at Oranjemund (Namibia) (Mucina & Rutherford 2006). It occurs in fat alluvial terrraces and riverine islands supporting a complex of riparian thickets (dominated by *Ziziphus mucronata, Euclea pseudebenus* and *Tamaris useoides*), reed beds with *Phragmites australis* as

well as flooded grasslands and herbalnds populating sand banks and terraces within and along the river (Mucina & Rutherford 2006).

According to the Terrestrial Impact Assessment (Appendix K2), the vegetation is moderately diverse in its structure and consists of grasses, low bushes, some small trees, and also bare or stony ground with a few small grass tufts. There is considerable evidence of grazing by either livestock or by ungulates such as Springbok. The plant species which were seen, and which could be identified, are listed in Tables 19 to 21. Undoubtedly more species would be found during an optimal sampling season.

Table 7: List of flora Species of Conservation Concern that may occur in the Project Area. DD = Data Deficient, EN = Endangered, CR = Critically Endangered, VU = Vulnerable.

Scientific name	Screening Tool Designation	Redlist	Habitat	Likelihood of Occurrence
Acanthopsis hoffmannseggiana		DD	It occurs in the Nama Karoo and Succulent Karoo in sandy plains, stony hillsides and ridges, usually associated with weathered quartzite and granite, but also occurs on mudstone and limestone, usually at an elevation between 650 and 1000 m	Recorded
Adromischus diabolicus		DD	It occurs in the desert and Nama Karoo on quartzite inselbergs on south-facing aspects of steep, inaccessible cliff faces.	Medium
Anacampseros quinaria alstonii		EN	It occurs in the Nama Karoo and Succulent Karoo on rock outcrops	Medium
Hoodia gordonii		DD	It occurs in a variety of vegetation types in a wide variety of arid habitats and may occur on gentle to steep shale ridges, found from dry, rocky places to sandy spots in riverbeds.	HIgh
Nemesia fleckii		DD	It occurs in Eastern Gariep Plains Desert in reddish-brown sand with quartz pebbles.	Medium
Oxalis extensa		DD	It occurs in Nama Karoo with specific habitat details unknown.	Low
Pachypodium namaquanum		CR	It occurs in a wide variety of vegetation types on rocky and arid slopes.	Medium
Sensitive Species 1070	Medium	Rare		High
Sensitive Species 122	Medium	Rare		Medium
Sensitive Species 144	Medium	VU		Recorded
Sensitive Species 622	Medium	Rare		High
Sensitive Species 772	Medium	Rare		High
Sensitive Species 901	Medium	EN		High

Table 8: List of Protected Species recorded from the PAOI including both provincially protected species as well as trees listed on the National List of Protected Trees.

Family	Scientific name	Common name	Red List	Provincial	Protected Trees
Aizoaceae	*Mesembryanthemum subnodosum*	Gariep Asbush	LC	Sch2	

Family	Scientific name	Common name	Red List	Provincial	Protected Trees
Aizoaceae	*Schwantesia ruedebuschii*		LC	Sch2	
Aizoaceae	*Sesuvium sesuvioides*	Oukraal Seapurslane	LC	Sch2	
Apocynaceae	*Microloma incanum*	Grey Minimouth	LC	Sch2	
Apocynaceae	*Pergularia daemia garipensis*		LC	Sch2	
Capparaceae	*Boscia albitrunca*	Shepherds tree	LC	Sch2	Protected
Capparaceae	*Boscia foetida*	Stink Shepherdstree	LC	Sch2	
Capparaceae	*Boscia foetida foetida*	Foetid Bush	LC	Sch2	
Ebenaceae	*Euclea pseudebenus*	Black Guarri	LC		Protected
Euphorbiaceae	*Euphorbia avasmontana*	Slender Candelabra Naboom	LC	Sch2	
Euphorbiaceae	*Euphorbia glanduligera*	Namib Milkweed	LC	Sch2	
Euphorbiaceae	*Euphorbia gregaria*	Karas Milkbush	LC	Sch2	
Euphorbiaceae	*Euphorbia guerichiana*	Paperbark Woody-euphorbia	LC	Sch2	
Euphorbiaceae	*Euphorbia mauritanica*	Yellow Milkbush	LC	Sch2	
Euphorbiaceae	*Euphorbia virosa*	Namib Candelabra Naboom	LC	Sch2	
Fabaceae	*Vachellia erioloba*	Camel Thorn	LC		Protected
Scrophulariaceae	*Jamesbrittenia maxii*	Painted Jaybee	LC	Sch2	
Scrophulariaceae	*Jamesbrittenia ramosissima*	Desert Jaybee	LC	Sch2	

Table 9: Table presenting the Alien Invasive Species and weeds recorded for the Project Area.

Family	Scientific name	Common name	NEM:BA
Casuarinaceae	*Casuarina cunninghamiana*	Beefwood	**2**
Fabaceae	*Neltumia glandulosa (Prosopis glandulosa)*	Honey Mesquite	3
Solanaceae	*Datura ferox*	Large thorn apple	1b
Solanaceae	*Datura innoxia*	Downy thorn apple	1b
Solanaceae	*Nicotiana glauca*	Tree tobacco	1b

It is important to note that all indigenous flora is protected in the Northern Cape under Schedule 2: protected species. Sixteen (16) species that are specifically listed under Schedule 2 of the Provincial Conservation Ordinance were recorded from the site, and three (3) tree species listed under the National List of Protected Trees governed by the National Forests Act (Tables 18 - 21). Permits will be required from the Northern Cape to damage, cut or destroy these species.

A walkdown of the site in flowering season is recommended in order to record these plants and provide the information required for permits for their removal or cutting, if and where required.

Five (5) alien invasive species and weeds were recorded from the application area and surrounds (and therefore likely to invade as a result of disturbance). Three (3) NEMBA category 1b AIP species were recorded from the Project Area.

Considering that the application area includes desert habitats which likely support a variety of sensitive indigenous species, it is recommended that any AIP species that may colonise the area in the future be controlled by implementing an AIP Management Programme in compliance of section 75 of the Act as stated above. This is also pertinent to the development as invasive species are linked to enhanced fire effects and risk (Aslan & Dickson, 2020). The AIP Management Programme must implement the following monitoring framework must be implemented to ensure that AIPs are continually monitored, and progress pertaining to their control is recorded. The monitoring of the application area throughout the process is crucial in order to prevent AIPs growing and spreading out of control, thereby threatening the wellbeing of indigenous flora and fauna. It is also important to note that while herbicide application has been recommended for control, herbicides should not be applied adjacent to the aquatic ecosystems within the site area and herbicide application should not be used during windy days to prevent drift.

According to the Terrestrial Impact Assessment (Appendix K2), a total of fifteen (15) mammal species were recorded across the project area during the survey period and observed on the farm (Table below). It is considered highly likely that additional small mammal species would be recorded from the project area with extensive sampling.

Table 10: Mammal species recorded within the general PAOI and surrounds..

Family	Scientific name	Common name	Red List (Child et al 2016)
Bovidae	*Oreotragus oreotragus oreotragus*	Cape Klipspringer	LC
Bovidae	*Tragelaphus strepsiceros*	Greater Kudu*	LC
Canidae	*Canis mesomelas*	Black-backed Jackal*	LC
Canidae	*Otocyon megalotis*	Bat-eared Fox*	LC
Canidae	*Vulpes chama*	Cape Fox*	LC
Cercopithecidae	*Chlorocebus pygerythrus*	Vervet Monkey	LC
Cercopithecidae	*Papio ursinus*	Chacma Baboon	LC
Felidae	*Panthera pardus*	Leopard*	VU
Herpestidae	*Herpestes sanguineus*	Common Slender Mongoose	LC

Hyaenidae	*Proteles cristata*	Aardwolf*	LC
Hystricidae	*Hystrix africaeaustralis*	Cape Porcupine	LC
Leporidae	*Lepus capensis*	Cape Hare	LC
Nycteridae	*Nycteris thebaica*	Egyptian Slit-faced Bat	LC
Procaviidae	*Procavia capensis capensis*	Cape Rock Hyrax*	LC
Sciuridae	*Xerus inauris*	South African Ground Squirrel	LC

Table 11: List of mammal Species of Conservation Concern that may occur in the Project Area. VU = Vulnerable

Species	**Common Name**	**Conservation Status**		
		Regional (SANBI, 2016)	**IUCN (2021)**	**Likelihood of Occurrence**
Panthera pardus	Leopard	VU	VU	Recorded

Sixteen (16) reptile species, representing three families were recorded within the project area during the survey periods as well as within the farm boundaries during iNaturalist observations (Table below). The lack of species richness was likely due to the combination of the inherent secretive nature of reptile species, and limited time available for fieldwork (a true representative sample requires an extensive sampling period over several surveys). The presence of suitable habitat suggests that the project area supports a diverse reptile community but as per the screening tool, no SCC are likely to occur within the project area.

Table 12: Reptile species recorded within the general PAOI and surrounds.

Family	**Scientific Name**	**Common Name**	**Red List (Bates *et al* 2014)**
Gekkonidae	Pachydactylus latirostris	Quartz Gecko	LC
Gekkonidae	Ptenopus garrulus maculatus	Spotted Barking Gecko	LC
Scincidae	Trachylepis variegata	Variegated Skink	LC
Scincidae	Acontias lineatus	Striped Legless Skink	LC
Scincidae	Trachylepis sulcata	Western Rock Skink	LC
Viperidae	Bitis xeropaga	Desert Mountain Adder	LC
Agamidae	Agama anchietae	Western Rock Agama	LC
Agamidae	Agama atra	Southern Rock Agama	LC
Scincidae	Trachylepis occidentalis	Western three-striped skink	LC
Viperidae	Bitis caudalis	Horned Adder	LC
Prosymnidae	Prosymna frontalis	South-western African Shovel-snout	LC
Gekkonidae	Chondrodactylus angulifer	Namib Giant Ground Gecko	LC
Gekkonidae	Pachydactylus montanus	Montane Thick-toed Gecko	LC
Lamprophiidae	Boaedon mentalis	Bug-Eyed House Snake	NE
Lacertidae	Pedioplanis inornata	Plain Sand Lizard	LC

Gekkonidae	Chondrodactylus laevigatus	Fischer's Thick-toed Gecko	NE

Table 13: List of herpatofauna Species of Conservation Concern that may occur in the Project Area. VU = Vulnerabe, NT = Near Threatened

Species	Common Name	Conservation Status		Likelihood of occurrence
		Regional (SANBI, 2016)	IUCN (2017)	
		Reptile		
Psammophis leightoni	Cape Sand Snake	VU	LC	Moderate

One amphibian species were recorded during the survey period. The lack of species richness was attributed to the dry nature of the project area with most water bodies and perennial drainage lines being dry at the time of the site visit. The species expected to occur within the project area are provided in Appendix D of the Terrestrial Biodiversity Report Appendix K2.

Table 14: Amphibian species recorded within the general PAOI and surrounds.

Family	Scientific Name	Common Name	Red List (Minter et al 2004)
Pyxicephalidae	*Amietia delalandii*	Delalande's River Frog	LC

Forty-one (41) avifauna species have been recorded from the PAOI as well as the Kelin Pella farm boundary during this study as well as taking into account other observations. One of the avifauna species is an SCC: Aquila verreauxii (Verreaux's Eagle), which has been recorded breeding in the PAOI (Ehlers Gagiano, pers. Comm.). The species expected to occur within the project area are provided in Appendix D of the Terrestrial Biodiversity Report Appendix K2.

Table 15: Avifauna species recorded within the general PAOI and surrounds.

Family	Scientific name	Common name	Red List regional (Bird Life SA 2019)	Red List Global (Birdlife SA 2019)
Accipitridae	*Aquila verreauxii*	African Black Eagle	NE	VU
Accipitridae	*Buteo rufofuscus*	Jackal Buzzard		
Accipitridae	*Hieraaetus pennatus*	Booted Eagle		
Accipitridae	*Icthyophaga vocifer*	African Fish-Eagle		
Alaudidae	*Certhilauda subcoronata*	Karoo Long-billed Lark		
Alcedinidae	*Megaceryle maxima*	Giant Kingfisher		
Anatidae	*Plectropterus gambensis*	Spur-winged Goose		

Family	Scientific name	Common name	Red List regional (Bird Life SA 2019)	Red List Global (Birdlife SA 2019)
Charadriidae	*Charadrius tricollaris tricollaris*	African Three-banded Plover		
Charadriidae	*Vanellus armatus*	Blacksmith Lapwing		
Cisticolidae	*Euryptila subcinnamomea*	Cinnamon-breasted Warbler		
Columbidae	*Oena capensis capensis*	Namaqua Dove		
Emberizidae	*Emberiza capensis*	Cape Bunting		
Emberizidae	*Emberiza impetuani*	Lark-like Bunting		
Estrildidae	*Estrilda astrild astrild*	Cape Common Waxbill		
Fringillidae	*Crithagra albogularis albogularis*	White-throated Canary		
Hirundinidae	*Ptyonoprogne fuligula*	Rock Martin		
Laniidae	*Lanius collaris*	Southern Fiscal		
Laniidae	*Lanius collaris collaris*	Common Fiscal Shrike		
Lybiidae	*Tricholaema leucomelas centralis*	Common Pied Barbet		
Malaconotidae	*Telophorus zeylonus*	Bokmakierie		
Meropidae	*Merops hirundineus*	Swallow-tailed Bee-eater		
Motacillidae	*Motacilla capensis capensis*	Common Cape Wagtail		
Muscicapidae	*Cercotrichas coryphoeus*	Karoo Scrub-Robin		
Muscicapidae	*Cossypha caffra*	Cape Robin-Chat		
Muscicapidae	*Emarginata sinuata*	Sickle-winged Chat		
Muscicapidae	*Monticola brevipes*	Short-toed Rock-Thrush		
Muscicapidae	*Myrmecocichla monticola*	Mountain Wheatear		
Muscicapidae	*Myrmecocichla monticola monticola*	Southern Mountain Chat		
Muscicapidae	*Oenanthe familiaris*	Familiar Chat		
Muscicapidae	*Oenanthe familiaris galtoni*	Kalahari Familiar Chat		
Numididae	*Numida meleagris*	Helmeted Guineafowl		
Passeridae	*Passer domesticus*	House Sparrow		
Passeridae	*Passer melanurus*	Cape Sparrow		
Passeridae	*Passer melanurus damarensis*	Arid Cape Sparrow		
Ploceidae	*Philetairus socius*	Sociable Weaver		
Ploceidae	*Ploceus velatus*	Southern Masked Weaver		
Pteroclidae	*Pterocles bicinctus*	Double-banded Sandgrouse		
Pycnonotidae	*Pycnonotus nigricans nigricans*	Red-eye Bulbul		
Sturnidae	*Onychognathus nabouroup*	Pale-winged Starling		
Turdidae	*Turdus smithi*	Karoo Thrush		
Zosteropidae	*Zosterops pallidus*	Orange River White-eye		

With this said, the drilling sites will have to be fully rehabilitated as per the mitigation measures set out in this document as well as in consultation with the landowner / landowners. Should this prospecting right be granted farm owners will be consulted prior to commencement of any activities to ensure that safety of animals and workers.

4.9 CULTURAL AND HERITAGE ENVIRONMENT

The Heritage Impact Assessment (Appendix K3) states that due to the geographical size of the exploration application and the fact that no intrusive activities will occur at this point of the application, it was deemed not feasible to conduct fieldwork at this point. Several large-scale heritage surveys were conducted for renewable energy and mining projects in the area and the archaeological character of the area is now well described. This provides the opportunity to establish potential heritage resources that could be affected in the area. It is clear from the studies conducted that the general area has a wealth of heritage sites and a cultural layering dating back to the Stone Age with scatters and sites dating to the ESA, MSA and LSA. Sites and artefacts dating to these periods are scattered over the landscape with MSA and LSA sites centred on rocky outcrops, pans and watercourses and similar sites are expected to occur in the project area.

No intrusive activities will occur at this point of the application and the potential impact on heritage resources is expected to be very low.

However, once the drill sites have been confirmed these areas have to be subjected to a heritage walk down, which should be conducted prior to the commencement of prospecting activities. The Applicant will implement a chance-find protocol on site for the duration of the site establishment, operational- and decommissioning phase. Should sensitive areas be identified the boreholes will move accordingly.

4.10 LAND CAPABILITY AND SURROUNDING LAND USE

The study area is located on portions 1, 2 and 3 of the farm Kambreek no 38 and Klein Pella no 40 in Namaqualand Magisterial District in the Northern Cape Province. As per the Agricultural Assessment Appendix K4 The first phase is to determine the impact assessment on the soils themselves. At this site the arable land has already been removed from the application. The remaining land that surrounds the cultivated areas is made up of steep and rocky hills, some of them large enough to be described as mountains. These have no agricultural potential at all so there will be no impact. The effects of noise, dust etc will be addressed by others.

The second phase in an assessment is to determine the agribusiness impact. This evolves around whether or not the change in land use will increase the economic output of the land parcel. There is no agricultural impact. The economic output of the land parcel will be increased as it will provide income-earning opportunities in an area where unemployment, particularly of young people, is virtually non-existent. If the outcome of the prospecting right

application is positive it will not only provide long term employment but also make available minerals that are important to the economy. There will also de downstream employment in the form of transport that will be required to deliver the mined product to the processing plant and from there to the market.

5. ANNUAL REHABILITATION PLAN

Appendix 3 to the Financial Provision Regulations, 2015 states that the objectives of the annual rehabilitation plan are to:

a) Review concurrent rehabilitation and remediation activities already implemented;
b) Establish rehabilitation and remediation goals and outcomes for the forthcoming 12 months, which contribute to the gradual achievement of the post-prospecting land use, closure vision and objectives identified the holder's final rehabilitation, decommissioning and mine closure plan;
c) Establish a plan, schedule and budget for rehabilitation for the forthcoming 12 months;
d) Identify and address shortcomings experienced in the preceding 12 months of rehabilitation; and
e) Evaluate and update the cost of rehabilitation for the 12-month period and for closure, for purposes of supplementing the financial provision guarantee or other financial provision instrument.

5.1 IMPLEMENTATION AND REVIEW OF TIMEFRAMES

The annual rehabilitation plan will be applicable for a 12-month period commencing from the date of approval thereof by the Department of Mineral Resources and Energy. The document will be reviewed during the 11th month of the operative period to ensure the timeous submission of the subsequent annual review.

5.2 MONITORING RESULTS

5.2.1 Control of Invasive Alien Vegetation

The prospecting right holder will continuously monitor the borehole footprints of the prospecting area for the invasion of alien vegetation in accordance with the Invader Plant Species Management Plan of the site (Appendix J of the BAR & EMPR). This practice will continue through-out the different prospecting phases of the project.

5.2.2 Noise Monitoring

The prospecting right holder must ensure that employees and staff conduct themselves in an acceptable manner while on site. No loud music may be permitted at the prospecting area. All prospecting vehicles must be equipped with silencers and maintained in a road worthy condition in terms of the National Road Traffic Act, 1996 (Act No 93 of 1996). Best practice measures shall be implemented in order to minimize potential noise impacts. Noise generated on-site from all the proposed activities must comply with the Northern Cape Noise Control Regulations Provincial Notice 200/2013.

5.2.3 Dust Monitoring

Site management must ensure that the dust generating activities at the site comply with the National Dust Control Regulations, GN No R827 promulgated in terms of NEM:AQA, 2004 and ASTM D1739 (SANS 1137:2012). Dust levels will be controlled through the management processes stipulated in the BAR & EMPR.

5.2.4 Waste Monitoring

Site management will be responsible to monitor the generation of all types of waste at the prospecting area, including general-, hazardous- and liquid waste. Solid (general) waste, generated during the operational phase, will be contained in sealable refuse bins that will be placed at the office area until the waste is transported to a recognised general waste landfill site. A recognized contractor will service the chemical toilets that will serve as ablution facilities to the employees.

Hazardous waste (such as spills) will be cleaned up immediately and the contaminated soil will be contained in designated hazardous waste containers that will be kept in a bunded area with impermeable surface until it is removed from site by a registered hazardous waste handling contractor to an approved facility.

Any event resulting in the spill or leak of hydrocarbons or any other hazardous solvents into the ground and/or water resources, must be reported within the prescribed timeframes to all relevant authorities, including the Directorate: Pollution and Chemicals Management. Containment, clean-up, and remediation must commence immediately in the case of NEMA section 30 incidents, and the necessary documentation must be completed and submitted within the prescribed timeframes.

5.3 SHORTCOMINGS IDENTIFIED

This report is the first Annual Rehabilitation Plan in terms of the Financial Provision Regulations, 2015 that was compiled for the proposed prospecting right. No shortcomings have therefore been identified.

5.4 REHABILITATION ACTIVITIES FOR THE FORTHCOMING 12 MONTHS

Not yet applicable as prospecting has not yet commenced. Upon approval of the prospecting right application and receipt of the EA, the prospecting right holder will annually report on the planned rehabilitation actions.

5.5 REVIEW OF THE PREVIOUS YEAR'S REHABILITATION ACTIONS

This report is the first Annual Rehabilitation Plan in terms of the Financial Provision Regulations, 2015 that was compiled for the proposed prospecting right. In this circumstance no annual rehabilitation activities have been identified that can be reviewed.

5.6 COSTING

The financial provision amount that will be necessary for the rehabilitation of damages caused by the operation, both sudden closures during the normal operation of the project and at final, planned closure gives a sum of R 80 269,09.

6. REHABILITATION, DECOMMISSIONING AND MINE CLOSURE PLAN

The objective of the final rehabilitation, decommissioning and mine closure plan (According to MPRDA) is to identify a post-prospecting land use that is feasible through;

a) Providing the vision, objectives, targets and criteria for final rehabilitation, decommissioning and closure of the project (as described above);
b) Outlining the design principles for closure;
c) Explaining the risk assessment approach and outcomes and link closure activities to risk rehabilitation;
d) Detailing the closure actions that clearly indicate the measures that will be taken to mitigate and/or manage identified risks and describes the nature of residual risks that will need to be monitored and managed post closure;
e) Committing to a schedule, budget, roles and responsibilities for final rehabilitation, decommissioning and closure of each relevant activity or item of infrastructure;
f) Identifying knowledge gaps and how these will be addressed and filled;

g) Detailing the full closure costs for the life of project at increasing levels of accuracy as the project develops and approaches closure in line with the final land use; and
h) Outlining monitoring, auditing and reporting requirements.
(Financial provision regulations, 2015 appendix 4)

The following objectives are leading closure indicators, which need to be applied across all the domains, and read in conjunction with the principles, which embody the strategic objectives. The closure plan must address all the areas associated with closing the operations, of which rehabilitation and re-vegetation forms part of a component. The first step in developing the overall mine closure strategy is to identify potential post prospecting land use options and establish key objectives for closure to be incorporated in the project design.

The preferred post prospecting land use for the proposed prospecting is to restore the natural vegetation (where possible). In this context, the primary objectives for the closure of the prospecting operations are:

- Remove all temporary infrastructure and waste from the prospecting area as per the requirements of this EMPR and of the Provincial Department of Minerals and Resources and Energy.
- Shape and contour disturbed areas in compliance with the EMPR.
- Ensure that permanent changes in topography (due to prospecting) are sustainable and do not cause erosion or the damming of surface water.
- Make all excavations safe.
- Use the topsoil (if applicable) effectively to promote the re-establishment of vegetation.
- Ensure that all rehabilitated areas are stable and self-sustaining in terms of vegetation cover.
- Eradicate all weeds/invader plant species by intensive management of the prospecting area site.
- Removal of the chemical toilet from the prospecting area;
- Capping of all the boreholes with sand material from around the boreholes.

6.1 CLOSURE STRATEGY GUIDED BY THE ENVIRONMENTAL RISK ASSESSMENT

The overall objective of the closure plan is to minimize adverse environmental impacts associated with the prospecting activity whilst maximising the future utilisation of the property. The idea, therefore, is to leave the borehole areas in a condition that reduces all negative impacts associated with the activity. Significant aspects to be borne in mind in this regard is visibility of the prospecting scar, re-vegetation of the prospecting footprint, stability and environmental risk in an old prospecting area environment. The rehabilitated and immediate surroundings must also be free of weeds and alien vegetation.

6.2 DESIGN PRINCIPLES

The decommissioning phase will entail the removal of the drill rig and any foreign material from site; progressive closing of the drill holes and using material from around the boreholes and landscaping any compacted surfaces (if needed) will be implemented as the contractor moves from one borehole to the next. Upon closure of the prospecting right the area will return to its natural state. Due to the nature of the activity no buildings or permanent infrastructure needs to be demolished and the access roads will remain intact to be used by the landowner.

The decommissioning activities will therefore consist of the following:

- Removal of all prospecting machinery from the prospecting area;
- Removal of the chemical toilet from the prospecting area;
- Capping of all the boreholes with sand material from around the boreholes;
- Landscaping and replacing the topsoil (if removed); and
- Controlling the invasive plant species.

The PR Holder will comply with the minimum closure objectives as prescribed by the DMRE and detailed below:

- Final Rehabilitation:

Final rehabilitation of the surface area shall entail landscaping, levelling, maintenance, and clearing of invasive plant species (if applicable). All equipment, plant and other items used during the prospecting period will be removed from site (section 44 of the MPRDA, 2002). Waste material of any description will be removed from the prospecting area and disposed of in line with the company's waste management procedure. It will not be permitted to be buried or burned on the site. The replacement of topsoil in areas surrounding the development footprint should be sought in situ immediately after the disturbance. The management of

invasive plant species will be done (if applicable) in a sporadic manner during the life of the activity. Species regarded as Category 1a and 1b invasive species in terms of NEM:BA (National Environmental Management: Biodiversity Act 10 of 2004 and regulations applicable thereto) will be eradicated from the site. All re-growth of invasive vegetative material must be monitored by the Applicant during the decommissioning phase of the development. Final rehabilitation shall be completed within a period specified by the Regional Manager. All areas under rehabilitation are to be treated as no-go areas using danger tape and steel droppers/fencing and cordoned off, to prevent vehicular, pedestrian and livestock access. Rehabilitation structures must be inspected regularly for the accumulation of debris, blockages, instabilities, and erosion with concomitant remedial and maintenance actions.

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

6.3 POST-PROSPECTING LAND USE

The preferred post prospecting land use for the proposed prospecting is to restore the natural vegetation (where possible) and return the area to its previous state. The pre-and-post-prospecting environments will be largely the same. The temporary loss of small, widely distributed patches of grazing land, of which there is no scarcity in the country, represents very minimal loss of agricultural production potential, both for the affected farmer and in terms of national food security. Due to the fact that all three significance factors are low, the agricultural impact of the proposed prospecting is assessed here as being of low significance.

6.4 CLOSURE ACTIONS

The closure goals and objectives are to ensure that post-use rehabilitation achieves a stable and functioning landform consistent with the surrounding landscape, other environmental values and agreed land use.

The applicant will comply with the minimum closure objectives as prescribed by the DMRE and detailed below:

- Rehabilitation of the surface area shall entail capping of boreholes, landscaping, levelling, top dressing, land preparation, seeding and maintenance, and weed / alien clearing.
- All Temporary Infrastructures, equipment, plant, temporary housing and other items used during the prospecting period will be removed from the site.
- Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the prospecting area and disposed of at a recognized landfill facility, proof of this removal will be kept on file at the applicant's office. It will not be permitted to be buried or burned on the site.
- Weed / Alien clearing will be done in a sporadic manner during the life of the prospecting activities. Species regarded as the National Environmental Biodiversity Act [NEMBA] (Act No. 10 of 2004) Alien and Invasive Species Regulation GNR 598 and 599 of 2014 Species regarded as need to be eradicated from the site on final closure.
- Final rehabilitation shall be completed within a period specified by the Regional Manager.

6.4.1 Revegetation of Rehabilitated Areas

In the unlikely event where topsoil and vegetation are removed, the area can be fertilized during the decommission phase to hasten the establishment of flora. Should the site's natural vegetation not grow back within six months of its closure to spread the naturally existent flora in the area, the site could be seeded with a local or adapted indigenous seed mix. This area is seen to have low agricultural potential due to the rocky surface therefore the use of seed mixes should only be done after consultation with a qualified specialist with experience in the area as it might not apply. The use of a commercial seed mix is recommended, which should be less than half the standard sowing rate and include annuals and perennials.

6.4.2 Maintenance and Monitoring

Rehabilitated areas need to be monitored and managed after the initial rehabilitation. The proposed prospecting right's primary tool for maintenance of the rehabilitated area will be monitoring of the reinstated areas until the closure certificate is issued. If areas are identified that are considered unsatisfactory then maintenance may include, but not be limited to:

- Replanting failed or unsatisfactory areas.
- Repairing any erosion problems; and
- Pest and weed control.

6.4.3 Success Criteria and Monitoring

To assess when the rehabilitation and re-vegetation process (if applicable) is complete, the prospecting area will develop a set of completion criteria. These criteria will be reviewed by senior management before being submitted to the regulatory authorities (DMRE) for approval and sign off.

The approved set of completion criteria will be used as a basis for assessing the closure of the prospecting operations, with the prospecting right required to comply with the specified criteria before the land management can be relinquished. The completion criteria will be reviewed every two years with the closure plan and updated to include findings of the prospecting area rehabilitation research and development program as well as additional requirements of the regulatory authorities.

When selecting completion criteria, consideration must be given to the climatic conditions in the area. Using simple percentage species and percentage cover may not be appropriate, as this is dependent on when the samples are taken. If the baseline was established during a wet year and the assessment undertaken during drought, the criteria will not be met. The rehabilitated and re-vegetated areas will be monitored to determine the progress of the programme. Monitoring is likely to be a combination of methods and may include photographic monitoring, transects and standard plot areas.

6.4.4 Impact Specific Procedures

The table below provides a summary of the impact specific procedures associated with the closure of the prospecting activities.

Table 16: Summary of the impact specific procedures

CLOSURE MANAGEMENT OBJECTIVES	SPECIFIC PERFORMANCE CRITERIA	ACTION REQUIRED
SOCIO-ECONOMIC		
• The retrenchment process will be followed as per requirements of the applicable legal process; and • All existing social investments will be phased out over an agreed period with beneficiaries.	• Progressive rehabilitation must be implemented if possible, as prospecting progress.	• Any commitments made to I&Aps will be attended to the relevant I&Aps satisfaction as agreed upon between the I&AP'S and the prospecting right.
TOPOGRAPHY AND EROSION CONTROL		
• The area will have contours constructed to prevent soil erosion.	• The boreholes will be filled using material from around the boreholes and landscaping any compacted surfaces (if needed) will be implemented as they move from one borehole to the next.	• Should it be noted that designs are not being followed, rehabilitation activities will cease and corrective measures will be taken to ensure design specifications are achieved. Specialists will be consulted if necessary; • Any deficiencies will be corrected by placing material in these areas as per the closure plan; • Any compacted soils will be ripped or disked and re-vegetated with indigenous flora. Vegetation will then be monitored in these areas; • All recommendations made by the specialists will be implemented where deemed appropriate; • An alien invasive management program will be implemented for the control and eradication of alien invasive species on site. This plan will give preference to mechanical control methods. Any chemicals utilised will be used responsibly.
ECOLOGY		
• The rehabilitated area will be protected from surface disturbance to allow vegetation to establish and stabilise.	• Vegetation in rehabilitated areas will have equivalent values as surrounding natural ecosystems; • The rehabilitated ecosystem will have equivalent functions and resilience as the target ecosystem;	• Should it be noted that designs are not being followed, rehabilitation activities will be amended to ensure corrective measures will be taken to ensure design specifications are achieved. Specialists will be consulted if necessary;

CLOSURE MANAGEMENT OBJECTIVES	SPECIFIC PERFORMANCE CRITERIA	ACTION REQUIRED
	• Soil properties will be appropriate to support the target ecosystem;and • The rehabilitated areas will provide appropriate habitat for fauna.	• An alien invasive management programme will be implemented for the control and eradication of alien invasive species on site. This plan will give preference to mechanical control methods. Any chemicals utilised must be used responsibly. • All areas under rehabilitation are to be treated as no-go areas. • The mitigation measures related to the boreholes must be followed as n general guideline. Please refer to Appendix K1.

6.5 CLOSURE SCHEDULE

At this stage it is proposed that progressive rehabilitation will take place of each borehole area as they move from one borehole to the next. The applicant will not remove any topsoil due to the fast mobility of the drill rig. At this stage of the project, it is impossible to define the exact locations of drill sites or number of drillholes to be dug. However, the detailed drilling spacing will be planned to allow the defining of an Inferred Mineral Resources as per the SAMREC code. Should there be a need to conduct an extra exploration work, which is not indicated herein, in order to clearly define Mineral Resource Category, the Department of Mineral Resources and Energy will be provided with an addendum in respect to the Prospecting Work Programme.

Control of invasive plant species is an important aspect after topsoil replacement (if applicable) and seeding has been completed in an area. Site management will implement an invasive plant species management plan during the 12-month aftercare period to address germination of problem plants in the area. Final rehabilitation shall be completed within a period specified by the Regional Manager.

According to the MPRDA Section 43 (4) refers to the issues of a closure certificate and stipulates the following:

"Section 43(4) Issuing of a closure certificate - *(4) An application for a closure certificate must be made to the Regional Manager in whose region the land in question is situated within 180 days of the occurrence of the lapsing, abandonment, cancellation, cessation, relinquishment or completion contemplated in subsection (3) and must be accompanied by the prescribed environmental risk report.*

6.6 IMPLEMENTATION AND RESPONSIBILITY OF CLOSURE PLAN

Implementation of the closure plan is ultimately the responsibility of African Exploration Mining and Finance Corporation SOC Ltd. Upon commencement of the closure phase daily compliance monitoring will be the responsibility of the site manager. The site manager will be responsible for ensuring compliance with the guidelines as stipulated in the EMPR as well as the prevention and/or rectification of environmental incidents. The prospecting right holder will appoint an Environmental Control Officer to oversee compliance of the rehabilitation/closure activities.

6.6.1 Site Management Responsibility List

- Inspect area for erosion, pooling and/or compaction; and
- Monitor any ecologically sensitive species should any be observed on site.

6.6.2 Management of Information and Data

The Closure Plan must include a description of the management strategies, and all information and data relevant to prospecting area closure. These records are valuable during all phases of prospecting to provide:

- A history of closure and implementation at the site;
- A history of past developments;
- Information for incorporation into state and national natural resource databases; and
- The potential for improved future land use planning and/or site development.

6.7 IDENTIFIED GAPS IN THE PLAN

The assumptions made in this plan, which relate to the closure objectives and associated impact on the receiving environment, stem from site-specific information gathered by the project team. No gaps in the Rehabilitation, Decommissioning and Mine Closure Plan could be identified.

6.8 RELINQUISHMENT CRITERIA FOR CLOSURE ACTIVITIES

The specific rehabilitation outcomes against which the effectiveness of completed rehabilitation must be measured are:

1. that the topography has been sufficiently rehabilitated without unsafe excavation edges;
2. that topsoil has been spread on the surface;
3. that there is a potential rooting depth of at least 30 cm, of non-compacted soil material, which is suitable for root growth, across the prospecting area;
4. that there is no visible erosion across the area, or down-slope of it as a result of prospecting, and that no part of the area has been left unacceptably vulnerable to erosion; and
5. that a successful cover crop has been established across the area.

In addition to the above, the following relinquishment criteria is proposed for the closure activities of the prospecting area:

Table 17: Relinquishment criteria

RELINQUISHMENT CRITERIA FOR CLOSURE ACTIVITIES			
CATEGORY	**RELINQUISHMENT CRITERIA**	**INDICATORS**	**REPORTING REQUIREMENTS**
Removal of all equipment.	No visible man-made structures should remain.	Closeout inspection by site management upon end of decommissioning phase.	Photographic evidence that infrastructure has been removed.
Soil erosion	Implementation of erosion control measures or the establishment of vegetation in denuded areas.	Engineered structures to control water flow	Proof in final closure report that required structures are in place and functional.
Vegetation	If the natural vegetation does not grow back within 6 months, then seeding of a cover crop after topsoiling is required.	Biodiversity monitoring	Monitoring report.
Invader plant management	Continuous management of invader plants until the establishment of the first cover crop.	Biodiversity monitoring	Monitoring reporty.
Land Use	Land capability and productivity similar to that, which existed prior to prospecting.	Land capability and productivity	Comparison to equivalent areas.

6.9 CLOSURE COST ESTIMATE

Financial provision (Regulation 54 of the MPRDA, 2002) is the amount needed for the rehabilitation of damage caused by the operation, both at sudden closure during the normal operation of the project and at final, planned closure. This amount reflects what it will cost the Department to rehabilitate the area disturbed in case of liquidation or abscondence. Financial provision for environmental rehabilitation and closure requirements of prospecting operations forms an integral part of the MPRDA. Section 41 of the MPRDA and Regulations 53 and 54 promulgated in terms of the MPRDA deal with financial provision for mine rehabilitation and closure.

Based on the extent of the current disturbance and by utilising the Department of Mineral Resources and Energy guideline document for calculating financial provision the proposed prospecting right needs to provide a financial provision value of R140,953.42, (calculated July 2023). Refer to *Part B(1)(f)(i)(e) Calculate and state the quantum of the financial provision required to manage and rehabilitate the environment in accordance with the applicable guideline* of the 2023 BAR & EMPR for an explanation as to how the financial provision amount was calculated.

6.10 MOTIVATION FOR AMENDMENTS MADE TO THE FINAL REHABILITATION, DECOMMISSIONING AND MINE CLOSURE PLAN.

Not applicable as no amendments were made to the Final Rehabilitation, Decommissioning and Mine Closure Plan.

7. MONITORING, AUDITING AND REPORTING

In compliance with applicable legislation, the prospecting right holder will conduct monitoring of the prospecting activities for the duration of the decommissioning and closure phase. The compliance of the site will be audited and reporting will be done to the relevant authorities. The table below stipulates the actions to be followed in this regard. Monitoring, auditing and reporting needs to be conducted until prospecting right closure has been approved by the DMRE and the closing certificate obtained.

Table 18: Monitoring, auditing and reporting requirements

MONITORING, AUDITING AND REPORTING REQUIREMENTS			
AUDIT	**RESPONSIBLE PERSON**	**FREQUENCY OF AUDIT**	**CLOSE OUT APPROACH**
LEGISLATED AUDITING AND REPORTING			
Environmental Auditing	**Internal Review**		
	Site manager to ensure compliance with Environmental Management Programme and Closure Plan.	Daily compliance monitoring.	Any non-conformance must immediately be addressed by site management and weekly reported on.
	External Auditing		
	External Environmental Consultant	Annual auditing and reporting to the Department of Mineral Resources and Energy.	Depending on the significance of the findings, site management has a maximum of four weeks to address and close out auditing results.
Financial Provision Review	Financial Provision Review	Annual review of the financial provision, and reporting of the findings to the Department of Mineral Resources and Energy.	Should the review of the financial provision indicate a shortfall the holder of the permit would increase the financial provision to meet the audited financial provision within 90 days from the date of the signature.
MONITORING			
Dust Monitoring	Site Management	Daily Dust Monitoring	Site management has a maximum of two weeks to develop and implement a dust management plan should the dust levels increase and such a plan is required by DMRE or the municipality.
Invader Plant Monitoring	Site Management	Annual Monitoring	Site management has a maximum of two weeks to review and implement the invader plant control plan should Category 1a & b plants in terms of the National Environmental Management: Biodiversity Act, 2004 (Act 15 of 1973) and the Alien and Invasive Species Regulations, 2014 (amended 2016) germinate on-site.

MONITORING, AUDITING AND REPORTING REQUIREMENTS			
AUDIT	**RESPONSIBLE PERSON**	**FREQUENCY OF AUDIT**	**CLOSE OUT APPROACH**
Noise Monitoring	Site Management	Daily Monitoring	Site management has a maximum of one week to designate additional noise zone where applicable. Hearing protection equipment must be available to employees at all times.

7.1 SCHEDULE FOR REPORTING REQUIREMENTS

The following table stipulates the reporting requirements and how document updating will be handled:

Table 19: Reporting requirements

REPORTING REQUIREMENTS			
AUDIT	**LEGISLATION**	**REPORTING REQUIREMENTS**	**UPDATE DISCLOSURE**
Environmental Auditing	NEMA; EIA Regulations, 2014	Reporting on the environmental compliance of the prospecting area will be in accordance with Regulation 34 of the NEMA EIA Regulations, 2014. The environmental audit report will contain the information set out in Appendix 7 of the said Regulation.	The environmental audit report will indicate the ability of the EMPR and Closure Plan to adequately manage the activity. Should the reports not be sufficient, amendment will be proposed.
Financial Provision Review	NEMA Amendment Act, 2014 (Act No 25 of 2014) Financial Provision Regulations, 2015	Reporting on the financial provision for closure of the prospecting area will be in accordance with Section 24P of the NEMA Amendment Act, 2014 (Act No 25 of 2014) read with the Financial Provision Regulations 2015.	The auditor will report on the adequacy of the financial provision and any adjustments that need to be made to the financial provision.
Health and Safety Auditing	Occupational Health and Safety Act, 1993 Mine Health and Safety Act, 1996	Reporting on the health and safety compliance of the prospecting area will be in accordance with the Mine Health and Safety Act, 1996.	The safety manager will annually updates the Code of Practices applicable to the site.

8. ENVIRONMENTAL RISK ASSESSMENT REPORT

The objective of the environmental risk assessment report is to:

a) ensure timeous risk reduction through appropriate interventions;
b) identify and quantify the potential latent environmental risks related to post closure;
c) detail the approach to managing the risks;
d) quantity the potential liabilities associated with the management of the risks; and
e) outline monitoring, auditing and reporting requirements.
(Financial Provision Regulations, 2015 Appendix 4)

8.1 ASSESSMENT PROCESS USED TO IDENTIFY AND QUANTIFY LATENT RISKS

8.1.1 Methodology

The methodology for the assessment of the potential latent risks entailed the use of the following:

DEFINITIONS AND CONCEPTS

Environmental significance:

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

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

Significance can be differentiated into risk magnitude and risk significance. Risk magnitude is the measurable change (i.e. intensity, duration and likelihood). Risk significance is the value placed on the change by different affected parties (i.e. level of acceptability).

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

Impact:

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

Consequence:

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

Likelihood:

A qualitative term covering both probability and frequency.

Frequency:

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

Probability:

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

Environment:

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

Methodology to be used:

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

Environmental Significance = Overall Consequence x Overall Likelihood

Determination of Overall Consequence:

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

Determination of Severity / Intensity:

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

The following table will be used to obtain an overall rating for severity, taking into consideration the various criteria.

Table 20: Monitoring Programmes

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

Determination of Duration

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

Table 21: Rating of duration used in the assessment of potential latent risks

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

Determination of Extent/Spatial Scale

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

Table 22: Rating of extent / spatial scale used in the assessment of potential latent risks

Rating	Description
1	Immediate, fully contained area
2	Surrounding area
3	Within Business Unit area of responsibility
4	Within the farm/neighboring farm area
5	Regional, National, International

Determination of Overall Consequence

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

Table 23: Example of calculating overall consequence in the assessment of potential latent risks

Consequence	Rating
Severity	Example 4
Duration	Example 2

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

Determination of Likelihood:

The determination of likelihood is a combination of Frequency and Probability. Each factor is assigned a rating of 1 to 5, as described below and in tables 6 and 7.

Determination of Frequency

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

Table 24: Rating of frequency used in the assessment of potential latent risks

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

Determination of Probability

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

Table 25: Rating of probability used in the assessment of potential latent risks

Rating	Description
1	Almost never / almost impossible
2	Very seldom / highly unlikely
3	Infrequent / unlikely / seldom
4	Often / regularly / likely / possible

Rating	Description
5	Daily / highly likely / definitely

Overall Likelihood

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

Table 26: Example of calculating overall likelihood in the assessment of potential latent risks

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

Determination of Overall Environmental Significance:

The multiplication of overall consequence with overall likelihood will provide the significance of the risk, which is a number that will then fall into a range of **insignificant risk, uncertain risk** or **Significant Risk**, as shown in the table below.

Table 27: Determination of overall significance in the assessment of potential latent risks

Significance or Risk	Insignificant risk (cc)	Uncertain risk (bb)	Potential significant risk (aa)
Overall Consequence X Overall Likelihood	1 - 4.9	5 - 9.9	10 – 19.9

Qualitative description or magnitude of Environmental Significance

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

Table 28: Description of environmental significance and related action required in the assessment of potential latent risks

Significance	An insignificant risk (cc)	A uncertain risk (bb)	A potential significant risk (aa)
Impact Magnitude	Impact is of very low order and therefore likely to have very little real effect. Acceptable.	Impact is of low order and therefore likely to have little real effect. Acceptable.	Impact is real and substantial in relation to other impacts. Pose a risk to the company. Unacceptable.
Action Required	Maintain current management measures. Where possible improve.	Maintain current management measures. Implement monitoring and evaluate to determine potential increase in risk. Where possible improve.	Improve management measures to reduce risk.

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

A potential Risk (aa) — Risks of a substantial order. Mitigation and / or remedial activity would be feasible but difficult, expensive, time-consuming or some combination of these.

An uncertain risk (bb) — Risk would be negligible. Almost no mitigation and or remedial activity would be needed, and any minor steps, which might be needed, would be easy, cheap and simple.

An insignificant risk (cc) — There would be very small to no risk.

8.1.2 Description of Latent Risks

At this stage, no latent risks that will potentially arise during closure phase of the prospecting area were identified.

8.1.3 Results and Finding of Risk Assessment

Not applicable as no latent risks were identified.

8.1.4 Changes to the Risk Assessment Results

N/A

8.2 MANAGEMENT ACTIVITIES

No additional management activities are necessary as no latent risks were identified.

8.3 COST ESTIMATE

Not applicable as no latent risks were identified.

8.4 MONITORING, AUDITING AND REPORTING REQUIREMENTS

By reason of the fact that no latent risks with regard to the management of the prospecting right were identified, no additional monitoring, auditing or reporting requirements are required at this stage.

9. CONCLUSION

This Closure Plan needs to be followed together with the EMPR and its amendments when it is decided that the end of prospecting has been reached. This document gives the necessary information when planning the rehabilitation of the prospecting right together with the cost associated with the rehabilitation.

African Exploration Mining and Finance Corporation SOC Ltd pledges to provide all necessary resources to guarantee that the rehabilitation of the prospecting right is carried out in a manner that will be deemed acceptable by all parties.

10. SIGNATURE OF AUTHOR

NAME	SIGNATURE	DATE
Mrs. Sonette Smit		28 May 2024

11. UNDERTAKING BY PROSPECTING RIGHT HOLDER

I reviewed and understood the contents of this report.

FINAL DOCUMENT TO BE SIGNED BY APPLICANT

_____ _____

Print name Signature

_____

Date:

12. REFERENCES

- Chamber of Mines of South Africa, 1981. Guidelines for the rehabilitation of land disturbed by surface product mining in South Africa, Johannesburg
- Department of Water Affairs and Forestry, 2003. Draft: A practical procedure for the identification and delineation of wetlands and riparian areas, Pretoria
- Department of Environmental Affairs and Tourism: Integrated Environmental Management Information Series: Impacts Significance
- Department of Water Affairs and Forestry (DWAF) (2007b) Best Practice Guideline A4: Pollution control dams. The Government Printer, Pretoria