



**BA MPHAHLELE TRADITIONAL AUTHORITY (MPHAHLELE
COMMUNITY DEVELOPMENT TRUST)
AND
DITHABENG MINING**

**INTEGRATED ENVIRONMENTAL AUTHORISATION AND WATER USE LICENSE APPLICATION
IN SUPPORT OF A MINING RIGHT APPLICATION**

FINAL REHABILITATION, DECOMMISSIONING AND CLOSURE PLAN

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

**Prepared on Behalf of:
Dithabeng Mining Mphahlele (Pty) Ltd**

**DMRE REFERENCE NUMBERS:
Mining Right Ref #: LP 30/5/1/2/2/10248 MR
Environmental Authorisation Ref #: LP 30/5/1/2/2/10248 MR**

20 December 2024

Final Rehabilitation, Decommissioning and Closure Plan**Dithabeng Mining Mphahlele (Pty) Ltd****LP 30/5/1/2/2/10248 MR and LP 30/5/1/2/3/2/1/10248 EM**

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REVISION AND AMENDMENTS		
Rev	Date	Report
0	20 December 2024	Final Rehabilitation, Decommissioning and Closure Plan

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EXECUTIVE SUMMARY

The Mphahlele Community Development Trust holds the following mineral rights over the Farm Locatie van M'phatlele 457 KS, situated 60 km south-east of Mokopane and 50 km south of Polokwane, Limpopo Province:

- Prospecting Right: LP 30/5/1/1/2/013 PR, measuring 11 725.0951 hectares (ha) in areal extent
- Mining Permit: LP 30/5/1/3/2/10983 MP, for a small-scale opencast operation, restricted to the 5 ha Mining Permit issued for the operation.

The applicant has applied for a Mining Right over the above mentioned Prospecting Right in order to extend the existing opencast operations, establish underground mining and a wash plant as well as associated facilities, where the residue material from the wash plant will be dried, stockpiled, and used as backfill for the opencast void, eliminating the need for a tailings dam.

This document serves as the Final Rehabilitation, Decommissioning and Closure Plan for the project. The closure planning and costing is aligned with the Financial Provisioning Regulations, 2015 (GNR 1147 of 20 November 2015) (as amended) published under NEMA. The regulations for the determination of financial provision for rehabilitation and closure were promulgated on 20 November 2015 (GNR 1147 in GG 39425 of 20 November 2015) under the NEMA, as amended. GNR 1147 effectively repealed and replaced the MPRDA regulations and are in effect. It is noted that there have been various transitional arrangements, most recently on 1 February 2024. This latest amendment indicates that the transitional period will continue to apply until the Minister publishes a date by when all holders are required to comply with GNR 1147.

According to the regulations, financial provision must be made for rehabilitation and remediation; decommissioning and closure activities at the end of prospecting, exploration, mining or production operations; and remediation and management of latent or residual environmental impacts which may become known in the future.

In order to address these requirements, this report includes the following:

- Determination of the Financial Provision
- Development of the Final Rehabilitation, Decommissioning and Closure Plan (RCP)
- Compilation of an Environmental Risk Assessment Report (ERR).

The financial provision for the project was assessed for the 16 years Life of Mine (LoM). The estimated financial provision required for the rehabilitation and closure of the project is R 15 064 698.85 (LoM) Excl. VAT. It should be noted that the mining permit has financial provision of R 1 045 507.00 available and the mine will be required to provide the shortfall of R 14 019 191.85.

It is recommended the financial provision estimate be updated on an annual basis as a requirement by NEMA. This will ensure that all costs become more accurate over time and will reflect current market conditions.

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Definitions

Abbreviation	Definition
EA	Environmental Authorisation. This constitutes the approval or dismissal of a project as issued by the relevant Competent Authority.
Applicant	The person or party applying for Environmental Authorisation for a listed activity and who is responsible for ensuring the development complies with all relevant legislation whether or not they are the land owner.
BAR and EMPR	Basic Assessment Report and Environmental Management Programme. DMRE document for joint BAR and EMP related for mineral applications.
CA	Competent Authority.
DEA	The National Department of Environmental Affairs.
DMRE	The Department of Mineral Resources and Energy. CA in South Africa for mineral right applications.
DWS	The Department of Water and Sanitation – both national offices and their various regional offices, which are divided across the country on the basis of water catchment areas.
EAR	Environmental Audit Report.
EAP	Environmental Assessment Practitioner.
ECO	Environmental Control Officer.
EIA Regulations	Environmental Impact Assessment Regulations.
EIR and EMP	Environmental Impact Report and Environmental Management Programme. DMRE document for joint EIR and EMP related to mineral applications.
Environment	The Environment is defined in terms of the National Environmental Management Act (Act 107 of 1998) as the surroundings within which humans exist and that are made up of: The land, water and atmosphere of the earth: Micro-organisms, plant and animal life, any part or combination of the first three items and the inter-relationships between them the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and wellbeing.
FP	Financial Provision.
FP Regulations	Regulations pertaining to the financial provision for prospecting, exploration, mining or production operations No. 1147 (effective 20 November 2015).
FRDCP	Final Rehabilitation, Decommissioning and Closure Plan.
Fauna	All living biological creatures, usually capable of motion, including insects and predominantly of protein-based consistency.
Fence	A physical barrier in the form of posts and barbed wire or any other concrete construction, ("palisade"-type fencing included), constructed with the purpose of keeping humans and animals within or out of defined boundaries.
Flora	All living plants, grasses, shrubs, trees, etc., usually incapable of easy natural motion and usually capable of photosynthesis.
GN	Government Notice.
HSE	Health, Safety and Environment.
I&AP	Interested and Affected Parties.
MPDRA	Minerals and Petroleum Development Act, No 28 of 2002.
PPP	Public Participation Process in terms of the NEMA and MPRDA.
MPDRA	Minerals and Petroleum Development Act, No 28 of 2002.
MP	Mining Permit in terms of the MPRDA.
MR	Mining Right in terms of the MPRDA.
PR	Prospecting Right in terms of the MPRDA.
SAHRA	South African Heritage and Resources Act, No25 of 1999.
SAMRAD	The web-based portal for mineral right applications and management – managed by the DMRE.

1 INTRODUCTION

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- Development of the Final Rehabilitation, Decommissioning and Closure Plan (RCP)
- Compilation of an Environmental Risk Assessment Report (ERR).

2 DETAILS OF THE EAP

The contact details of the Shango Solutions consultant who compiled the report are as follows:

- Name of the EAP: Shango Solutions
- Contact person: Ms Zizo Siwendu
- Tel No.: 011 678 6504
- Fax No.: 011 678 9731
- E-mail address: zizo@shango.co.za

2.1 EXPERTISE OF THE EAP

2.1.1 Qualifications of the EAP

In terms of Regulation 13 of the 2014 EIA Regulations (Government Notice R. 326 of 2017), an independent Environmental Assessment Practitioner (EAP), must be appointed by the Applicant to manage the application. Shango Solutions has been appointed by the Applicant as the EAP and is compliant with the definition of an EAP as defined in Regulations 1 and 13 of the EIA Regulations and Section 1 of the NEMA. This includes, inter alia, the requirement that Shango Solutions is:

- Objective and independent
- Has expertise in conducting EIA's
- Comply with the NEMA, the Regulations and all other applicable legislation
- Takes into account all relevant factors relating to the application
- Provides full disclosure to the Applicant and the relevant environmental authority.

Zizo holds a B.Sc. Honours Degree in Environmental Management. Her experience lies mainly with environmental assessments for the mining and energy industry, including the compilation of environmental studies in support of Environment Authorisations for Prospecting, Mining, Exploration and Production Rights projects as well as other development projects that require Environmental Authorisation. She has compiled several environmental studies in support of mineral right applications such as for Sungu Sungu Gas (Pty) Ltd, Motuoane Energy (Pty) Ltd, African Exploration, Mining and Finance Corporation, Atoll Metal Recovery, Mafuri Mining and Construction (Pty) Ltd and Tetra 4 (previously known as Molopo South African Exploration).

The declaration of independence of the EAP's and the Curriculum Vitae (indicating the experience with environmental impact assessment and relevant application processes) of the consultant involved in the EIA process and the compilation of this report are attached as Appendix C in the Final Scoping Report.

2.1.2 Summary of EAP's Past Experience

Shango Solutions, registered as Dunrose Trading 186 (Pty) Ltd and established in April 2004, provides a diverse range of services to the mineral and mining sectors. Currently, 30 permanent multi-disciplinary employees and about 24 nationally and internationally recognised affiliates are employed. The company has a track record of successful project management and leadership, including complex multi-disciplinary assignments.

Consultancy activities straddle the entire mining value chain from exploration to beneficiation, thereby providing the client with complete solutions. Activities are performed in multi-disciplinary teams. Areas of specialisation include target generation, exploration, geodatabase compilation and management, geological modelling, resource estimation, mineral asset valuations, due diligences, desktop project reviews and technical reporting. The company services the majority of the major mining houses, but also junior exploration companies, mineral resource investment firms, government institutions and departments and the artisanal and small-scale mining sectors. Shango Solutions collaborates closely with local and international experts in the mining and corporate industries. This, in conjunction with our affiliations with academic and parastatal institutions, ensures provision of the most innovative and appropriate solutions to clients.

Shango incorporates in excess of 500 years of Africa-based mining and exploration experience. This includes, but is not limited to, gold, platinum, rare earth elements, base metals, uranium, coal, natural gas, ferrochrome, aggregate, heavy mineral sands and diamonds. Over the last decades, we have established comprehensive 2D Geographic Information Systems (GIS) databases throughout Africa, which consider geological and geophysical data, mineral occurrences, defunct and existing mines, infrastructure and mining statistics.

The declaration of independence of the EAP and the Curriculum Vitae (indicating the experience with environmental impact assessment and relevant application processes) of the consultants that were involved in the Basic Assessment process and the compilation of this report are attached as Appendix B in the Basic Assessment Report.

3 LEGISLATIVE FRAMEWORK

Section 24P of the NEMA stipulates a Mining Right holder make financial provision for rehabilitation of negative environmental impacts. Furthermore, Regulation 11 of GN R 1147 requires the proponent determine the financial provision based on the actual costs for:

- Annual rehabilitation as reflected in the Annual Rehabilitation Plan (ARP)
- Final rehabilitation, decommissioning and closure as reflected in the Final Rehabilitation, Decommissioning and Closure plan (RDCP)
- The remediation of residual environmental impacts including but not limited to the pumping and treatment of polluted or extraneous water, as reflected in an Environmental Risk Report (ERR).

3.1 MINERALS AND PETROLEUM RESOURCES DEVELOPMENT ACT, ACT 28 OF 2002

The following extracts relate to the principle of closure for any right issued under the MPRDA:

- Section 43(1): The holder of a prospecting right, mining right, retention permit, mining permit, or previous holder of an old order right or previous owner of works that has ceased to exist, remains responsible for any environmental liability, pollution, ecological degradation, the pumping and treatment of extraneous water, compliance to the conditions of the environmental authorisation and the management and sustainable closure thereof, until the Minister has issued a closure certificate in terms of this Act to the holder or owner concerned
- Section 43(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 required information, programmes, plans and reports prescribed in terms of this Act and the NEMA
- Section 43 (5): No closure certificate may be issued unless the Chief Inspector and each government department charged with the administration of any law which relates to any matter affecting the environment have confirmed in writing that the provisions pertaining to health and safety and management of pollution to water resources, the pumping and treatment of extraneous water and compliance to the conditions of the environmental authorisation have been addressed
- Section 43 (7): The holder of a prospecting right, mining right, retention permit, mining permit, or previous holder of an old order right or previous owner of works that has ceased to exist, or the person

contemplated in subsection (2), as the case may be, must plan for, manage and implement such procedures and such requirements on mine closure as may be prescribed

- Section 43 (8): Procedures and requirements on prospecting or mine closure as it relates to the compliance of the conditions of an environmental authorisation, are prescribed in terms of the NEMA

3.2 MINERAL AND PETROLEUM RESOURCES DEVELOPMENT REGULATIONS

The following extracts from the MPRDA Regulations are specifically applicable to the preparation of this FRDCP:

- Regulation 51 (a)(i): An EMPR contemplated in section 39(1) of the Act must include the following: A description of the environmental objectives and specific goals for mine closure
- Regulation 54: Quantum of financial provision:
 - (1) The quantum of the financial provision as determined in a guideline document published by the Department from time to time, include a detailed itemization of all actual costs required for:
 - a. premature closure regarding: (i) the rehabilitation of the surface of the area; (ii) the prevention and management of pollution of the atmosphere; and (iii) the prevention and management of pollution of water and the soil; and (iv) the prevention of leakage of water and minerals between subsurface formations and the surface
 - b. decommissioning and final closure of the operation
 - c. post closure management of residual and latent environmental impacts
 - (2) The holder of a prospecting right, mining right or mining permit must annually update and review the quantum of the financial provision:
 - a. in consultation with a competent person
 - b. as required in terms of the approved EMPR or EMP
 - c. as requested by the Minister
- Regulation 56: Principles for mine closure: 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:
 - (a) the closure of a prospecting or mining operation incorporates a process which must start at the commencement of the operation and continue throughout the life of the operation
 - (b) risks pertaining to environmental impacts must be quantified and managed pro-actively, which includes the gathering of relevant information throughout the life of a prospecting or mining operation
 - (c) the safety and health requirements in terms of the Mine Health and Safety Act (Act 29 of 1996) are complied with
 - (d) residual and possible latent environmental impacts are identified and quantified
 - (e) 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 concept of sustainable development
 - (f) prospecting or mining operations are closed efficiently and cost effectively
- Regulation 61: Closure objectives- Closure objectives form part of the draft EMPR or EMP, as the case may be, and must:

- (a) identify the key objectives for mine closure to guide the project design, development and management of environmental impacts
- (b) provide broad future land use objective(s) for the site
- (c) provide proposed closure costs
- Regulation 62: Contents of closure plan: 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) a description of the closure objectives and how these relate to the prospecting or mine operation and its environmental and social setting
 - (b) a plan contemplated in regulation 2(2), showing the land or area under closure
 - (c) a summary of the regulatory requirements and conditions for closure negotiated and documented in the EMPR or EMP, as the case may be
 - (d) a summary of the results of the Environmental Risk Report and details of identified residual and latent impacts
 - (e) a summary of the results of progressive rehabilitation undertaken
 - (f) a description of the methods to decommission each prospecting or mining component and the mitigation or management strategy proposed to avoid, minimise and manage residual or latent impacts
 - (g) details of any long-term management and maintenance expected
 - (h) details of a proposed closure cost and financial provision for monitoring, maintenance and post closure management
 - (i) a sketch plan drawn on an appropriate scale describing the final and future land use proposal and arrangements for the site
 - (j) a record of interested and affected persons consulted
 - (k) technical appendices, if any.

3.3 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998)

Prior to the 8th December 2014, the environmental aspects of mining activities were regulated in terms of the MPRDA. Recent legislative amendments and the drive towards a 'one environmental system' have resulted in the inclusion of the requirement for rehabilitation, decommissioning and closure planning and associated financial provisions into the NEMA.

Specific sections of the act are extracted below:

- Section 24P: Financial provision for remediation of environmental damage:
 - (1) An applicant for an Environmental Authorisation relating to prospecting, exploration, mining or production must, before the Minister responsible for mineral resources issues the Environmental Authorisation, comply with the prescribed financial provision for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts
 - (2) If any holder or any holder of an old order right fails to rehabilitate or to manage any impact on the environment, or is unable to undertake such rehabilitation or to manage such impact, the Minister responsible for mineral resources may, upon written notice to such holder, use all or part of the financial provision contemplated in subsection (1) to rehabilitate or manage the environmental impact in question
 - (3) Every holder must annually:

- a. assess his or her environmental liability in a prescribed manner and must increase his or her financial provision to the satisfaction of the Minister responsible for mineral resources
 - b. submit an audit report to the Minister responsible for mineral resources on the adequacy of the financial provision from an independent auditor
- (4) (a) If the Minister responsible for mineral resources is not satisfied with the assessment and financial provision contemplated in this section, the Minister responsible for mineral resources may appoint an independent assessor to conduct the assessment and determine the financial provision. (b) Any cost in respect of such assessment must be borne by the holder in question
- (5) The requirement to maintain and retain the financial provision contemplated in this section remains in force notwithstanding the issuing of a closure certificate by the Minister responsible for mineral resources in terms of the MPRDA to the holder or owner concerned and the Minister responsible for mineral resources may retain such portion of the financial provision as may be required to rehabilitate the closed mining or prospecting operation in respect of latent, residual or any other environmental impacts, including the pumping of polluted or extraneous water, for a prescribed period
- (6) The Insolvency Act (Act No. 24 of 1936), does not apply to any form of financial provision contemplated in subsection (1) and all amounts arising from that provision
- (7) The Minister, or a Member of the Executive Committee (MEC) in concurrence with the Minister, may in writing make subsections (1) to (6) with the changes required by the context applicable to any other application in terms of this Act.

3.4 FINANCIAL PROVISIONING REGULATIONS

The prescribed manner in which the environmental liability is to be assessed, is outlined in the Financial Provisioning Regulations, 2015 (GNR 1147) was published on the 20th of November 2015. The Regulations aim to regulate the determination and making of financial provision as contemplated in the NEMA for the costs associated with the undertaking of management, rehabilitation and remediation of environmental impacts from prospecting, exploration, mining or production operations through the lifespan of such operations and latent or residual environmental impacts that may become known in the future.

These regulations provide for, inter alia:

- Determination of financial provision: An applicant or holder of a right or permit must determine and make financial provision to guarantee the availability of sufficient funds to undertake rehabilitation and remediation of the adverse environmental impacts of prospecting, exploration, mining or production operations, as contemplated in the Act and to the satisfaction of the Minister responsible for mineral resources
- Scope of the financial provision: Rehabilitation and remediation; decommissioning and closure activities at the end of operations; and remediation and management of latent or residual impacts
- Regulation 6: Method for determining financial provision: An applicant must determine the financial provision through a detailed itemisation of all activities and costs, calculated based on the actual costs of implementation of the measures required for:
 - Annual rehabilitation: annual rehabilitation plan
 - Final rehabilitation, decommission and closure at end of life of operations: rehabilitation, decommissioning and closure plan

- Remediation of latent and residual impacts: environmental risk assessment report
- Regulation 10: An applicant must:
 - Ensure that a determination is made of the financial provision and the plans contemplated in Regulation 6 are submitted as part of the information submitted for consideration by the Minister responsible for mineral resources of an application for Environmental Authorisation, the associated EMPR and the associated right or permit in terms of the MPRDA
 - Provide proof of payment or arrangements to provide the financial provision prior to commencing with any prospecting, exploration, mining or production operations
- Regulation 11: Requires annual review, assessment and adjustment of the financial provision. The review of the adequacy of the financial provision including the proof of payment must be independently audited (annually) and included in the audit of the EMPR as required by the EIA regulations.

3.5 OTHER GUIDELINES

The following additional guidelines which relate to financial provisioning and closure have been published in the South African context:

- Best Practice Guideline G5: Water Management Aspects for Mine Closure: This guideline was prepared by the Department of Water and Sanitation and aims to provide a logical and clear process that can be applied by mines and the competent authorities to enable proper mine closure planning that meets the requirements of the relevant authorities.

4 FINAL REHABILITATION, DECOMMISSIONING AND CLOSURE PLAN (FRDCP)

According to the NEMA GNR 1147 the objective of the final rehabilitation, decommissioning and closure plan, is to identify a post-mining land use that is feasible through-

- a) Providing the vision, objectives, targets and criteria for final rehabilitation, decommissioning and closure of the project
- 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
- f) decommissioning and closure of each relevant activity or item of infrastructure
- g) Identifying knowledge gaps and how these will be addressed and filled
- h) 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 proposed
- i) h) Outlining monitoring, auditing and reporting requirements

5 ENVIRONMENTAL RISK ASSESSMENT

An Environmental Risk Assessment Report (ERR) is outlined according to Appendix 5 of GNR 1147. The ERR typically addresses residual risk highlighted in the Hazard Identification and Risk Assessment (HIRA). The ERR must contain information that is necessary to determine the potential financial provision associated with the management of latent or residual environmental risks post-closure.

The ERR should address the following key aspects:

- A description of the risk including possible triggers and expected timeframes
- An assessment of alternatives
- Costing indicating the quantum of the liability
- Monitoring, auditing, and reporting requirements.

6 CALCULATION SUMMARY

The financial provision has been calculated at R 15 064 698.85. It should be noted that the mining permit has financial provision of R 1 045 507.00 available and the mine will be required to provide the shortfall of R 14 019 191.85. A summary of the financial provision estimates is presented in Table 1.

Table 1: Financial provision summary.

CALCULATION OF THE QUANTUM (2024 RATES)							
Mining Right Applicant: Mphahlele Community Development Trust				Project Ref # LP 30/5/1/2/2/10248 MR		Date: Dec-24	
No.	Description	Unit	A	B	C	D	E=A*B*C*D
			Quantity	Master rate	Multiplication factor	Weighting factor 1	Amount (ZAR)
1	Infrastructure Areas						
1.1	Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m ³	0	R 19.14	1	1	R 0.00
1.2	Demolition of steel buildings and structures	m ²	10 756	R 202.80	1	1	R 2 181 316.80
1.3	Removal of containers and removal structures	m ³	0		1	1	R 0.00
Subtotal of infrastructure rehabilitation areas							R 2 181 316.80
2	Mining Areas						
2.1	Open pit rehabilitation (including final voids, ramps and haul roads)						
2.1.1	Concurrent backfill	m ³	485 595	R 0.00	1	1	R 0.00
2.1.2	Backfill final void from stockpile	m ³	339 916	R 20.17	1	1	R 6 856 105.72
2.1.3	Dozing of overfill	m ³	145 679	R 13.67	1	1	R 1 991 431.93
Sub-total of open pit rehabilitation areas							R 8 847 537.65
2.2	Underground rehabilitation						
2.2.1	Sealing of adits in underground areas	m ³	0	R 2 370.00	1	1	R 0.00
Sub-total of underground rehabilitation areas							R 0.00
3	General Surface rehabilitation and placement of Topsoil						
3.1	Topsoil placement over rehabilitation area	ha	38	R 10 365.30	1	1	R 393 881.40
3.2	Rip and scarify	ha	38	R 4 250.00	1	1	R 161 500.00
3.3	Hydro seed areas	ha	38	R 19 481.90	1	1	R 740 312.20
Sub-total of general surface rehabilitation							R 1 295 693.60
4	P&G's, Contingencies and Additional Allowances						
4.1	Preliminaries and general	/sum	7.5	R 924 341.10	1	1	R 924 341.10
4.2	Contingencies	/sum	7.5	R 924 341.10	1	1	R 924 341.10
4.3	Specialist Studies and Additional Allowances	/sum	1	R 0.00	1	1	R 0.00
Subtotal of P&G's, contingencies and additional allowances							R 1 848 682.20
5	Pre-Site Relinquishment Monitoring and Aftercare						
5.1	Surface Water Quality Monitoring and Reporting	/yr	5	R 49 500.00	1	1	R 247 500.00
5.2	Groundwater Quality Monitoring and Reporting	/yr	5	R 49 500.00	1	1	R 247 500.00
5.3	Rehabilitation Monitoring (Vegetation, soil, land capacity)	/yr	3	R 75 350.00	1	1	R 226 050.00
5.4	Care and maintenance of rehabilitation areas	ha/5yr	5	R 23 520.00	1	1	R 89 376.00
5.5	Contingencies for post-closure aspects	/sum	10	R 81 042.60	1	1	R 81 042.60
Subtotal for pre-site relinquishment monitoring and aftercare							R 891 468.60
Grand Total							R 15 064 698.85

7 PROJECT AND ENVIRONMENTAL CONTEXT

This section aims to provide context and focus attention on the material information and issues that have guided the development of this FRDCP. Further details on the project and environmental context can be obtained from the Final Scoping Report.

7.1.1.1 Location

The project area is located 60 km south-east of Mokopane and 50 km south of Polokwane, in the Limpopo Province on the Farm Locatie van M'phatlele 457 KS. It covers 11 725 hectares (ha), of which only 3 000 ha will be allocated for mining and associated infrastructure (Figure 1 and Table 2).

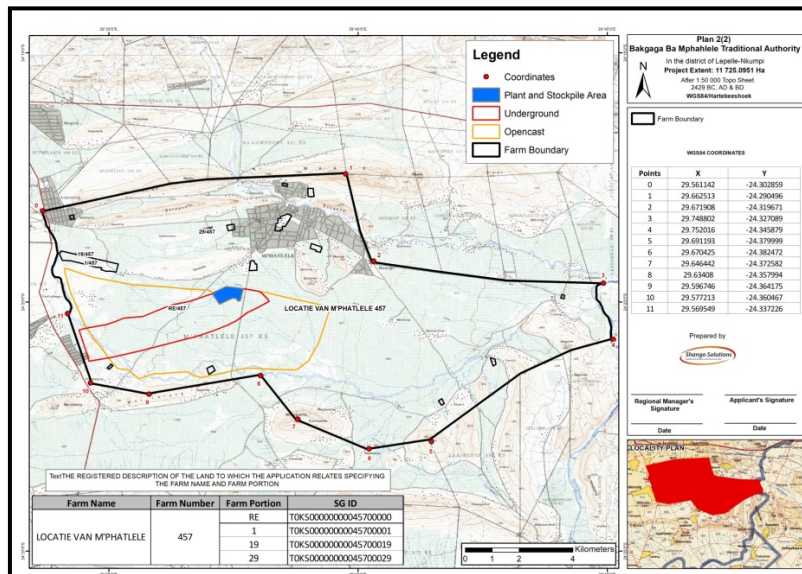


Figure 1: Regulation 2(2) plan.

Table 2: Locality details.

Farm name	Locatie van M'phatlele 457 KS		
Project area (Ha)	The project area extends over three farm portions with an actual extent of 11 725 ha. However, the total area to be disturbed by the mining activities and the associated infrastructure amounts to only approximately 3 000 ha.		
Magisterial district	Lepelle-Nkumpi Magisterial District		
Distance and direction from nearest town	60 km south-east of Mokopane and 50 km south of Polokwane		
21 digit surveyor general code for each portion	Farm Name	Ptn	SG Codes
	Locatie van M'phatlele 457 KS	RE	F0250000000040700000
		1	F0250000000040700001
		19	F0250000000040700019
29		F0250000000040700029	

8 CLOSURE VISION, OBJECTIVE AND TARGETS

The vision, and consequent objective and targets for rehabilitation, decommissioning and closure, aim to reflect the local environmental and socio-economic context of the project, and to represent both the corporate requirements and the stakeholder expectations.

The project area is characterised by a mix of land uses. Sections thereof comprise natural land currently used for the grazing of livestock and subsistence farming by local residents. Various dirt roads traverse the project area. Current land uses in the area surrounding the proposed project area include livestock grazing, subsistence farming, and residential areas.

Stakeholders will be consulted further during the public participation process for the EIA process and their comments relating to closure, decommissioning and rehabilitation will be considered in terms of this document. Rehabilitation from the mining industry perspective means the disturbed areas will adhere to a pre-determined plan or fulfil a function that is sustainable and usable. It recognises that extraction of a resource will occur and that the original topography will be altered. The basic requirements for rehabilitation are to construct a stable, safe and functioning environment, post mining. The intention is not to restore the original topography, but to sculpt the mined areas to facilitate various ecological habitats.

For the mining operations, the following closure objectives and goals are proposed:

1. To rehabilitate all disturbed land to a state that is suitable for its post closure use
2. To ensure that affected areas are safe and secure for both human and animal activities
3. The physical and chemical stability of the remaining structures should be such that risk to the environment through naturally occurring forces is eliminated
4. To rehabilitate all disturbed land to a state where limited or preferably no post closure management is required
5. To rehabilitate all disturbed land to a state that facilitates compliance with current environmental quality objectives (air and water quality)
6. To limit the impact on personnel whose positions may become redundant on decommissioning of the mine
7. Removal of unneeded surface infrastructures, e.g. roads, offices, explosive storage areas etc. as indicated in the construction phase
8. Rehabilitation and reshaping of stockpiles, overburden, waste rock dump
9. Rehabilitation of Pollution Control Dams
10. Rehabilitation of opencast area with overburden (rehabilitation of the opencast areas on site will follow the mining cut and be completed within the operational phase of the project)
11. Reshaping of topography to desired closure land use
12. Re-vegetation of rehabilitated areas
13. Monitoring of rehabilitation objectives.

9 ALTERNATIVE CLOSURE AND POST CLOSURE OPTIONS

Alternative closure and post closure options will be discussed in detail during EIA Phase.

10 MOTIVATION FOR PREFERRED CLOSURE OPTION

The motivation for the preferred closure option will be discussed in detail during EIA Phase.

11 CLOSURE PERIOD AND POST CLOSURE REQUIREMENTS

The Life of Mine is described as 16 years in the Mining Work Programme and rehabilitation will be conducted concurrently, with additional rehabilitation still being required in years 1 to 6. Four basic phases usually accompany rehabilitation, namely:

1. Bulk earthworks
2. Topsoil spreading and fine grading
3. Re-vegetation either by seeding or planting by hand depending on the post-closure vision requirements,
4. Monitoring.

11.1 MINE CLOSURE PROCESS

Phase 1: Making Safe

The following actions are required to meet the objectives of this phase:

1. Remove all the facilities and equipment from the site
2. Inert ceramic and buried waste with a salvage value to individuals such as scrap metal, building materials, etc. will be removed and disposed of at a proper facility
3. The company contracted to supply fuel will be requested to remove all fuel storage and reticulation facilities
4. Remove or control residual hazardous materials. Identify any potential toxic overburden or exposed strata and manage them so as to prevent environmental damage
5. Access roads around the site should be ripped for all areas except those needed to access the facilities for inspection after closure. Roads that can and will be used by other users post closure should, however, be left provided this is agreed upon by all parties concerned. For the rehabilitation of roads, a cost has been allocated to rip the area, add 300 mm topsoil and vegetate
6. Negotiations will take place with local farmers to establish which sections of haul road they will require. The extra portions not required will be left and the remainder ripped. This would normally mean that the edges or verges are ripped and the centre portion remains. They will be responsible for maintaining the roads after closure
7. Haul roads not required by subsequent landowners will be cross-ripped and then vegetated in the normal way. Where there is topsoil this will be spread on the surface. Where this is not available the soil will be ameliorated using the addition of organic material. They will be re-established to a grazing land capability
8. Backfill open voids as far as possible
9. Sealing of shafts will be required to ensure that surface runoff does not enter the mine and to reduce the potential for ground water contamination.

Supporting infrastructure at the Fairview Mine includes the following:

1. Fuel storage and refuelling stations
2. Waste management Facilities (General and Hazardous)
3. Service Infrastructure (roads, electrical infrastructure, water and sewage facility and reticulation etc.)
4. Stormwater management infrastructure.

Phase 2: Landform Design, Erosion Control and Re-vegetation

Landform, erosion control and re-vegetation is an important part of the rehabilitation process. Landform and land use are closely interrelated, and the landform should be returned as closely as possible to the original landform. Community expectations, compatibility with local land use practices and regional infrastructure, or the need to replace natural ecosystems and faunal habitats all support returning the land as closely as possible to its original appearance and productive capacity.

This requires the following:

1. Shape, level and de-compact the final landscape after removing all the project infrastructure, dress with topsoil and, where necessary, vegetate with indigenous species. Commission specialists to assist in planning re-vegetation and the management of environmental impact, as required
2. Remove access roads with no beneficial re-use potential by deep ripping, shaping and levelling after the removal and disposal of any culverts, drains, ditches and/or other infrastructure. Natural drainage patterns are to be reinstated as closely as possible
3. Shape all channels and drains to smooth slopes and integrate into the natural drainage pattern.
4. Construct contour banks and energy dissipating structures to protect disturbed areas from erosion prior to stabilisation
5. Promote re-vegetation through the encouragement of the natural process of secondary succession
6. Natural re-vegetation is dependent on de-compaction of sub-soils and adequate replacement of the accumulated reserves of topsoil, so as to encourage the establishment of pioneer vegetation
7. Remove alien and/or exotic vegetation
8. Undertake a seeding programme only where necessary.

Phase 3: Monitoring and Maintenance

The post-operational monitoring and management period following decommissioning of mining activities must be implemented by a suitable qualified independent party for a minimum of 5 years unless otherwise specified by the competent authority.

The monitoring activities during this period will include but not be limited to:

1. Biodiversity monitoring
2. Re-vegetation of disturbed areas where required.

Provision must be made to monitor any unforeseen impact that may arise as a result of the proposed activities and incorporated into post-closure monitoring and management

Post-Closure Monitoring and Maintenance

Prior to decommissioning and rehabilitation activities, a monitoring programme shall be developed and submitted to the relevant authority for approval, as a part of the Final Rehabilitation Plan. The programme is to include proposed monitoring during and after the closure mining and relate activities.

It is recommended that the post-closure monitoring include the following:

1. Confirmation that any waste, wastewater or other pollutants that is generated as a result of decommissioning will be managed appropriately, as per the detailed requirements set out in the Final Rehabilitation Plan
2. Confirmation that all de-contaminated sites are free of residual pollution after decommissioning

3. Confirmation that acceptable cover has been achieved in areas where natural vegetation is being re-established. 'Acceptable cover' means re-establishment of pioneer grass communities over the disturbed areas at a density similar to surrounding undisturbed areas, non-eroding and free of invasive alien plants
4. Confirmation that the mining area is safe and is not resulting in a pollution hazard.

Annual environmental reports will be submitted to the Designated Authority and other relevant Departments for at least one year post-decommissioning. The frequency and duration of this reporting period may be increased to include longer term monitoring, at intervals to be agreed with the designated authority. The monitoring reports shall include a list of any remedial action necessary to ensure that infrastructure that has not been removed remains safe and pollution free and that rehabilitation of project sites are in a stable, weed and free condition.

12 ASSUMPTIONS AND LIMITATIONS

The following assumptions and limitations apply to this FRDCP:

1. The financial provision estimate is based on the latest mine layout plan
2. Eskom are liable / responsible for all powerlines and power supply
3. It is assumed that the management and mitigation measures suggested in the Scoping Report relating to ongoing environmental management will be complied with. This includes post mining clean-up and rehabilitation
4. It is assumed that the mining will be carried out in accordance with industry best practice.

13 FINAL REHABILITATION, DECOMMISSIONING AND CLOSURE SCHEDULE

The Life of Mine is described as 16 years in the Mining Work Programme and rehabilitation will be conducted concurrently, with additional rehabilitation still being required in years 1 to 6.

14 MONITORING, AUDITING AND REPORTING

The requirement to monitor and audit should be carried through all phases of the proposed mining. The applicant is advised to develop an auditing and reporting procedure and implement it. The purpose of the auditing and reporting procedure will be to clearly define the requirements for compliance monitoring and audits and the reporting of the information gathered. The procedure will allow management to take rapid corrective action for concerns and non-conformances identified during inspections and audits.

Different reporting mechanisms may include:

1. Inspections
2. Reporting accidents and emergencies
3. Measuring performance indicators and interpreting and acting on the indicators
4. Records of monitoring activities to test the effectiveness of mitigation measures and impact controls, as well as for compliance auditing purposes

5. Training programmes and evidence of appropriate levels/amount of skills/capacities created.

All monitoring and auditing must be accompanied by applicable records and evidence (e.g. delivery slips, photographic records, etc.). All reports must be retained and made available for inspection by the ECO, the Applicant and /or the Relevant Competent Authorities. All reports shall be signed by the relevant parties to ensure accountability. The proposed mine must use the audit report findings to continually ensure that environmental protection measures are working effectively on site through a system of self-checking. The EMPR should be viewed as a dynamic document aimed at continual environmental performance improvement.

In this regard the following monitoring and auditing requirements for the pre-closure phases have been specified in the scoping Report

- Compliance monitoring and auditing:
 - In accordance with Regulation 26 of the NEMA 2014 EIA Regulations the Competent Authority will indicate the extent and frequency of required environmental audits in any consequent Environmental Authorisations. For the purposes of this submission the following is proposed:
 - The Site Manager: will be responsible for daily monitoring, culminating in weekly reports which will be filed in support of an overall monthly report, which is to be submitted to the Environmental Officer
 - Compliance with the environmental reports will be audited quarterly by the Environmental Officer. The officer will be responsible for quarterly site inspections and reports, culminating in the compilation of the annual audit assessment report which is to be submitted to the DMRE, as per legal requirement. The results of these inspections will be documented and kept on record for the life of the mining operation.

15 RECOMMENDATIONS

It is recommended that the following be undertaken:

1. The applicant must complete a topsoil balance to ensure enough material is available to rehabilitate all the disturbed areas
2. The applicant must revegetate all shaped and/or concurrently rehabilitated area to minimise erosion and to ensure stable landforms to comply to best practice rehabilitation methodologies;
3. The applicant must conduct concurrent rehabilitation as planned to reduce the financial burden when the mine ceases to operate
4. The applicant must update the financial provision calculations once detailed infrastructure plans are available
5. The applicant must update the liability figures on an annual basis as a requirement by the NEMA. This will ensure that all costs become more accurate over time and will reflect current market conditions.

16 REFERENCES

- Constitution of the Republic of South Africa. 1996. Republic of South Africa, 216pp.
- Department of Mineral Resources. 2002. Minerals and Petroleum Resources Development Act (Act 28 of 2002). Cape Town, 62pp.
- Department of Environmental Affairs. 1998. National Environmental Assessment Management Act (Act 107 of 1998). Cape Town, 96pp.
- Department of Environmental Affairs. 2017. National Environmental Management Act, 1998 (Act 107 of 1998) - Amendments to the Environmental Impact Assessment Regulations, 2014. South Africa, 66pp.
- Department of Environmental Affairs. 2015. Financial Provisioning Regulations. Pretoria, 47pp.