IMERYS REFRACTORY MINERALS SOUTH AFRICA (PTY) LTD – NOOITGEDACHT PROSPECTING

Final Closure Plan and Rehabilitation Plan

As part of a Closure Application

Based on Appendix 5 (Closure Plan) of the Environmental Impact Assessment Regulations, 2014 and Appendix 4 (Minimum content of a final rehabilitation, decommissioning and closure plan) of the Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations, 2015 i.t.o. the National Environmental Management Act No 107 of 1998 (as amended), and regulation 60 of the Minerals and Petroleum Resources Development Regulations, GN 527 of 2004 (as amended) i.t.o. the Minerals and Petroleum Resources Development Act No 28 of 2002

DMR File Ref No: MP 30/5/1/1/2/127 PR

Location: Portion 24 of the farm Nooitgedacht 436JR, in the Thembisile Hani Local Municipality, Nkangala District Municipality, Mpumalanga Province

Quaternary catchment area: B31B quaternary catchment
Olifants Water Management Area

September 2018

BECS Environmental (Pty) Ltd
In association with BECS Services (Pty) Ltd

IMERYS
Aluminates

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OBJECTIVE OF THE FINAL REHABILITATION, DECOMMISSIONING AND MINE CLOSURE PLAN

The objective of the final rehabilitation, decommissioning and mine closure plan, which must be measurable and auditable, 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, 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 proposed; and
h) outlining monitoring, auditing and reporting requirements.

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ABBREVIATIONS

DEA	Department of Environmental Affairs
EAP	Environmental assessment practitioner
EMP	Environmental Management Programme
EMP PA	Environmental Management Plan Performance Assessment Report
GN 982	Environmental Impact Assessment Regulations, GN 982 of 2014 i.t.o. the National Environmental Management Act No 107 of 1998 (as amended)
GN 1147	Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production, GN 1147 of 2015 i.t.o. the National Environmental Management Act No 107 of 1998 (as amended)
MAR	Mean annual rainfall
MHSA	Mine Health and Safety Act, 1996 (Act No. 29 of 1996)

MPRDA	Minerals and Petroleum Resources Development Act (Act 28 of 2002 as amended)
MPRDR	Minerals and Petroleum Resources Development Regulations, GN 527 of 2004 (as amended) i.t.o. the Minerals and Petroleum Resources Development Act No 28 of 2002
NEMA	National Environmental Management Act No 107 of 1998 (as amended)

DISCLAIMER

The views expressed in this annual rehabilitation report are based on the information supplied to BECS Environmental by Imerys Refractory Minerals. BECS has ensured all due care in reviewing the supplied information. BECS has compared key supplied data with predictable values, the accuracy of the results and conclusions from the review are entirely reliant on the accuracy and completeness of the supplied data. BECS does not accept responsibility for any errors or omissions in the supplied information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of BECS investigations, and those reasonably probable. These opinions do not necessarily apply to conditions and features that may arise after the date of this report, about which BECS had no prior knowledge nor had the opportunity to evaluate.

EXECUTIVE SUMMARY

Ecca Holdings (Pty) Ltd was a subsidiary of the black empowered company Imerys South Africa that is owned by a multi-national French company Imerys. Ecca Holdings (Pty) Ltd was formed in 1992 and specialises in production of chamotte, bentonite, zeolite, and ceramic clays.

Currently, Imerys Refractory Minerals South Africa (Pty) Ltd (previously known as Ecca Holdings (Pty) Ltd) has a prospecting right for portion 24 of the farm Nooitgedacht 436JR, in the Magisterial District of KwaMhlanga, Mpumalanga. Prospecting has taken place to establish if there are significant clay reserves and it was found that the reserve is not economically viable as it is situated too deep below the ground.

The prospecting right has since expired and was applicable for the period between the 24th October 2005 and the 23rd October 2010. Prospecting was the only activity undertaken by Imerys Refractory Minerals South Africa (Pty) Ltd on Portion 24 of the Farm Nooitgedacht 436JR. Imerys have backfilled the prospecting boreholes and successful rehabilitation has taken place. There is currently an open quarry on Portion 24 of the Farm Nooitgedacht 436JR that has been mined out by Bronx Mining & Investments (Pty) Ltd, this quarry has not been rehabilitated. **This quarry is not part of the prospecting right.**

Information regarding the background to the mine was taken from various documents including the approved Environmental Management Programme (EMP) and the prospecting right. A site visit was

conducted on the 22nd August 2018 to gather additional information from the site and compile an Environmental Management Programme: Performance Assessment (EMP PA) to ensure compliance. Another site visit was conducted on the 10th of December 2018 with the farmer who will be using the land once closure is obtained. This site visit ensures that that he is satisfied with rehabilitation and will commence with cattle farming as soon as closure is obtained.

Requirements of the closure plan

The closure plan requires planning effectively for the after-mining landscape which includes all activities required before, during and after the operation of the mine. Closure of the mine includes all activities carried out near and after the mine closure and how well the rehabilitation activities listed in the closure plan are carried out. Activities related to closure planning include: preparation of details of the disturbed landscape, compilation of baseline information, discussions with regulators and stakeholders on end land use considerations and preparation of budgets and schedules. A critical element of successful reclamation and of good closure planning is stakeholder involvement which is included as part of the closure process.

Regulatory requirements of the closure plan

This Closure Plan is compiled in line with the requirements of the Minerals and Petroleum Resources Development Act (Act 28 of 2002 as amended) (MPRDA) contemplated in regulation 62 of the Minerals and Petroleum Resources Development Regulations, GN 527 of 2004 (as amended) i.t.o. the Minerals and Petroleum Resources Development Act No 28 of 2002 (MPRDR); regulation 19(6) & Appendix 5 of the Environmental Impact Assessment Regulations, GN 982 of 2014 i.t.o. the National Environmental Management Act No 107 of 1998 (as amended) NEMA) referred to as just GN 982 in document; and regulations 6(b) & 12(2) & Appendix 4 of the Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production, GN 1147 of 2015 i.t.o. NEMA referred to as just GN 1147 from now.

Attached as Addendum 1 is the Environmental Risk Assessment Report in line with the requirements of the MPRDA contemplated in regulation 60 of the MPRDR; regulations 6(c), 11(1)(c) & 12(3) & Appendix 5 of the Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production, GN 1147 of 2015 i.t.o. NEMA.

Attached as Addendum 2 to this report is the final EMP Performance Assessment contemplated in regulation 55(9) of the MPRDR.

Attached as Addendum 3 is the public participation report.

Attached as Addendum 4 is the letter from the farmer leasing the land

No transfer of environmental liabilities and responsibilities will take place, Imerys has rehabilitated the area.

Layout of document

Refer to the Table 1 below for a layout of this documents, considering the requirements as set out in regulation 62 of the MPRDR, Appendix 5 of GN 982, and Appendix 4 of GN 1147. According to Appendix 4 of GN 1147: 'The final rehabilitation, decommissioning and mine closure plan must be measurable and auditable, must take into consideration the proposed post-mining end use of the affected area and must contain information that is necessary for the definition of the closure vision, objectives and design and relinquishment criteria, indicating what infrastructure and activities will ultimately be decommissioned, closed, removed and remediated and the risk drivers determining actions, indicating how the closure actions will be implemented to achieve closure relinquishment criteria and indicating monitoring, auditing and reporting requirements.'

Table 1: Layout of document

GN 527	GN 982	GN 1147	Description	Section
a			A description of the closure objectives and how these relate to the mine operation and its environmental and social setting	4
b			A plan contemplated in regulation 2(2), showing the land or area under closure	Figure 1
c			A summary of the regulatory requirements and conditions for closure negotiated	3.1
d			A summary of the results of the environmental risk report and details of identified residual and latent impacts	Addendum 1
e			A summary of the results of progressive rehabilitation undertaken	Addendum 2, 4.2
f			A description of the methods to decommission each prospecting or mining component and the mitigation or management strategy proposed to avoid, minimize and manage residual or latent impacts	4.2
g			Details of any long-term management and maintenance expected	5
h			Details of a proposed closure cost and financial provision for monitoring, maintenance and post closure management	6
i			A sketch plan drawn on an appropriate scale describing the final and future land use proposal and arrangements for the site	4.1
j			A record of interested and affected persons consulted	2.3
k			Technical appendices	Addendums
	1(a)		i. Details of the EAP who prepared the closure plan; and ii. the expertise of that EAP	1.2

GN 527	GN 982	GN 1147	Description	Section
	1(b)		Closure objectives	3.2
	1(c)		Proposed mechanisms for monitoring compliance with and performance assessment against the closure plan and reporting thereon	5
	1(d)		Measures to rehabilitate the environment affected by the undertaking of any listed activity or specified activity and associated closure to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development, including a handover report, where applicable	3.1 4.2
	1(e)		Information on any proposed avoidance, management and mitigation measures that will be taken to address the environmental impacts resulting from the undertaking of the closure activity;	Addendum 1
	1(f)		A description of the manner in which it intends to: i. modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation during closure; ii. remedy the cause of pollution or degradation and migration of pollutants during closure; iii. comply with any prescribed environmental management standards or practices; and iv. comply with any applicable provisions of the Act regarding the closure	Addendum 1
	1(g)		Time periods within which the measures contemplated in the closure plan must be implemented	4.2
	1(h)		The process for managing any environmental damage, pollution, pumping and treatment of extraneous water or ecological degradation as a result of the closure	Addendum 1
	1(i)		Details of all public participation processes conducted in terms of regulation 41 of the EIA Regulations, including - i. copies of any representations and comments received from registered interested and affected parties; ii. a summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments; iii. the minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants; iv. where applicable, an indication of the amendments made to the plan as a result of public participation processes conducted in terms of regulation 41 of these Regulations	2.3

GN 527	GN 982	GN 1147	Description	Section
	1(j)		Where applicable, details of any financial provisions for the rehabilitation, closure and on-going post decommissioning management of negative environmental impacts	6
		3(a)	Details of: i. the person or persons that prepared the plan; ii. the professional registrations and experience of the preparers	1.2
		3(b)	The context of the project, including: i. material information and issues that have guided the development of the plan	2.1
		3(b)	The context of the project, including: ii. an overview of (aa) the environmental context, including but not limited to air quality, quantity and quality of surface and groundwater, land, soils and biodiversity; and (bb) the social context that may influence closure activities and post-mining land use or be influenced by closure activities and post-mining land use;	2.2
		3(b)	The context of the project, including: iii. stakeholder issues and comments that have informed the plan	2.3
		3(b)	The context of the project, including: iv. the mine plan and schedule for the full approved operations, and must include: (aa) an appropriate description of the mine plan; (bb) drawings and figures to indicate how the mine develops; (cc) what areas are disturbed; and (dd) how infrastructure and structures (including ponds, residue stockpiles etc.) develops during operations	2.4
		3(c)	Findings of an environmental risk assessment leading to the most appropriate closure strategy, including: i. a description of the risk assessment methodology including risk identification and quantification, to be undertaken for all areas of infrastructure or activity or aspects for which a holder of a right or permit has a responsibility to mitigate an impact or risk at closure	Addendum 1

GN 527	GN 982	GN 1147	Description	Section
		3(c)	Findings of an environmental risk assessment leading to the most appropriate closure strategy, including: ii. an identification of indicators that are most sensitive to potential risks and the monitoring of such risks with a view to informing rehabilitation and remediation activities	Addendum 1
		3(c)	Findings of an environmental risk assessment leading to the most appropriate closure strategy, including: iii. an identification of conceptual closure strategies to avoid, manage and mitigate the impacts and risks	Addendum 1
		3(c)	Findings of an environmental risk assessment leading to the most appropriate closure strategy, including: iv. a reassessment of the risks to determine whether, after the implementation of the closure strategy, the residual risk has been avoided and/or how it has resulted in avoidance, rehabilitation and management of impacts and whether this is acceptable to the mining operation and stakeholders; and	Addendum 1
		3(c)	Findings of an environmental risk assessment leading to the most appropriate closure strategy, including: v. an explanation of changes to the risk assessment results, as applicable in annual updates to the plan	Addendum 1
		3(d)	Design principles, including: i. the legal and governance framework and interpretation of these requirements for the closure design principles	3.1
		3(d)	Design principles, including: ii. closure vision, objectives and targets, which objectives and targets must reflect the local environmental and socio-economic context and reflect regulatory and corporate requirements and stakeholder expectations	3.2
		3(d)	Design principles, including: iii. a description and evaluation of alternative closure and post closure options where these exist that are practicable within the socioeconomic and environmental opportunities and constraints in which the operation is located	3.3
		3(d)	Design principles, including: iv. a motivation for the preferred closure action within the context of the risks and impacts that are being mitigated	3.4
		3(d)	Design principles, including: v. a definition and motivation of the closure and post closure period, taking cognisance of the probable need to implement post closure monitoring and maintenance for a period sufficient to demonstrate that relinquishment criteria have been achieved	3.5
		3(d)	Design principles, including:	3.6

GN 527	GN 982	GN 1147	Description	Section
			vi. details associated with any on-going research on closure options	
		3(d)	Design principles, including: vii. a detailed description of the assumptions made to develop closure actions in the absence of detailed knowledge on site conditions, potential impacts, material availability, stakeholder requirements and other factors for which information is lacking	3.7
		3(e)	A proposed final post-mining land use which is appropriate, feasible and possible of implementation, including: i. descriptions of appropriate and feasible final post-mining land use for the overall project and per infrastructure or activity and a description of the methodology used to identify final post-mining land use, including the requirements of the operations stakeholders	4.1
		3(e)	A proposed final post-mining land use which is appropriate, feasible and possible of implementation, including: ii. a map of the proposed final post-mining land use	4.1
		3(f)	Closure actions, including: i. the development and documenting of a description of specific technical solutions related to infrastructure and facilities for the preferred closure option or options, which must include all areas, infrastructure, activities and aspects both within the mine lease area and off of the mine lease area associated with mining for which the mine has the responsibility to implement closure actions	4.2
		3(f)	Closure actions, including: ii. the development and maintenance of a list and assessment of threats and opportunities and any uncertainties associated with the preferred closure option, which list will be used to identify and define any additional work that is needed to reduce the level of uncertainty	4.2
		3(g)	A schedule of actions for final rehabilitation, decommissioning and closure which will ensure avoidance, rehabilitation, management of impacts including pumping and treatment of extraneous water: i. linked to the mine works programme (MWP) , if greenfields, or to the current mine plan if brownfields	4.2
		3(g)	A schedule of actions for final rehabilitation, decommissioning and closure which will ensure avoidance, rehabilitation, management of impacts including pumping and treatment of extraneous water: ii. including assumptions and schedule drivers; and	4.2

GN 527	GN 982	GN 1147	Description	Section
		3(g)	A schedule of actions for final rehabilitation, decommissioning and closure which will ensure avoidance, rehabilitation, management of impacts including pumping and treatment of extraneous water: iii. including a spatial map or schedule, showing planned spatial progression throughout operations	4.2
		3(h)	An indication of the organisational capacity that will be put in place to implement the plan, including: i. organisational structure as it pertains to the plan	4.2
		3(h)	An indication of the organisational capacity that will be put in place to implement the plan, including: ii. responsibilities	4.2
		3(h)	An indication of the organisational capacity that will be put in place to implement the plan, including: iii. training and capacity building that may be required to build closure competence	4.3
		3(i)	An indication of gaps in the plan, including an auditable action plan and schedule to address the gaps	4.4
		3(j)	Relinquishment criteria for each activity or infrastructure in relation to environmental aspects with auditable indicators	4.5
		3(k)	Closure cost estimation procedure, which ensures that identified rehabilitation, decommissioning, closure and post-closure costs, whether on-going or once-off, are realistically estimated and incorporated into the estimate, on condition that: i. cost estimates for operations or components of operations that are more than 30 years from closure will be prepared as conceptual estimates with an accuracy of ± 50 per cent. Cost estimates will have an accuracy of ± 70 per cent for operations or components of operations, 30 or less years (but more than ten years) from closure and ± 80 per cent for operations, or components of operations ten or less years (but more than five years) from closure. Operations with 5 or less years will have an accuracy of ± 90 per cent. Motivation must be provided to indicate the accuracy in the reported number and as accuracy improves, what actions resulted in an improvement in accuracy	6
		3(k)	Closure cost estimation procedure, which ensures that identified rehabilitation, decommissioning, closure and post-closure costs, whether on-going or once-off, are realistically estimated and incorporated into the estimate, on condition that: ii. the closure cost estimation must include: (aa) an explanation of the closure cost methodology; (bb) auditable calculations of costs per activity or infrastructure; (cc) cost assumptions	6

GN 527	GN 982	GN 1147	Description	Section
		3(k)	Closure cost estimation procedure, which ensures that identified rehabilitation, decommissioning, closure and post-closure costs, whether on-going or once-off, are realistically estimated and incorporated into the estimate, on condition that: iii. the closure cost estimate must be updated annually during the operation's life to reflect known developments, including changes from the annual review of the closure strategy assumptions and inputs, scope changes, the effect of a further year's inflation, new regulatory requirements and any other material developments	6
		3(l)	Monitoring, auditing and reporting requirements which relate to the risk assessment, legal requirements and knowledge gaps as a minimum and must include: i. a schedule outlining internal, external and legislated audits of the plan for the year, including: (aa) the person responsible for undertaking the audit(s); (bb) the planned date of audit and frequency of audit; (cc) an explanation of the approach that will be taken to address and close out audit results and schedule	5
		3(l)	Monitoring, auditing and reporting requirements which relate to the risk assessment, legal requirements and knowledge gaps as a minimum and must include: ii. a schedule of reporting requirements providing an outline of internal and external reporting, including disclosure of updates of the plan to stakeholders	5
		3(l)	Monitoring, auditing and reporting requirements which relate to the risk assessment, legal requirements and knowledge gaps as a minimum and must include: iii. a monitoring plan which outlines: (aa) parameters to be monitored, the frequency of monitoring and period of monitoring; (bb) an explanation of the approach that will be taken to analyse monitoring results and how these results will be used to inform adaptive or corrective management and/or risk reduction activities	5
		3(m)	Motivations for any amendments made to the final rehabilitation, decommissioning and mine closure plan, given the monitoring results in the previous auditing period and the identification of gaps as per 2(i).	7

SECTION 1: INTRODUCTION

1.1 Details of applicant

Table 2: Description of the applicant

Project applicant	Imerys Refractory Minerals South Africa (Pty) Ltd – Nooitgedacht Prospecting Previously Ecca Holdings
Contact person	Hendrik Jones
Designation	Operational Director
Telephone number	+27 12 643 5940
E-mail address	Hendrik.Jones@imerys.com

1.2 Details of Environmental assessment practitioner

Refer to Table 3 below for a description of the environmental assessment practitioner (EAP).

Table 3: Description of the environmental assessment practitioner

Name of company	BECS Environmental
Postal address	PO Box 72960, Lynnwood Ridge, 0040
Telephone number	012 361 9970
Cell phone number	072 191 6074
Facsimile number	012 361 0645
E-mail address	salome@becsenv.co.za
Name of responsible EAP	Salome Beeslaar
Expertise of EAP	B.Sc Environmental Science (UP), B.Sc Honours Geography (UP), M.Sc Geography (UP), Professional Scientist (Environmental Science), member of the International Associated of Impact Assessments South Africa.
Name of second responsible EAP	Deshree Pillay
Expertise of EAP	B. Sc Environmental Science (UP), B. Sc Honours Geography & Environmental Science (UP)

1.2.1 Professional registrations and experience

Professional registration – Salome Beeslaar:

- Professional Scientist (Environmental Science), SACNASP (400385/14)
- Member of the International Associated of Impact Assessments South Africa (membership number 5853)

Experience:

- Rehabilitation plans for Samrec Anref Mine, SANRAL, Vergenoeg Mining Company, Rolfes Silica, Vereeniging Refractories (Rietfontein Mine and Marico Chrome), Boekenhout Sand, Krosa.
- Closure plans for Imerys Refractory Minerals South Africa, Petra Diamonds Sedibeng Mine.

I, Salome Beeslaar (8310190032081), hereby declare that I have no conflict of interest related to the work of this report. Specially, I declare that I have no business, personal, or financial interests in the property and/or mining right being assessed in this report and that I have no personal or financial connections to the relevant property owners or mine. I declare that the opinions expressed in this report are my own and a true reflection of my professional expertise and that there are no circumstances that may compromise my objectivity in performing such work.

_____

Salome Beeslaar
MSc – Geography
SACNASP (400385/14)
September 2018

1.3 Background on locality

Imerys Refractory Minerals South Africa (Pty) Ltd has a prospecting right for the prospecting of clay on portion 24 of the farm Nooitgedacht 436 JR. The prospecting right commenced in 2005 was is in place for a period of 5 years. The prospecting right since expired in 2010. The total extent of this area is 139.0924 ha. The prospecting area is located in the B31B quaternary catchment of the Olifants Water Management Area and the Central Transvaal (Bushveld) Basin. The approximate centre of the prospecting area has the following co-ordinates 28º 45’ 00” S and 25º 30’ 00” E. The Mine falls within the KwaMhlanga, Magisterial District. The towns situated closest to the prospecting area is Vlakfontein, Ekangala and Wolvenkop-A.

KwaMhlanga is the spiritual home of the amaNdebele tribe that settled there in the early 1700s. This town developed into the administrative centre for the local government, and now houses the government administration for the North Western Region of the Mpumalanga Province. To the north of KwaMhlanga, on the R568 near the village of Klipfontein, is located the Manala Royal Kraal; the Ndzundza Mabhoko Royal Kraal is situated further north at Weltevreden. By special arrangement, both of these kraals can be visited by small parties

Figure 1: Google Earth Pro image with blue area indicating portion 24 of Nooitgedacht

SECTION 2: THE CONTEXT OF THE PROJECT

2.1 Material information and issues that have guided the development of the plan

Information regarding the background to the mine was taken from the approved Environmental Management Programme (EMP) (Blue Swallows Services Group (Pty) Ltd, 2002 and Shangoni Management Services (Pty) Ltd, 2013). A site visit was held on 22 August 2018 to gather any additional information.

2.2 The environmental context and the social context that may influence closure activities and post-mining land use or be influenced by closure activities and post-mining land use

The environmental context must include but not limited to geology, quantity and quality of surface and groundwater, land, soils, biodiversity, climate, archaeology, sensitive landscapes and regional socio-economic aspects. This section aims to provide a summary of the environmental and social status of the region in which the prospecting is situated, to establish an overall idea of the current situation of the prospecting area, leading to reasoning behind the proposed end land use for the mine.

2.2.1 Geology

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

Portion 22 of the Farm Nooitgedacht is situated less than 5km away from Portion 24 of the Farm Nooitgedacht. According to a standard Environmental Management Programme report for prospecting, which was compiled for portion 22, carbonaceous flint clay deposit is located in the lower part of the Ecca Group of the Karoo Sequence in the fairly extensive Nooitgedacht outlier. Overburden comprises a sequence of sandy soils and clays, as well as sandstone and grit with a total thickness of 5-9m. Overlying the ore is sandy carbonaceous flint clay. The orebody is more than 3m thick on average and occurs at a depth of between 9m and 12m below surface. In some places the ore zone contains thin intercalated sandy lenses. Sandy carbonaceous flint clay is found below the ore body and this grade downward into very sandy carbonaceous flint clay and sandstone, whereas the bottom of the sequence is formed by Dwyka tillite.

2.2.2 Climate

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

The climate is mild too hot with hot, wet summers from October to March and cold, dry winters from May to September. Mean annual precipitation for the Highveld area is approximately 650 mm – 750 mm (SA Rain Atlas, Index Nr. 226/223716). The average annual precipitation in the Highveld Region varies from about 900 mm to about 650 mm.

The rainy season range from about October to March, with peak precipitation in January. Storms are often violent with lightning and strong, but short-lived, gusty south-westerly winds and are sometimes accompanied by hail. This region has one of the highest frequencies in South Africa at approximately 4 to 7 occurrences (depending mainly on altitude) to be expected annually at any one spot.

During summer months, the primary wind direction is either from the north or east. During autumn, winds mostly occur from the east, while during winter the primary wind direction is from the south. There are a high percentage of wind calm periods, mostly during dry months. The average monthly wind speed is 10.26m/s for the period 1993 - 2003.

According to wind and weather statistics. 2012, Windfinder (http://www.windfinder.com/windstats/windstatistic_Bronkhorstspr.htm), the average monthly wind speed is 10.26 m/s for the period 1993 – 2003. The maximum wind speed of 13.6m/s was measured in October 1995 and the minimum wind speed of 8m/s was experienced in June and July 2000.

The average annual precipitation in this Highveld Region varies from approximately 650mm to 900 mm. The rainfall occurs mainly in summer, from October to March, the maximum fall occurring in January. The winter months are normally dry and about 85% of the annual rainfall occurs in the summer months. Heavy falls of 125mm to 150mm occasionally occur in a single day.

2.2.3 Topography

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

Information on topography was extracted from AGIS (Agricultural Geo-Referenced System). This atlas combines agricultural-, orientation- & demographic information as well as scanned maps & satellite images including the first SPOT 5 high resolution data of South Africa. In general terms, the study area is described as the Interior Plain of South Africa. The topography of the proposed site is steeper on the western side and elevated on the eastern side. Regionally, the area is flat to relative flat with a slope not exceeding 5%. Slope class of the proposed site is ≤ 2% which indicates a slope that is level to very gentle. The terrain types of the site are plains with open low hill or ridges.

2.2.4 Soil

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

Information on soils was extracted from AGIS (Agricultural Geo-Referenced System). This atlas combines agricultural-, orientation- & demographic information as well as scanned maps and satellite images including the first SPOT 5 high resolution data of South Africa. General soil patterns of the proposed site can be described as red excessively drained sandy soils with high base status and eutrophic leaching status (taken from the Environmental Potential Atlas of the Department of Environmental Affairs (DEA). This soil falls in pattern, Plintic Catena Upland Duplex Margalitic Soils rare, indicating land types with exposed rocks, stones or boulders which cover 60 - 80% of the area. The water holding capacity of the soil is 21mm - 40mm. The land has moderate to high wind or water erosion hazards. Soils have a low to moderate erodibility. This is due to the fact that most of the original topsoil had been removed through extensive erosion by unknown activities in the past.

2.2.5 Pre-mining land capability, land use and existing infrastructure

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

There are currently no mining activities as the area falls under a prospecting permit of which Ecca Holdings are in possession. Livestock graze on adjacent areas. According to AGIS; the general land capability of the farm Nooitgedacht in Mpumalanga is high potential arable land. However, at present; the site is not being used for any agricultural activities. The site is not suitable for grazing as it contains a plant species called *Dichapetalum cymosum* commonly known as “Gifblaar”, which is a small prostrate shrub poison leaf occurring in the northern parts of Southern Africa. Although the site is not being used for agricultural activities, it is still described as cultivation.

2.2.6 Vegetation

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

The study area corresponds to the Savanna Biome and more particularly to the Central Sandy Bushveld vegetation unit as defined by Mucina & Rutherford (2006). It corresponds to the ecological types known as the Central Sandy Bushveld. This vegetation type extends in a broad arc south of the Springbokvlakte from the Pilanesberg in the west through Hammanskraal and Groblersdal to Gamasemola in the east. A generally narrow irregular band along the north- western edge of the Springbokvlakte (including Modimolle) extending into a series of valleys and lower-altitude areas within the Waterberg including the upper Moloko River Valley near the Vaalwater, the corridor between

Rankins Pass and the Doorndraai Dam, and the lowlands from the Mabula area to South of the Hoekberge. It is located on low undulating areas dominated by tall, deciduous woodland on deep sandy soils (typified by *Terminalia sericea* and *Burkea africana*). On shallow, gravel soils the floristic composition consists of *Combretum apiculatum* while *Acacia, Ziziphus and Euclea* are prominent on areas consisting of eutrophic soil and some less sandy soils. *Acacia tortilis* may dominate some areas along valleys. Dystrophic sands are dominated by grassy herbaceous layer with relatively low basal cover.

According to the 2005 Prospecting EMP, the following trees were sited: A*. caffra, A. karoo, A. robusta, A. tortilis, A. gerradii, Grewia spp., Rhus gueinzii, Peltrophorum africanum, Pappea capensis, Dichrostachys cinerea, Dombeya rotundifolia, Combretum zeyheri, Schlerocarya birrea, Ziziphus mucronate, Burkea Africana.*

2.2.7 Animal life

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

The mammals (amongst many more) that are found in the general area are the Jackal, duiker, warthog, little egret, spurwinged goose. Bird species found on site include; Black Crow *(Corvus capensis),* Familiar chat (*Cercomela familiaris),* Orange-throated longclaw *(Macornyx capensis,)* Cattle Egret *(Bubulus ibis),* Rock Pigeon *(Columba guinea)*, Red-faced Mousebird *(Colius indicus)*, Laughing Dove *(Streptopelia senegalensis)*

2.2.8 Surface water

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

The major surface water drainage system in the B31B quaternary catchment is the Elands River which flows in a north-western direction and is situated approximately 21km west of the site. The Loopspruit drains north-west towards the Klip- and Hartbeesspruit, 8km to the north-west where after the Hartbeesspruit confluences with the Harts River approximately 14km to the north-west. The present Eco Status category of the catchment is a B category defined as “largely natural with few modifications. A small change in natural habitats and biota may have taken place but the ecosystem functions are essentially unchanged.”

The total mean annual runoff (MAR) is approximately 26mm per year. The Olifants River and some of its tributaries, notably the Klein River, Olifants River, Elands River, Wilge River and Bronkhorstspruit, rise in the Highveld grasslands.

2.2.9 Groundwater

Information for this section was extracted from the Nooitgedacht Mine EMP (Shangoni Management Services (Pty) Ltd, 2014):

The area is directly underlain by rocks of the Ecca Group occurring in the Karoo sequence of rocks. It consists predominantly of tillite, mudstone, sandstone and shale. Although the Ecca is extensively intruded by dolerite, no significant dykes, sills or faults are known to occur in the immediate vicinity of Nooitgedacht. The hydrogeology can be summarised as follows: Shallow groundwater occurrences and movement are confined to joints, fractures and cracks in the Karoo mudrock and sandstone formations and their weathered and fractured contact zones. Insignificant fracturing prevails in these geological formations and contact zones whilst bedding plane openings and fractures are small, limited in extent, irregularly distributed and often not interconnected. Aquifer yields are typically between 0.1 l/s and 0.5 l/s with relatively good water quality and is classified as a d2 Intergranular and Fractured Aquifer. According to the Parsons Aquifer Classification System, the aquifer can be regarded as a Minor Aquifer.

Domestic boreholes on the surrounding farms indicate that the depth of the water table is approximately 20m below surface.

2.2.10 Air quality

No air specialist studies were included in the 2005 approved EMP.

2.2.11 Environmental noise

No noise specialist studies were included in the 2005 approved EMP.

2.2.12 Cultural and heritage resources

No graveyards, old houses or sites of historical significance were found within 1 kilometre of the area as per the 2005 approved EMP.

2.2.13 Sensitive features

There were no specialist studies undertaken to determine sensitive landscapes as part of the 2005 EMP and during prospecting activities.

2.2.14 Regional socio-economic aspects

According to the 2002 approved EMP, 6 people in total were employed during prospecting. There were 4 men and 2 women employed in total. The employees were obtained locally from the community to promote local economic development. The employees work from sunrise to sunset for the duration of prospecting.

2.3 Stakeholder issues and comments that have informed the plan

This section must include: copies of any representations and comments received from registered interested and affected parties; a summary of comments received from, and a summary of issues raised by registered interested and affected parties, the date of receipt of these comments and the response of the EAP to those comments; the minutes of any meetings held by the EAP with interested and affected parties and other role players which record the views of the participants; where applicable, an indication of the amendments made to the plan as a result of public participation processes conducted in terms of regulation 41 of these Regulations

Please note, this document is first sent to all interested and affected parties and stakeholders, where after it will be submitted to DMR. Any concerns or views raised by these parties or stakeholders, will be included in the final report.

2.4 The mine plan and schedule for the full approved operations

This section must include: appropriate description of the prospecting plan; drawings and figures to indicate how the mine develops; what areas are disturbed; and how infrastructure and structures (including ponds, residue stockpiles etc.) develops during operations

2.4.1 Appropriate description of the prospecting plan

The prospecting EMP was approved in 2005. The prospecting right has since expired and was applicable for the period between the 24th October 2005 and the 23rd October 2010.

- Year 1: Desktop study and geological mapping
- Year 2: Continued geological mapping, control grid, surveying, percussion drilling and drill sample analysis
- Year 3,4 and 5: Drill sample analysis, core drilling, ore reserve calculation and rehabilitation

2.4.2 Drawings and figures to indicate how the mine develops

Prospecting boreholes were backfilled as part of rehabilitation. It is therefore difficult to indicate this on a site plan.

2.4.3 What areas are disturbed

There were no access roads constructed as part of prospecting. All boreholes drilled were backfilled as part of successful rehabilitation.

2.4.4 How infrastructure and structures (including ponds, residue stockpiles etc.) develops during operations

There was no infrastructure constructed as part of prospecting.

SECTION 3: DESIGN PRINCIPLES

3.1 The legal and governance framework and interpretation of these requirements for the closure design principles

This section includes the legal and governance framework and interpretation of these requirements for the closure design principles. It also includes measures to rehabilitate the environment affected by the undertaking of any listed activity or specified activity and associated closure to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development, including a handover report, where applicable. The requirements of closure are documented in various legislation. The various legislation and interpretation of these requirements for the closure design principles are discussed below.

Table 4: Legislation and interpretation of these requirements for the closure design principles

Legislation	Requirements	Interpretation of these requirements for the closure design principles
Regulation 56 of MPRDR	In accordance with applicable legislative requirements for mine closure, the holder of a mining right must ensure that - (a) the closure of a 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 proactively, which includes the gathering of relevant information throughout the life of a mining operation; (c) the safety and health requirements in terms of the Mine Health and Safety Act, 1996 (Act No. 29 of 1996) (MHSA) 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; and (f) mining operations are closed efficiently and cost effectively.	The approved EMP (2005) includes reference to rehabilitation and end land use of the prospecting activities. The mine has gathered information over the years to assess risks that will be discussed as part of Addendum 1 (Environmental Risk Report). This is incorporated into this Closure Plan. Closure of the mine will incorporate any necessary safety and health requirements in terms of the MHSA. The residual and possible latent environmental impacts are identified and quantified in Addendum 1 of this Closure Plan. The end land use is discussed in Section 2.14 of this Closure Plan. Refer to Section 2 for the closing of all mining operations. Section 6 deals with the mines financial provision for closure and entails a methodology to ensure cost effective approaches to closure are taken.

Legislation	Requirements	Interpretation of these requirements for the closure design principles
Regulation 57 of MPRDR	An application for a closure certificate by the holder of a mining right in terms of section 43(4) of the MPRDA must be completed in the form of Form P, contained in Annexure II. (2) The application referred to in sub-regulation (1) must be accompanied by the following documentation - (a) A closure plan contemplated in regulation 62; (b) an environmental risk report contemplated in regulation 60; (c) a final performance assessment report contemplated in regulation 55(9); and (d) a completed application form contemplated in regulation 58(1) to transfer environmental liabilities and responsibilities, if the transfer of such liabilities have been applied for.	A closure application form will be completed. Refer to this Closure Plan as contemplated in regulation 62, Addendum 1 for the Environmental Risk Report as contemplated in regulation 60, Addendum 2 for the final Performance Assessment report contemplated in regulation 55(9) that was conducted in 2018. No environmental liabilities will be transferred.
Regulation 61 of MPRDR	Closure objectives form part of the draft environmental management programme 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; and (c) provide proposed closure costs.	Closure objectives and rehabilitation were included in the approved EMP (2005). Prospecting is complete, all prospecting holes were backfilled as part of rehabilitation. The end land use objective is to return the land to pasture. Grazing and open veldt is the final land use objective and has been achieved. Proposed closure costs are included in Section 6 of this Closure Plan.
Section 43 of MPRDA, Section 24R of NEMA	Every holder remains responsible for any environmental liability, pollution or ecological degradation, the pumping and treatment of polluted or extraneous water, the management and sustainable closure thereof 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.	The residual impacts are addressed in this Closure Plan. The mine is aware of the implications of environmental pollution. To assess compliance with the EMP management measures a performance assessment was conducted in 2018.
	When the Minister responsible for mineral resources issues a closure certificate, he or she must return such portion of the financial provision contemplated in section 24P as the Minister may deem appropriate to the	Noted

Legislation	Requirements	Interpretation of these requirements for the closure design principles
	holder concerned but may retain a portion of such financial provision referred to in subsection (1) for any latent, residual or any other environmental impact, including the pumping of polluted or extraneous water, for a prescribed period after issuing a closure certificate.	
	Every holder of works must plan, manage and implement such procedures and requirements in respect of the closure of a mine as may be prescribed.	The mine will adhere to the requirements as set out in this Closure Plan, once approved by DMR.
	The Minister may, in consultation with the Minister responsible for mineral resources and by notice in the Gazette, identify areas where mines are interconnected or their impacts are integrated to such an extent that the interconnection results in a cumulative impact.	Noted
	The Minister may, by notice in the Gazette, publish strategies to facilitate mine closure where mines are interconnected, have an integrated impact or pose a cumulative impact.	Noted
Regulation 19(6) of GN 982	A closure plan must contain the information set out in Appendix 5 to these Regulations, and the closure plan must address the requirements as set in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of mining operations, made in terms of NEMA.	This Closure Plan is based on the requirements of the MPRDA, Appendix 5 of GN 982 as well as Appendix 4 of GN 1147.
Regulations 6(b) of GN 1147	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 final rehabilitation, decommissioning and closure of the mining operations at the end of the life of operations, as reflected in a final rehabilitation, decommissioning and closure plan.	The financial provision is included in Section 6 of the is Closure Plan.
Regulations 12(2) of GN 1147	The final rehabilitation, decommissioning and closure plan must contain all information set out in Appendix 4.	This Closure Plan is based on the requirements of the MPRDA, Appendix 5 of GN 982 as well as Appendix 4 of GN 1147.

3.2 Closure vision, objectives and targets

This section must reflect the local environmental and socio-economic context and reflect regulatory and corporate requirements and stakeholder expectations. Closure objectives form part of the draft EMP and must identify the key objectives for mine closure to guide the project design, development and management of environmental impacts; provide broad future land use objective(s) for the site; and provide proposed closure costs. Key closure objectives are necessary for mine closure, to guide the project design, development and management of environmental impacts.

The key closure objectives for the mine are

1. Ensure all infrastructure, equipment, plant, temporary housing and other items used during the mining period will be removed from the site
2. Waste material of any description, including receptacles, scrap, rubble and tyres, will be removed entirely from the mining area and disposed of at a recognised landfill facility. It will not be permitted to be buried or burned on site
3. Final rehabilitation shall be completed within a period specified by the Regional Manager.

The rehabilitation of Portion 24 of the farm Nooitgedacht 436JR will ensure that all the key closure objectives are achieved and will be discussed further in Section 5. See Section 6 for closure costs.

3.3 A description and evaluation of alternative closure and post closure options where these exist that are practicable within the socioeconomic and environmental opportunities and constraints in which the operation is located

The mine is already busy with closure; therefore, no alternatives are necessary.

3.4 A motivation for the preferred closure action within the context of the risks and impacts that are being mitigated

The mine is already busy with closure; therefore, no alternatives are necessary. If any comments are received form the I&APs and/or stakeholders to amend the closure actions, this will be included.

3.5 A definition and motivation of the closure and post closure period

This must take cognisance of the probable need to implement post closure monitoring and maintenance for a period sufficient to demonstrate that relinquishment criteria have been achieved.

Monitoring to take place to ensure no residual impacts.

3.6 Details associated with any on-going research on closure options

The mine is already busy with closure; therefore, no on-going research applicable.

3.7 A detailed description of the assumptions made to develop closure actions in the absence of detailed knowledge on site conditions, potential impacts, material availability, stakeholder requirements and other factors for which information is lacking

The mine is already busy with closure. If any comments are received form the I&APs and/or stakeholders to amend the closure actions, this will be included.

SECTION 4: FINAL REHABILITATION PLAN

4.1 Proposed final post-mining land use which is appropriate, feasible and possible of implementation

This section includes descriptions of appropriate and feasible final post-mining land use for the overall project and per infrastructure or activity and a description of the methodology used to identify final post-mining land use, including the requirements of the operations stakeholders.

The end land-use has been identified as pasture and will also be returned to open veldt (pre-prospecting activities).

The farmer that leases the land is Mr Johannes Nghodela. A site visit was conducted with Mr Johannes Nghodela on the 10th of December 2018. During this site visit, BECS Environmental showed the farmer the site and provided him with a map of where prospecting had taken place. During the site visit it was established by the farmer that no prospecting boreholes could be seen, and that rehabilitation has been successful. See attached Addendum 4 for the letter in which he signs that rehabilitation is successful and he is satisfied with the land and can use it for grazing for his cattle.

Refer to Figure 2 below for a picture taken of the farmer during the site visit with BECS Environmental at the site where prospecting had taken place.

Figure 2: Mr Johannes Nghodela (farmer leasing land) at the site of prospecting

4.2 Closure actions, and schedule of actions

The closure actions include the development and documenting of a description of specific technical solutions related to infrastructure and facilities for the preferred closure option or options, which must include all areas, infrastructure, activities and aspects both within the mine lease area and off of the mine lease area associated with mining for which the mine has the responsibility to implement closure actions; and the development and maintenance of a list and assessment of threats and opportunities and any uncertainties associated with the preferred closure option, which list will be used to identify and define any additional work that is needed to reduce the level of uncertainty.

The schedule of actions for final rehabilitation, decommissioning and closure which will ensure avoidance, rehabilitation, management of impacts including pumping and treatment of extraneous water must be linked to the MWP, if greenfields, or to the current mine plan if brownfields; including assumptions and schedule drivers; and including a spatial map or schedule, showing planned spatial progression throughout operations.

There were no infrastructure or infrastructure related facilities constructed as part of prospecting. There were no specialist studies carried out during prospecting. The specialist studies that cover the

environment for the prospecting EMP can be used for the mine as the physical landscape is the same and will be used to identify and define any additional work that is needed to reduce the level of uncertainty.

There will therefore also be no final land use map as the entire area will be grazing and wilderness.

Table 5: Final rehabilitation action plans and schedule

Rehabilitation of drilling site	
Specific closure vision, objectives and targets	Topsoil will be separately stock-piled and replaced after boreholes are back-filled
Original closure plan action plans	Where drilling sites (long-term operation) have been denuded of vegetation/grass or where soils have been compacted or crusts formed, the surface shall be ripped or ploughed and if necessary appropriately fertilised to allow vegetation to grow rapidly to return the land use to pasture.
Current situation	No pits, buildings, structures, etc. were constructed. The drilling holes are all filled with topsoil and are not visible in the field.  Figure 3: Area of prospecting post rehabilitation (taken in 2018)
Updated action plans	• All alien vegetation on these areas must be removed. Monitoring of alien vegetation to take place.
Schedule	Ongoing
Description and evaluation of alternative closure and post closure options	No alternative closure and post closure options are evaluated.
Motivation for the preferred closure action within the context of the risks and impacts that are being mitigated	Compacted areas on prospecting sites that have been in operation for one year and longer should be ripped and ploughed to ensure re-growth of vegetation.

Details associated with any on-going research on closure options.	Not applicable.
A detailed description of the assumptions made to develop closure actions in the absence of detailed knowledge on site conditions, potential impacts, material availability, stakeholder requirements and other factors for which information is lacking.	The drill holes are limited to the area of drilling.
Waste disposal	
Specific closure vision, objectives and targets	There will be no waste generated during prospecting
Original closure plan action plans	Spills will be treated with a biodegrading material such as Terrazyme. The material degrades hydrocarbons to carbon; carbon dioxide and water.
Current situation	No spills or domestic waste was observed on site.
Updated action plans	The drilling personnel must remove all waste on site.
Schedule	Not applicable.
Description and evaluation of alternative closure and post closure options	No alternative closure and post closure options are evaluated.
Motivation for the preferred closure action within the context of the risks and impacts that are being mitigated.	There were no spills that took place which may have led to soil contamination. There was no domestic waste found on site. All drilling boreholes were backfilled as part of rehabilitation.
Details associated with any on-going research on closure options.	Not applicable.
A detailed description of the assumptions made to develop closure actions in the absence of detailed knowledge on site conditions, potential	A site visit was conducted that ensured no waste could be located on site.

impacts, material availability, stakeholder requirements and other factors for which information is lacking.	
Infrastructure removal	
Specific closure vision, objectives and targets	The site should look exactly as it did prior to prospecting.
Original closure plan action plans	All infrastructure, equipment, plant, temporary housing and other items used during the mining period will be removed from the site (section 44 of the MPRDA).
Current situation	There was no infrastructure constructed as part of prospecting activities. Therefore, no infrastructure can be seen on site.
Updated action plans	There is no updated action plan that is necessary as rehabilitation has taken place.
Schedule	Not applicable
Description and evaluation of alternative closure and post closure options	No alternative closure and post closure options are evaluated
Motivation for the preferred closure action within the context of the risks and impacts that are being mitigated	There was no infrastructure built during prospecting, therefore, this is not applicable.
Details associated with any on-going research on closure options.	Not applicable.
A detailed description of the assumptions made to develop closure actions in the absence of detailed knowledge on site conditions, potential impacts, material availability, stakeholder requirements and other factors for which information is lacking.	Site visits ensured that there was no remaining infrastructure on site.

4.3 The indication of the organisational capacity that will be put in place to implement the plan

This section must include the organisational structure as it pertains to the plan; responsibilities; and training and capacity building that may be required to build closure competence.

The mine manager will be responsible for rehabilitation. The operational management of Imerys will ultimately be responsible for final rehabilitation. No training has been done.

4.4 An indication of gaps in the plan, including an auditable action plan and schedule to address the gaps

The work conducted in this report is compiled from the EMP and verified through a site visit. There is nothing additional that is done.

4.5 Relinquishment criteria for each activity or infrastructure in relation to environmental aspects with auditable indicators

This is not applicable. The community has full access to the area.

SECTION 5: POST REHABILITATION ACTIVITIES

Post rehabilitation will take place after closure of the prospecting. These activities will be in the form of maintenance and monitoring.

5.1 Monitoring plan

Due to the nature of the activities and associated activities, monitoring is not necessary. A once-off check by the mine will be adequate to ensure all waste is removed and that there are no further impacts. The community is already using the site and regular checks to site will only lead to disturbance of the community.

5.2 Internal, external and legislated audits of the monitoring plan

Not applicable. Proof of check to site will be forwarded to DMR.

SECTION 6: MINE CLOSURE FINANCIAL PROVISION UPDATE

The annual forecasted financial provision calculation must include an explanation of the financial provision methodology; auditable calculations per activity or infrastructure; and financial provision assumptions.

6.1 Financial provision methodology

The closure costs only include monitoring of the area.

6.2 Auditable calculations of financial provision per activity or infrastructure

Estimations are used due to the type of rehabilitation necessary.

6.3 Financial provision estimation

The following table contains a summary of the calculations made for the financial provision based on the rehabilitation monitoring plan.

Table 6: Summary of the financial provision estimation until closure

Item	Size	Rate	Final cost	Comment
Vegetation				
Seeding	Estimate	R 5 000.00	R5 000.00	Only of necessary
Removal of alien vegetation	Estimate	R 5 000.00	R5 000.00	Only of necessary
Monitoring				
Soil erosion, vegetation growth, and alien vegetation monitoring	Quarterly for 1 year	R30 000.00	R30 000.00	
Sub-total			R40 000.00	
P&G (13.5%)			R5 400.00	
Contingency (10%)			R4 000.00	
Total			**R49 400.00**	

6.4 Financial provision assumptions

- Only monitoring to take place.
- Revegetation and alien vegetation removal only if necessary.
- Removal of roads only if requested by community.

SECTION 7 MOTIVATIONS FOR ANY AMENDMENTS MADE TO THE FINAL REHABILITATION, DECOMMISSIONING AND MINE CLOSURE PLAN, GIVEN THE MONITORING RESULTS IN THE PREVIOUS AUDITING PERIOD AND THE IDENTIFICATION OF GAPS AS PER 2(I)

None.

REFERENCES

Prospecting right for Portion 24 of the farm Nooitgedacht 436JR, 2005.

AGIS - Comprehensive Atlas, Agricultural Geo-Referenced Information System, www.agis.agric.za/agisweb/agis.html.

Environmental Potential atlas, Department of Environment and Tourism, www.environment.gov.za/Maps/EnvAtlas/Maps_EnvAtlas_contents.htm.

Ecca Nooitgedacht Portion 22; Prospecting Environmental Management Plan.

Google Earth, 2018

Mucina, L., & Rutherford, M. C. (2006). The vegetation of South Africa, Lesotho and Swaziland.

Nooitgedacht Mine Environmental Management Programme Shangoni Management Services (Pty) Ltd, 2014

Environmental Management Programme (EMP) (Blue Swallows Services Group (Pty) Ltd, 2002)

BECS Environmental, 2018, Environmental Management Plan Performance Assessment Report