



EIA for the Swartberg Mine Expansion

Draft Report

8 April 2019

Project No.: 0472502

Document details	
Document title	EIA for the Swartberg Mine Expansion
Document subtitle	Draft Report
Project No.	0472502
Date	8 April 2019
Version	1.0
Author	Brendon Solik, Amy Barclay, Khosi Dlamini
Client Name	Black Mountain Mining Pty Ltd

Document History

Version	Revision	Author	Reviewed by	ERM approval to issue		Comments
				Name	Date	
Draft	01	Brendon Solik	Stephanie Gopaul and Philip Johnson	Philip Johnson	05/04/2019	Approved for Submission

8 April 2019

EIA for the Swartberg Mine Expansion

Draft Report



Philip Johnson
Partner

ERM Southern Africa (Pty) Ltd

1st Floor | Great Westerford | 240 Main Road | Rondebosch | 7700 | Cape Town | South Africa

© Copyright 2019 by ERM Worldwide Group Ltd and / or its affiliates ("ERM").
All rights reserved. No part of this work may be reproduced or transmitted in any form,
or by any means, without the prior written permission of ERM.

CONTENTS

NON-TECHNICAL SUMMARY	1
Purpose of this Document	i
Project Background	i
The Proponent	i
The Environmental Assessment Practitioner	i
Need and Desirability	i
Project Description	ii
Project Location	ii
Project Components	4
Project Activities	4
Administrative Framework	5
EIA Process	5
Public Participation	5
Summary of Impacts	7
Environmental Management Programme	x
Conclusion	x
1. INTRODUCTION	1
1.1 Project Background	1
1.2 Previous Mining History and Environmental Authorisations	1
1.2.1 Existing Mining Right	1
1.2.2 Existing Environmental Authorisations for Black Mountain Mine	1
1.3 Purpose of this Report	4
1.4 Project Proponent	5
1.5 The Environmental Assessment Practitioner (EAP) Team	5
1.6 Impact Assessment Report Regulations as per EIA Regulations 2017	6
1.7 Report Structure	9
2. PROJECT DESCRIPTION	11
2.1 Project Location	11
2.2 Need and Desirability	13
2.2.1 Overview	13
2.2.2 Employment	13
2.2.3 Regional Mining Contribution	13
2.2.4 Contribution to Service Delivery and Infrastructure	13
2.2.5 Summary	14
2.3 Project Components	14
2.4 Construction Phase	17
2.5 Mining Phase (Operational Phase)	18
2.5.1 Open Pits	18
2.5.2 Underground Mine Expansion	19
2.5.3 Explosive Storage Area and Ammonium Nitrate and Emulsion Silos	19
2.5.4 Drilling and Blasting	20
2.5.5 Load and haul of Overburden Core	20
2.5.6 Primary Crusher	20
2.5.7 Conveyor System Network	20
2.5.8 Waste Rock Dumps	20
2.5.9 Processing Concentrator Plant	21
2.5.10 Associated Mine Infrastructure	22
2.6 Export	22
2.7 Decommissioning and Closure	23
2.8 Project Schedule and Life of Mine	23
2.9 Emissions and Waste	23
2.9.1 Noise Emissions	23
2.9.2 Air Emissions	23
2.9.3 Waste Generation	23
2.10 Resource Use	25

2.10.1	Water.....	25
2.10.2	Power	25
2.10.3	Fuel and Lubricants	25
2.11	Process Followed to Reach the Preferred Project Alternative	25
2.11.1	Location Alternatives	25
2.11.2	Layout Alternative.....	26
2.11.3	Technology Alternatives	32
2.11.4	No-Go Alternative	35
2.11.5	Summary	35
3.	ADMINISTRATIVE FRAMEWORK	36
3.1	Introduction	36
3.2	Constitution of the Republic of South Africa (108 of 1996).....	36
3.3	National Environmental Management Act (No. 107 of 1998)	36
3.3.1	NEMA Environmental Authorisation	36
3.4	Mineral and Petroleum Resources Development Act (No. 28 of 2002)	46
3.5	Consolidated Permitting Requirements	46
3.6	Other Applicable Legislation, Policies and/or Guidelines	50
3.6.1	National Legislation	50
3.7	Broader Policy and Planning Context.....	50
3.7.1	Northern Cape Provincial Growth and Development Strategy (2011)	50
3.7.2	The Northern Cape Provincial Spatial Development Framework (2012)	50
3.7.3	Namakwa District Municipality Local Economic Development Strategy (2007)	51
3.7.4	Khai Ma Integrated Development Plan (2012-2017)	51
3.7.5	Khai Ma Rural Spatial Development Framework Plan (2010)	52
3.7.6	Alignment with Regional Planning Policies.....	52
4.	BASELINE	53
4.1	Area of Influence	53
4.2	Biophysical Baseline	55
4.2.1	Climate	55
4.2.2	Air Quality.....	60
4.2.3	Noise	66
4.2.4	Geology.....	67
4.2.5	Hydrology	70
4.2.6	Groundwater.....	70
4.2.7	Flora	76
4.2.8	Fauna	87
4.3	Socio-economic Baseline	96
4.3.1	Administrative Structure	96
4.3.2	Demographic Profile.....	99
4.3.3	Economic Profile	100
4.3.4	Education	101
4.3.5	Health.....	102
4.3.6	Land Use.....	103
4.3.7	General Infrastructure and Services.....	104
4.3.8	Paleontological, Agricultural and Heritage Resources.....	106
5.	EIA PROCESS.....	110
5.1	Introduction	110
5.2	Approach to the EIA Process	112
5.3	Scoping Phase.....	112
5.3.1	Desktop Review	113
5.3.2	Public Participation.....	113
5.3.3	Scoping Report.....	113
5.3.4	Submission of Application Form.....	113
5.4	Specialist Study Phase.....	113
5.5	Integration and Assessment Phase.....	114
5.5.1	Proposed Timeframes for the EIA	114

5.6	Public Participation.....	114
5.6.1	Public Participation Objectives	114
5.6.2	Legislative Context	115
5.6.3	Public Participation Activities.....	115
5.6.4	Summary of Scoping Engagement.....	117
6.	IMPACT ASSESSMENT METHODOLOGY.....	119
6.1	Assumptions and Limitations.....	119
6.2	Impact Identification and Characterisation	119
6.3	Determining Magnitude	120
6.3.1	Determining Receptor Sensitivity	121
6.3.2	Assessing Significance.....	122
6.4	Mitigation Potential and Residual Impacts.....	123
6.4.1	Residual Impact Assessment	124
6.4.2	Cumulative Impacts.....	124
6.5	Assessing Significance of Risks for Accidental Events	125
7.	IMPACT ASSESSMENT.....	127
7.1	Introduction	127
7.1.1	Project and Associated Activities.....	127
7.1.2	Resources and Receptors	128
7.2	Air Quality.....	128
7.2.1	Construction, Operations, and Decommissioning Phases: Decreased Local Ambient Air Quality due to Dust Emissions.....	128
7.3	Ambient Noise and Vibration.....	132
7.3.1	Construction, Operational, and Decommissioning Phase: Increase in the Ambient Noise Levels.....	132
7.4	Soils and Geology	134
7.4.1	Construction Phase: Loss of Soil Resources as a result of Site Clearance and Construction Activities	134
7.5	Terrestrial Flora	136
7.5.1	Construction and Operation Phase: Loss of Medium and High Sensitivity Habitats and Associated Species	136
7.5.2	Construction and Operation Phase: Loss of Medium and Low Sensitivity Habitats and Associated Species	139
7.5.3	Construction and Operation Phase: Loss of Plant Species of Conservation Concern	142
7.5.4	Construction and Operation Phase: Reduced Ecological Function and Degradation due to Altered Soil Surfaces.....	144
7.5.5	Construction and Operation Phase: Increase in Alien Invasive Vegetation.....	146
7.6	Fauna.....	148
7.6.1	Construction and Operation Phase: Faunal Habitat Loss of Medium, High and Very High Sensitivity areas.....	148
7.6.2	Construction and Operation Phase: Loss of Individuals of Fauna due to mining activities.....	150
7.7	Groundwater	153
7.7.1	Operation Phase: Impact of Contaminants on the Groundwater Resource.....	153
7.7.2	Decommissioning Phase: Impact on Groundwater Quality on the Groundwater Resource.....	155
7.7.3	Operation Phase: Impact of Contaminants on Groundwater Users.....	157
7.7.4	Decommissioning Phase: Impact of Contaminants on Groundwater Users	158
7.7.5	Operation Phase: Impact of Drawdown or Dewatering on the Groundwater Resource.....	159
7.7.6	Decommissioning/Post Closure Phase: Impact of Drawdown or Dewatering on the Groundwater Resource	161
7.7.7	Operation Phase: Impact of Drawdown or Dewatering on Groundwater Users.....	162
7.7.8	Decommissioning/ Post Closure: Impact of Drawdown or Dewatering on Groundwater Users.....	163
7.8	Employment, Skills Enhancement and Local Business Opportunities.....	165

7.8.1	Construction and Decommissioning: Employment, Skills Enhancement and Local Business Opportunities	165
7.8.2	Operations: Employment, Skills Enhancement and Local Business Opportunities	167
7.8.3	Decommissioning: Loss of Employment and Contract Opportunities	169
7.9	Impacts on Community Health and Safety	170
7.9.1	Construction, Operation and Decommissioning: Impacts Associated with the Presence of the Workforce and Jobseekers.....	171
7.9.2	Construction, Operation and Decommissioning: Pressure on Social Infrastructure and Services	173
7.9.3	Construction and Decommissioning Phase: Impact on Human Health due to Air Emissions and Dust Generation	175
7.9.4	Operations Phase: Impact on Human Health due to Air Emissions.....	176
7.10	Worker Health and Safety and Rights	177
7.10.1	Construction and Decommissioning Phase: Risk to Workers' Health and Safety due to Hazardous Construction Activities.....	177
7.10.2	Operation Phase: Risk to Workers' Health and Safety due to Hazardous Operation Activities	179
7.11	Traffic Volumes	181
7.11.1	Construction and Operation: Increase in Traffic Volumes	181
7.12	Archeology and Cultural Heritage	183
7.12.1	Construction, Operation and Decommissioning Phase: Loss of Heritage Resources	183
7.13	Unplanned Events	185
7.13.1	Construction, Operation, and Decommissioning: Occupational Health and Safety	185
7.13.2	Construction, Operation, and Decommissioning: Accidental Spills of Equipment Fuel, Oils, and Chemicals	187
7.13.3	Construction, Operation, and Decommissioning: Vehicle Accidents	190
7.14	Cumulative Impacts.....	192
7.14.1	Background	192
7.14.2	Methodology.....	193
7.14.3	Air Quality.....	193
7.14.4	Noise	193
7.14.5	Soils and Geology	193
7.14.6	Terrestrial Flora.....	194
7.14.7	Fauna	195
7.14.8	Groundwater.....	195
7.14.9	Employment, Skills Enhancement and Local Business Opportunities.....	195
7.14.10	Community Health and Safety.....	196
7.14.11	Traffic	196

8. ENVIRONMENTAL MANAGEMENT PROGRAMME197

8.1	Purpose of this EMPr	197
8.2	Legal Requirements	197
8.2.1	National Environmental Management Act (107 of 1998) (NEMA)	197
8.2.2	Mineral and Petroleum Resources Development Act (No. 28 of 2002)	199
8.3	Project EAP and Proponent	200
8.3.1	Expertise of Environmental Assessment Practitioners	200
8.3.2	Project Proponent.....	201
8.4	Project Description	201
8.4.1	Background	201
8.4.2	Project Location.....	202
8.5	Environmental Management Programme.....	205
8.5.1	Existing Environmental Management System	205
8.5.2	Management Plans	206
8.5.3	Mitigation and Monitoring Measures.....	207
8.6	Implementation of the EMPr.....	226
8.6.1	Proponent Roles and Responsibilities.....	226
8.6.2	Training and Environmental Awareness on Site.....	229

8.6.3	Record Keeping.....	229
8.6.4	Grievance Mechanism.....	230
8.6.5	Monitoring Programme.....	230
8.6.6	Auditing.....	230
8.6.7	Corrective Action.....	230
8.6.8	Reporting.....	231
9.	CONCLUSION	232
9.1	Introduction	232
9.2	Summary of Impacts Identified and Assessed	232
9.2.1	Significance Impact Summary.....	235
9.2.2	Recommendations	235
10.	REFERENCES.....	236

ANNEX A: DETAILS OF ENVIRONMENTAL ASSESSMENT PRACTITIONER AND DECLARATION OF INDEPENDENCE

ANNEX B: STAKEHOLDER ENGAGEMENT MATERIAL

ANNEX C: LAYOUT PLANS AND MAPS

ANNEX D: SPECIALIST REPORTS

ANNEX E: PROOF OF APPROVAL FOR EXISTING AUTHORISATIONS

ANNEX F: DRAFT SCOPING REPORT ACKNOWLEDGEMENT

ANNEX G: FINAL SCOPING REPORT ACCEPTANCE

ANNEX H: STANDALONE EMPR

ANNEX I: FINANCIAL PROVISION FOR CLOSURE

ANNEX J: BLACK MOUNTAIN MINE SOCIAL AND LABOUR PLAN

List of Tables

Table 1	Property Details	ii
Table 2	Public Participation Tasks	6
Table 3	Summary of the significance of identified impacts of the proposed Project	8
Table 1.1	Existing Environmental Authorisations for Black Mountain Mine	2
Table 1.2	The EIA Team	6
Table 1.3	Legislated Content of Impact Assessment Report (GNR 326) and Corresponding Sections in this Report	7
Table 2.1	Property Details	11
Table 2.2	Analysis of Layout Alternatives	27
Table 2.3	Mining Method Options	33
Table 3.1	Environmental Permit Requirements from NEMA Listing Notices	38
Table 3.2	Consolidated Permitting Requirements	47
Table 4.1	Average Monthly Evaporation (mm) (Gamsberg ESIA, 2013)	60
Table 4.2	Acceptable Dust fall Rates	63
Table 4.2	Summary of Stratigraphic Succession of Swartberg	67
Table 4.3	Part A: Groundwater Level and Elevation Results for Black Mountain Mining (GWL for February 2018)	72
Table 4.4	Part B: Groundwater Level and Elevation Results for Black Mountain Mining (GWL for February 2018)	73
Table 4.5	The Most Prominent Species Recorded on the Landscape Surrounding the Project Area	81
Table 4.6	Alien Invasive Species observed within the Project Area	87
Table 4.7	Summary of Transect results for Sandy Plains and Quartz Foothills	90
Table 4.8	Summary of species recorded along line transects	91
Table 4.9	List of Settlements in the Project Aol	98
Table 4.10	Namakwa District Population Distribution between 1996 and 2011	99
Table 4.11	Population and Household Figures per Town	100
Table 4.12	Education Level in the Khai-Ma Local Municipality	101
Table 4.13	The Number of Schools in the Areas of Influence	102
Table 4.14	Number of people with Access to Water in the Project Area	104
Table 4.15	Service Delivery in the Project Area	105
Table 4.16	Plotted Artefact Scatters and Observations made	107
Table 5.1	EIA Schedule	114
Table 5.2	Public Participation Tasks	115
Table 6.1	Impact Characteristics	120
Table 6.2	Biological and Species Value/Sensitivity Criteria	122
Table 6.3	Socio-Economic Sensitivity Criteria	122
Table 6.4	Accidental Events Risk Significance	126
Table 7.1	Dust Risk Matrix	130
Table 7.2	Impact Assessment: Decreased Local Ambient Air Quality due to Dust Emissions from Construction, Operations, and Decommissioning Activities	131
Table 7.3	Pre- and Post- Mitigation Significance for Air Quality	132
Table 7.4	Impact Assessment: Construction, Operation and Decommissioning: Increased Ambient Noise Levels	133
Table 7.5	Pre- and Post- Mitigation Significance for Noise	134
Table 7.6	Impact Assessment: Construction: Loss of Soil Resources as a result of Site Clearance and Mine Construction	135
Table 7.7	Pre- and Post- Mitigation Significance for Loss of Soil Resources	135
Table 7.8	Impact Assessment: Construction: Loss of Medium-High, High Sensitivity Habitats and Associated Species	137
Table 7.9	Pre- and Post- Mitigation Significance for Loss of Medium-High, High Sensitivity Habitats and Associated Species	139
Table 7.10	Impact Assessment: Construction: Loss of Medium and Low Sensitivity Habitats and Associated Species	140
Table 7.11	Pre- and Post- Mitigation Significance for Loss of Medium and Low Sensitivity Habitats and Associated Species	142
Table 7.12	Impact Rating: Loss of Plant Species of Conservation Concern Pre-Mitigation	142

Table 7.13	<i>Pre- and Post- Mitigation Significance for Loss of Plant Species of Conservation Concern</i>	144
Table 7.14	<i>Impact Rating: Reduced Ecological Function and Degradation due to Altered Soil Surfaces Pre-Mitigation</i>	144
Table 7.15	<i>Pre- and Post- Mitigation Significance for Reduced Ecological Function and Degradation due to Altered Soil Surfaces</i>	146
Table 7.16	<i>Impact Rating: Increased Alien Invasive Vegetation Pre-Mitigation</i>	147
Table 7.17	<i>Pre- and Post- Mitigation Significance for Increased Alien Invasive Vegetation</i>	148
Table 7.18	<i>Pre- Mitigation Impact Rating: Faunal Habitat Loss within Medium, High and Very High Sensitivity Habitats and Associated Species</i>	149
Table 7.19	<i>Pre- and Post-Mitigation Impact Rating: Loss of Medium, High and Very High Sensitivity Faunal Habitats and Associated Species</i>	150
Table 7.20	<i>Pre- Mitigation Impact Rating: Loss of Individuals of Fauna due to Mining Activities.</i>	151
Table 7.21	<i>Pre- and Post-Mitigation Impact Rating: Direct Impact on Fauna Species</i>	152
Table 7.22	<i>Impact Assessment: Operations: Contaminants on the Groundwater Resource</i>	154
Table 7.23	<i>Pre- and Post- Mitigation Significance for Contaminants on the Groundwater Resource during the Operation Phase</i>	155
Table 7.24	<i>Impact Assessment: Decommissioning: Contaminants on the Groundwater Resource during the Post Closure Phase before Mitigation</i>	156
Table 7.25	<i>Pre- and Post- Mitigation Significance for Contaminants on the Groundwater Resource Post Closure</i>	157
Table 7.26	<i>Impact Assessment: Operations: Impacts of Contaminants on the Groundwater Users before Mitigation</i>	157
Table 7.27	<i>Pre- and Post- Mitigation Significance for Impacts of Contaminants on the Groundwater Users during Operations</i>	158
Table 7.28	<i>Impact Assessment: Post Closure: Impact of Contaminants on the Groundwater Users Post Closure before Mitigation</i>	158
Table 7.29	<i>Pre- and Post- Mitigation Significance for Impacts of Contaminants on the Groundwater Users Post Closure</i>	159
Table 7.30	<i>Impact Assessment: Operations: Drawdown or Dewatering on the Groundwater Resource before Mitigation</i>	160
Table 7.31	<i>Pre- and Post- Mitigation Significance for Drawdown or Dewatering on the Groundwater Resource during Operations</i>	161
Table 7.32	<i>Impact Assessment: Post Closure: Drawdown or Dewatering on the Groundwater Resource before Mitigation</i>	161
Table 7.33	<i>Pre- and Post- Mitigation Significance for Drawdown or Dewatering of the Groundwater Resource Post Closure</i>	162
Table 7.34	<i>Impact Assessment: Operations: Drawdown or Dewatering on the Groundwater Users before Mitigation</i>	162
Table 7.35	<i>Pre- and Post- Mitigation Significance for Drawdown or Dewatering on the Groundwater Users</i>	163
Table 7.36	<i>Impact Assessment: Post Closure: Drawdown or Dewatering on the Groundwater Users</i>	164
Table 7.37	<i>Pre- and Post- Mitigation Significance for Drawdown or Dewatering on the Groundwater Users</i>	164
Table 7.38	<i>Estimated Employment Positions Available During Construction</i>	165
Table 7.39	<i>Impact Assessment: Construction and Decommissioning: Employment, Skills Enhancement and Local Business Opportunities</i>	166
Table 7.40	<i>Pre- and Post- Enhancement Significance for Employment, Skills Enhancement and Local Business Opportunities</i>	167
Table 7.41	<i>Impact Assessment: Operations: Employment, Skills Enhancement and Local Business Opportunities</i>	168
Table 7.42	<i>Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities</i>	169
Table 7.43	<i>Impact Assessment: Decommissioning: Loss Employment, Skills Enhancement and Local Business Opportunities</i>	170
Table 7.44	<i>Pre- and Post- Mitigation Significance for Loss of Employment Creation, Skills Enhancement and Local Business Opportunities</i>	170

Table 7.43	<i>Impact Assessment: Construction, Operation and Decommissioning: Presence of the Workforce and Jobseekers</i>	172
Table 7.44	<i>Pre- and Post- Mitigation Significance for Presence of the Workforce and Jobseekers</i> 173	
Table 7.45	<i>Impact Assessment: Construction, Operation and Decommissioning: Pressure on Social Infrastructure and Services</i>	174
Table 7.46	<i>Pre- and Post- Mitigation Significance for Pressure on Social Infrastructure and Services</i>	174
Table 7.47	<i>Impact Assessment: Construction and Decommissioning: Impacts on Human Health due to Air Emissions and Dust Generation</i>	175
Table 7.48	<i>Pre- and Post- Mitigation Significance for Impacts on Human Health due to Air Emissions and Dust Generation</i>	176
Table 7.49	<i>Impact Assessment: Operations: Impacts on Human Health due to Air Emissions and Dust Generation</i>	176
Table 7.50	<i>Pre- and Post- Mitigation Significance on Impact on Human Health due to Air Emissions</i>	177
Table 7.51	<i>Impact Assessment: Construction and Decommissioning: Risk to Workers' Health and Safety due to Hazardous Activities</i>	178
Table 7.52	<i>Pre- and Post- Mitigation Significance for Risk to Workers' Health and Safety due to Hazardous Construction and Decommissioning Activities</i>	179
Table 7.53	<i>Impact Assessment: Operations: Risk to Workers' Health and Safety due to Hazardous Activities</i>	180
Table 7.54	<i>Pre- and Post- Mitigation Significance on Risk to Workers' Health and Safety due to Hazardous Operation Activities</i>	181
Table 7.55	<i>Impact Assessment: Construction and Operation: Increase in Traffic Volumes</i>	182
Table 7.56	<i>Pre- and Post- Mitigation Significance for Increase in Traffic Volumes</i>	183
Table 7.57	<i>Impact Assessment: Construction, Operations and Decommissioning: Archaeology and Cultural Heritage</i>	184
Table 7.58	<i>Pre- and Post- Mitigation Significance: Archaeology and Cultural Heritage</i>	185
Table 7.59	<i>Impact Assessment: Occupational Health and Safety Hazards during Construction, Operation, and Decommissioning Activities</i>	186
Table 7.60	<i>Pre- and Post- Mitigation Occupational Health and Safety Hazards during Construction, Operation, and Decommissioning Activities</i>	186
Table 7.61	<i>Impact Assessment: Accidental Spills of Hazardous materials Construction, Operation, and Decommissioning Activities</i>	188
Table 7.62	<i>Impact Rating: Groundwater Quality on the Groundwater Resource during the Construction Phase before Mitigation</i>	189
Table 7.63	<i>Pre- and Post-Mitigation Impact Rating: Groundwater Quality on the Groundwater Resource during the Construction Phase Post Mitigation</i>	190
Table 7.64	<i>Impact Rating: Vehicle Accidents Construction, Operation, Decommissioning Phase before Mitigation</i>	191
Table 7.65	<i>Pre- and Post-Mitigation Impact Rating: Vehicle Accidents during the Construction, Operation, and Decommissioning Phase Post Mitigation</i>	192
Table 8.1	<i>Contents of a draft EMPr</i>	198
Table 8.2	<i>EMPr requirements of Section 39 of the MPRDA</i>	199
Table 8.3	<i>The EIA Team</i>	201
Table 8.4	<i>Property Details</i>	203
Table 8.5	<i>Construction Environmental Management Measures</i>	208
Table 8.6	<i>Operational Environmental Management Measures</i>	217
Table 8.7	<i>Decommissioning Environmental Management Measures</i>	222
Table 8.8	<i>BMM Role and Responsibilities</i>	226
Table 8.9	<i>Business partner Roles and Responsibilities</i>	228
Table 9.1	<i>Summary of the significance of identified impacts in the construction phase of the proposed Project</i>	233

List of Figures

Figure 1	Project Location Map.....	3
Figure 2.1	Project Location Map.....	12
Figure 2.2	Indicative Mine Layout.....	16
Figure 2.3	Illustration of Proposed Mining Method.....	19
Figure 4.1	Project Area of Influence	54
Figure 4.2	Average Rainfall over South Africa	55
Figure 4.3	Average Monthly Precipitation in Aggeneys (1986 - 2012).....	56
Figure 4.4	Total Annual Precipitation in Aggeneys (1986 - 2012).....	56
Figure 4.5	Daily Rainfall Data Recorded at Black Mountain Mine (July 2016 to January 2017).....	57
Figure 4.6	Average Annual Temperature over South Africa	58
Figure 4.7	Mean Maximum Temperature in Pofadder for January between 2000 to 2012.....	58
Figure 4.8	Wind Roses Data for the BMM Meteorological Station	59
Figure 4.9	Wind Class Frequency Distribution	60
Figure 4.10	The location of BMM's dust monitoring units	62
Figure 4.11	BMM Swartberg New Decline (SND)	63
Figure 4.12	BMM Training Centre (TRC)	64
Figure 4.13	BMM Swartberg Haul Road (SHR)	65
Figure 4.14	BMM Waste Rock Dump (WRD).....	66
Figure 4.10	Geological Map for the Black mountain Mining Region	69
Figure 4.11	Groundwater Monitoring Boreholes.....	74
Figure 4.12	Recommended sustainable abstraction rates of the aquifer tested farm boreholes	76
Figure 4.13	The Approximate Delineation of Plant Associations Observed.....	78
Figure 4.14	Typical views of Aggeneys Gravel Vygieveld in the Project Area.....	80
Figure 4.15	Typical View of Bushmanland Arid Grassland in the Project Area	83
Figure 4.16	Typical View of Modified Dunes in the Project Area	84
Figure 4.17	Vegetation Sensitivity Map and localities of Some Species of Conservation Concern..	86
Figure 4.18	Hairy-footed Gerbil (<i>Gerbillurus paeba</i>) captured on the Project Site.....	88
Figure 4.19	Reptiles observed on the Project Site	89
Figure 4.20	Photo of Gravel Plains Habitat	93
Figure 4.21	Photo of Rocky Hills Habitat.....	94
Figure 4.22	Faunal Sensitivity Map for the Project Area	95
Figure 4.23	Administrative Structure	96
Figure 4.24	Employment Distribution in the Khai-Ma Local Municipality	101
Figure 4.25	Archaeological Findings in the Project Area	108
Figure 4.26	Archaeological Observations.....	109
Figure 5.1	Integrated Environmental Impact Assessment Process	111
Figure 6.1	Impact Significance	123
Figure 8.1	Project Location Map.....	204

Acronyms and Abbreviations

Acronym	Description
ALARP	As Low As Reasonably Practicable
ANFO	Ammonium nitrate fuel oil
ARD	Acid rock drainage
BAP	Biodiversity Action Plan
BAR	Basic Assessment Report
BID	Background Information Document
BMM	Black Mountain Mining
CBA	Critical Biodiversity Area
CDW	Community Development Workers
CoCs	Contaminants of Concern
DAoI	Direct Area of Influence
DEA	Department of Environmental Affairs
DEA&DP	Department of Environmental Affairs and Development Planning
DM	District Municipality
DMA	District Management Area
DMR	Department of Mineral Resources
DSR	Draft Scoping Report
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
EC	Electrical Conductivity
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Program
EPC	Engineering Procurement Construction
ERM	Environmental Resources Management
GDP	Gross Domestic Product
GNR	Government Notice Regulation
HDPE	High density polyethylene
HV	High Voltage
IAoI	Indirect Area of Influence
I&AP's	Interested and Affected Parties
IDP	Integrated Development Plan
IRP	Integrated Regional Plan
ktpa	kilo tonnes per annum
LED	Local Economic Development
LHOS	Long-hole open stoping
LM	Local Municipality
LOM	Life of Mine
MAE	Mean annual evaporation
MAMSL	Metres above mean sea level
MBGL	Meters below ground level
MF	Monitoring Forum
MRPDA	Mineral and Petroleum Resources Development Act
MR	Mining Right
Mtpa	Million tonnes per annum
Mt	Million tonnes
MW	Mega Watt
NCDM	Northern Cape District Municipality
NCPGDS	Northern Cape Provincial Growth and Development Strategy
NDM	Namakwa District Municipality
NDP	National Development Plan
NEMA	National Environmental Management Act
NEMBA	National Environmental Management: Biodiversity Act
NEMPAA	National Environmental Management: Protected Areas Act
NEMWA	National Environmental Management: Waste Act
NEMAQA	National Environmental Management: Air Quality Act
NFEPA	National Freshwater Ecosystem Priority Areas
NGA	National Groundwater Archive
NHRA	National Heritage Resources Act
NID	Notice of Intent to Develop
NWA	National Water Act
OCHSA	Occupational Health and Safety Act
PPE	Personal Protective Equipment
PPP	Public Participation Process
ROM	Run Of Mine

SAHRA	South African Heritage Resources Agency
SANS	South African National Standards
SDF	Spatial Development Framework
SDFP	Spatial Development Framework Plan
S&EIR	Scoping and Environmental Impact Report
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbon
TSF	Tailings Storage Facility
VOCs	Volatile Organic Compounds
WML	Waste Management Licence
WRD	Waste Rock Dump
WUL	Water Use Licence

NON-TECHNICAL SUMMARY

Purpose of this Document

This document provides a summary of the Draft Environmental Impact Assessment (EIA) Report for the proposed Swartberg Mine Expansion Project, which includes a description of the proposed Project and the associated Scoping and EIA process. It aims to help stakeholders understand the proposed Project and provides guidance on how stakeholders can register and be involved in the EIA process.

Project Background

Black Mountain Mining (Pty) Ltd (herein referred to as BMM), part of the global Vedanta Resources Plc., intends to expand the Swartberg Mine at the existing Black Mountain Mine, which is located 10 km west of the town of Aggeneys, Northern Cape Province. BMM currently produces ore from two underground mines, namely the Deeps Mine and the Swartberg Mine (both located on the Black Mountain Mine). To secure the future of underground mining at BMM, it is proposed to ramp-up ore production from Swartberg Mine to a minimum of 1.7 Mtpa before Deeps mine is mined out. The expansion will advance the Swartberg life of mine within the existing Mining Right Area (MR 517) by at least 19 years.

The expansion of Swartberg mine will consist of the expansion of the current underground mine and three new open pit mines, and a total of 150,000,000 tons of ore will be mined from the Swartberg over the 19 year life of mine. Of this expected tonnage, approximately 18,000,000 tons of lead and copper concentrate will be extracted. Lead and copper concentrate will be transported via existing rail and/or road networks and exported via the Port of Saldanha.

The existing Swartberg mine operates under an Environmental Authorisation from the Department of Mineral Resources (reference: NCS 30/5/1/2/3/2/1/517 EM). The development of a decline and the establishment of an open pit with associated workshops and infrastructure are included in this approval. The proposed expansion of the Swartberg Mine includes the expansion of the decline and the development of three more open pits (the Project). It must be noted that the footprint of the existing Black Mountain Mine will not be expanded.

The Proponent

BMM engages in mining operations in South Africa and produces primarily zinc concentrates, as well as lead, copper, and silver concentrates. BMM operates the Gamsberg, Swartberg and Deeps mines and currently employ 1,667 individuals in total through direct employment and business partners.

The Environmental Assessment Practitioner

The ERM team selected for this Project possess the relevant expertise and experience to undertake this EIA. As such, ERM has signed the legally required declaration of independence to function as an objective Environmental Assessment Practitioner (EAP). The CVs and details of the Independent Environmental Practitioner and declaration of independence are presented in Annex A.

Need and Desirability

BMM employs in excess of 1 600 persons, operating as the largest private employer in the Namakwa region and it is a stable employer for the last 30 years. Approximately 80% of the employees are local, with 62% from Namakwa, Khai-Ma and Nama Khoi municipal areas. Should the proposed expansion not occur, approximately 837 permanent employees could be at risk of losing their jobs, with an additional 830 business partners similarly at risk. A number of these business partners also have active contracts with the BMM Gamsberg Mine, and should the proposed Swartberg Mine expansion not occur, a reduction in revenue might be experienced.

Mining is a major gross domestic product (GDP) contributor and provides 22% of the provincial economy, followed by agriculture at 7%, manufacturing at 3%, and construction at 2% (Stats SA, 2016). In addition, The Northern Cape contributed 6% of the national mining GDP (Stats SA, 2016). Stats SA reported that mining contributed 40 000 real jobs in 2014, which was up from 22 000 in 2003 (StatsSA, 2016). BMM is one of the mining operations that has contributed to stable employment and economic growth in the area.

BMM has contributed substantially to local and regional economic growth. The Aggeneys community alone was largely developed as a result of the BMM operations. Mining operations in the Northern Cape Province contribute the highest percentage towards the GDP, followed by the agriculture and manufacturing sectors. Given the crucial role played by the BMM operations both on a local and regional scale, should the proposed mine expansion not occur, the Northern Cape economy faces major employment and development risks.

Project Description

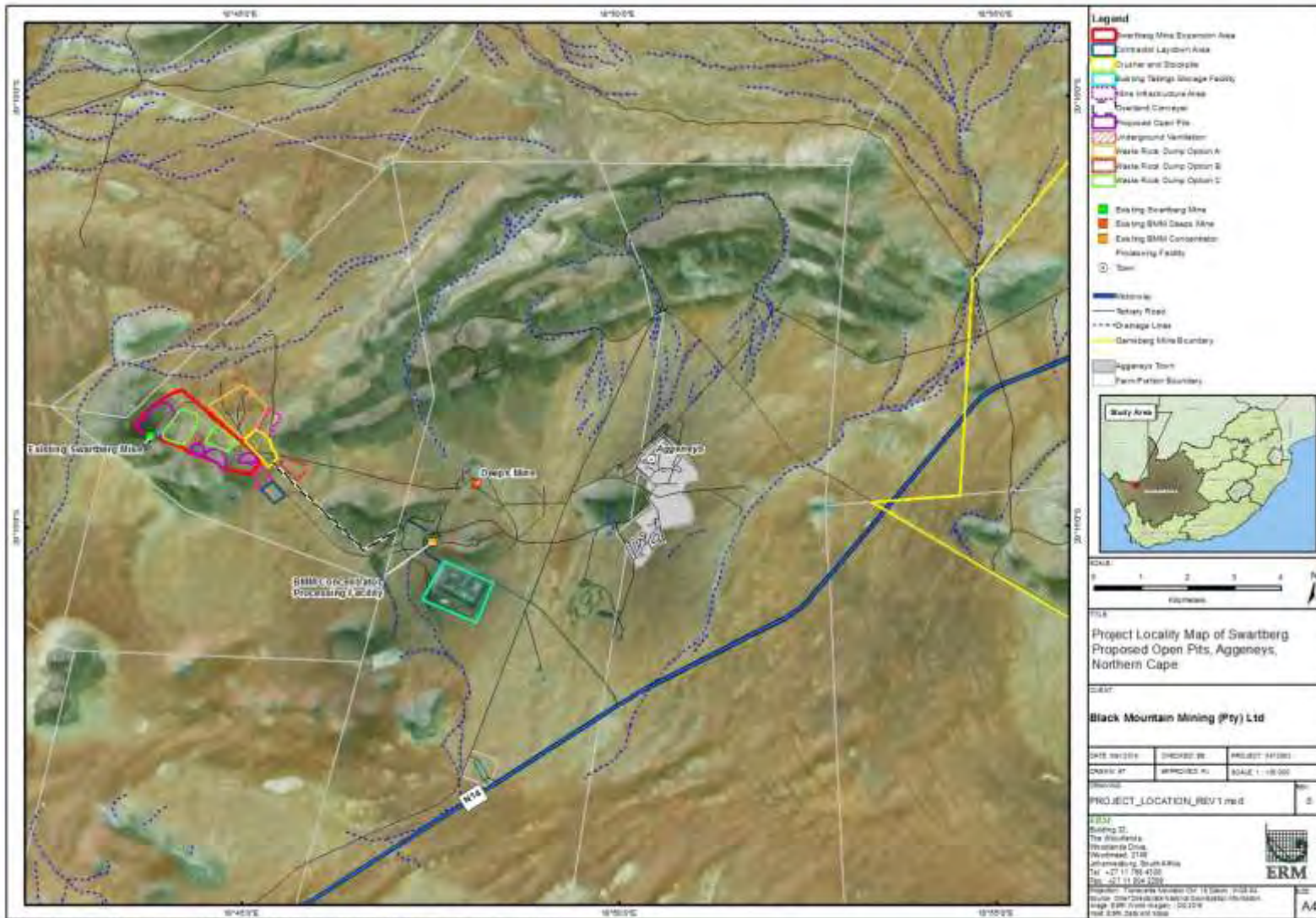
Project Location

The Project site is located in the Northern Cape Province of South Africa, approximately 10 km west of the town of Aggeneys, which lies between the existing towns of Pofadder and Springbok. The Project site falls within the Black Mountain Mine, which is owned by BMM. The Black Mountain Mine is 110 km north-west of Springbok and 60 km east of Pofadder, along the N14. *Table 1* shows the details of the property where the Project will be located and *Figure 1* illustrates the Project Location.

Table 1 Property Details

Farm Name	Zuurwater 62
Portion Number	Portion 4
SG21 Code	C0530000000006200004
Local Municipality	Khai-Ma Local Municipality
Magisterial District	Namaqualand [C053]
District Municipality	Namakwa District Municipality

Figure 1 Project Location Map



Project Components

BMM intends to establish the Project with resultant waste rock dumps, mine machinery fleet, workshops and supporting infrastructure to enable mining and handling of the ore towards the concentrator processing plant where the mine ore will be processed. The existing Deeps Mine concentrator processing plant will be upgraded to enable processing of the Swartberg ore, which is of metallurgical difference from the Deeps mine feedstock.

The Port of Saldanha will be used for exporting products. As the Swartberg Mine is seen as a replacement for the current Deeps mine, the facilities at Port of Saldanha should not require an upgrade. Product will be transported via trucks to the Port.

The expanded mining operations and associated infrastructure will include the following:

- Three open pits;
- Explosives storage area and ammonium nitrate and emulsion silos;
- Primary crusher;
- Conveyor system network;
- Waste rock dumps;
- Mine bulk fuel and lubricant storage facilities
- Mine store yard;
- Engineering workshops;
- Power lines;
- Water treatment and disposal infrastructure;
- Administrative offices;
- Training centre;
- Surface water lines;
- Laydown areas and vehicle parking;
- Service bays;
- Waste transfer points;
- Concrete batch plant; and
- Paste backfill plant

The processing plant and related infrastructure will include the following:

- Upgrade to the crushing circuit;
- Upgrades to the milling circuit;
- Increase in flotation capacity by increasing the float cell size;
- Upgrade to pumping and services infrastructure;
- Tailings dam expansion or new facility; and
- Return water dam at Tailings Storage facility (TSF).

Site preparation is expected to begin in 2020 and the LOM is expected to be at least 19 years.

Project Activities

The Project activities can be divided into four phases as follows:

- Construction;
- Operation (Mining);
- Export; and
- Decommissioning and Closure.

Administrative Framework

The National Environmental Management Act (No.107 of 1998), as amended (NEMA) is the South African framework legislation governing environmental protection and management. This provides a framework for the integration of environmental issues into the planning, design, decision-making and implementation of plans and development proposals that are likely to have a negative effect on the environment.

Numerous listed activities have been identified for this Project in terms of all the NEMA listing notices. In instances where all the listing notices are triggered (as in this Project), GNR 325 requirements will take precedent and the Project will be subject to a full Scoping & Environmental Impact Assessment (S&EIA) process prior to commencement of any of the associated activities.

Based on the EIA Regulations 2017, it is understood that the competent authority for this Project will be the Department of Mineral Resources (DMR). As such, BMM will be required to obtain a positive Environmental Authorisation from the National DMR prior to commencement of the proposed activities.

EIA Process

The EIA process was initiated through a pre-assessment Public Participation Process (PPP). The pre-assessment process is not a mandatory requirement in terms of the EIA regulations (2017) but a beneficial option for the client and EAP in order to identify key stakeholders and Interested and Affected Parties (I&APs) as well as to identify any fatal flaws at the onset of a project.

This phase was followed by the scoping phase. During the scoping phase the Terms of Reference for the full EIA was formulated, and requirements from the authorities clarified and any potential issues and concerns identified via consultation.

After completion of the scoping phase, detailed specialist studies have been undertaken to address issues identified in the Scoping Report. Specialists have provided baseline information in their particular field of expertise for the Project area, and identified which project actions will result in significant impacts. These consultants have also suggested ways in which these negative impacts could be mitigated, to reduce their severity.

The Draft EIA Report will be submitted for public review, during which time ERM will present the key findings of the studies to all Interested and Affected Parties (I&APs). All comments made by I&APs are captured in a Comments and Response Report, and in this report responses to all issues and concerns raised during the public review period are provided.

All recommendations cited in the EIA report are detailed in an Environmental Management Programme report (EMPr), which defines the mitigation actions to be implemented as well as the roles and responsibilities for implementation. EMPrs are recognised as important tools for the sound environmental management of projects.

Public Participation

A key component of the EIA process is public participation. In South Africa public participation is required for an EIA process in terms of the EIA Regulations GNR.326 (April 2017). *Table 2* provides a breakdown of the public participation tasks undertaken and still to be undertaken during the remainder of the process.

Table 2 Public Participation Tasks

Activity	Description and Purpose
Pre-Application Phase	
Preparation of a preliminary stakeholder database	A preliminary database has been compiled of authorities (local and provincial), Non-Governmental Organisations, neighbouring landowners and other key stakeholders (refer to <i>Annex B</i>). This database of registered I&APs will be maintained and updated during the ongoing EIA process.
Preparation and Distribution of a Background Information Document (BID)	BIDs were distributed via email and post to all registered I&APs. See <i>Annex B</i> . The BID provides an introduction to the Project and the EIA process.
Pre Application Meeting with the DMR	A pre-application meeting was held with Deidre Karsten (of the DMR) on the 10 th of October 2018. The purpose of the meeting was to notify the DMR of the Project and garner feedback on the Project to be included in the EIA process. Meeting minutes were included in <i>Annex B</i> of this Report.
Scoping Phase	
Erection of Site Notices	<p>Site notices were placed at the following locations:</p> <ul style="list-style-type: none"> ■ Pofadder Community Centre; ■ Public notice board next to the OK Supermarket in Aggeneys; and ■ At the entrance to the Project site. <p>Proof of site notices are included in <i>Annex B</i>.</p>
Project Website	<p>A website was created for the Project where key contact information as well as the Draft Scoping Report were made available:</p> <p>https://www.erm.com/bmm-swartberg-mine-expansion-eia</p>
Release of draft Scoping Report for Public Comment	<p>The draft Scoping Report was released for public comment between 8 November and 14 December 2018. Notifications were sent to all stakeholders on the database and the report was made available online (https://www.erm.com/bmm-swartberg-mine-expansion-eia) and in the Pofadder Public Library, Aggeneys Public Library, and the Black Mountain Office in Aggeneys (See <i>Annex B</i> for Proof of DSR availability in the Public Libraries).</p> <p>Acknowledgement of submission of the Draft Scoping Report to the DMR are included in <i>Annex B</i>.</p>
Public Meetings	<p>I&APs were invited to attend a public meeting at the Aggeneys North Recreation Club on 15 November 2018 in order for ERM to present the proposed Project and solicit input from stakeholders into the scoping process. Stakeholders were notified of this meeting on 1 November 2018.</p> <p>At the request of the Khai Mai Municipal Council, further public meetings were held at the Onseepkans Community Hall, Pofadder Community Hall and the Pella Community Hall on 11 December 2018. Stakeholders were notified of meetings by means of a notification letter (sent on 4 December 2018), public notices placed in Pofadder community centre and through verbal invitations from the Municipal Council. The notification of the additional public meeting included a reminder of the public comment period.</p> <p>Attendance registers for the meeting are included in Annex B of this Report and a summary of discussions held are included in the section below.</p>
Development of a Comments and Response Report	All comments received during the Scoping consultation period were recorded into the Comment and Response Report (<i>Annex B</i>) of this Report.
Newspaper Adverts	An advertisement, advertising the commencement of the commenting period was placed in Die Namakwalander (Afrikaans) and in Die Burger (English) on the 7 th of November 2018 (<i>Annex B</i>).

Activity	Description and Purpose
Key Stakeholder Meetings	Individual meetings with key stakeholders were also undertaken. These included surrounding farm owners Hester Maasdorp and Deon Maasdorp on the 15 th of November 2018 at Zuur Water Farm, Jasper Mostert on the 17 of November 2018, and the Khai Mai Municipal Council on the 13 th of November 2018. Attendance registers of the key stakeholder meetings were included in <i>Annex B</i> of the final Scoping Report.
EIA Phase	
Release of draft EIA and EMPr for Public Comment	The draft EIA and EMPr document is available for a 30-day comment period to stakeholders and the relevant authorities. The 30 day comment period is from 4 April to 13 May 2019. A notification letter was sent on 8 April to all registered I&APs on the project database. This letter serves to invite I&APs to comment on the draft EIA. Newspaper adverts have been placed in local newspapers notifying stakeholders of the availability of the Draft EIA report for review and inviting them to public meetings. All comments received will be included in the final EIA .
Availability of draft EIR	The Report is available on the project website: https://www.erm.com/bmm-swartberg-mine-expansion-eia , on request from ERM, and at the following public locations: <ul style="list-style-type: none"> • Aggeneys Public Library • Poffadder Public Library • Black Mountain Mining Office, Penge Road, Aggeneys • Department of Mineral Resources, Springbok
Public Meetings	A further public meeting will be held during the EIA phase to gather comments on the draft EIA as its development progresses. This public meeting will be held in Aggeneys on 16 April 2019.
Focus Group Discussions	Key Stakeholders will be engaged in order to facilitate discussion and feedback on important potential impacts.
Notification of Decision	I&APs will be notified of the decision with regards to the EA and the statutory appeal period. An advertisement will be placed to advertise the EA.

Summary of Impacts

The following impacts are likely to arise from construction, operation and maintenance/ decommissioning activities of the Project. This Impact Assessment identifies and evaluates the potential impacts that the proposed Project may have on the biophysical and socio-economic environments, and develops mitigation/ management measures that will be implemented to avoid, minimize or reduce these impacts and enhance positive impacts.

Table 3 provides an overview of likely aspects arising from each of the key Project activities and considers their likely interaction with socio-economic and environmental resources and receptors.,

Table 3 Summary of the significance of identified impacts of the proposed Project

Impact	Phase	Significance Pre Mitigation	Residual Impact Significance
Air Quality: Decreased Local Ambient Air Quality due to Dust Emissions	Construction, Operations, Decommissioning	Moderate (receptors within 200m of the Project site)	Minor (receptors within 200m of the Project site)
Ambient Noise and Vibration: Increase in the Ambient Noise Levels	Construction, Operations, Decommissioning	Minor	Minor
Soils and Geology: Loss of Soil Resources as a result of Site Clearance and Construction Activities	Construction	Moderate	Minor
Terrestrial Flora: Loss of Medium and High Sensitivity Habitats and Associated Species	Construction, Operations	Major	Major
Terrestrial Flora: Loss of Medium and Low Sensitivity Habitats and Associated Species	Construction, Operations	Moderate	Minor
Terrestrial Flora: Loss of Plant Species of Conservation Concern	Construction, Operations	Major	Major
Terrestrial Flora: Reduced Ecological Function and Degradation due to Altered Soil Surfaces	Construction, Operations	Major	Major
Terrestrial Flora: Increase in Alien Invasive Vegetation	Construction, Operations	Moderate	Minor
Terrestrial Fauna: Faunal Habitat Loss of Medium, High Sensitivity areas	Construction, Operations	Moderate	Moderate
Terrestrial Fauna: Loss of Individuals of Fauna due to mining activities.	Construction, Operations	Moderate	Minor
Groundwater: Impact of Contaminants on the Groundwater Resource	Operations	Moderate	Minor
Groundwater: Impact of Contaminants on the Groundwater Resource	Decommissioning	Moderate	Minor
Groundwater: Impact of Contaminants on Groundwater Users	Operations, Decommissioning	Negligible	Negligible
Groundwater: : Impact of Drawdown or Dewatering on the Groundwater Resource	Operations, Decommissioning	Moderate	Moderate
Groundwater: : Impact of Drawdown or Dewatering on Groundwater Users	Operations, Decommissioning	Negligible	Negligible
Employment, Skills Enhancement and Local Business Opportunities	Construction, Operations, Decommissioning	Positive	Positive
Loss of Employment, Skills Enhancement and Local Business Opportunities	Decommissioning	Major	Moderate
Community Health and Safety: Impacts Associated with the Presence of the Workforce and Jobseekers	Construction, Operations, Decommissioning	Moderate	Minor
Community Health and Safety: Pressure on Social Infrastructure and Services	Construction, Operations, Decommissioning	Minor	Minor

Impact	Phase	Significance Pre Mitigation	Residual Impact Significance
Community Health and Safety: Impact on Human Health due to Air Emissions	Construction, Decommissioning	Minor	Negligible
Community Health and Safety: Impact on Human Health due to Air Emissions	Operations	Minor	Minor
Worker Health and Safety and Rights: Risk to Workers' Health and Safety due to Hazardous Activities	Construction, Operations, Decommissioning	Moderate	Minor
Traffic: Increase in Traffic Volumes	Construction, Operations	Moderate	Minor
Archaeology and Cultural Heritage	Construction, Operations, Decommissioning	Minor	Minor
Unplanned Events: Occupational Health and Safety Hazards	Construction, Operations, Decommissioning	Major	Moderate
Unplanned Events: Accidental Spills of Equipment Fuel, Oils, and Chemicals on Soils	Construction, Operations, Decommissioning	Moderate	Minor
Unplanned Events: Accidental Spills of Equipment Fuel, Oils, and Chemicals on Groundwater	Construction, Operations, Decommissioning	Minor	Negligible
Unplanned Events: Vehicle Accidents	Construction, Operations, Decommissioning	Moderate	Minor

The significance of impact on terrestrial flora has been assessed to be Major both pre- and post-mitigation, as the Project will result in some loss of highly sensitive habitats and species. An extensive list of mitigation measures has been proposed to minimise the loss, however the location of the proposed mine expansion suggests there will a degree of habitat loss. The other major impacts relate to Occupational Health and Safety (Unplanned Event), however this can be mitigated to Moderate with strict operational controls.

Other negative impacts associated with the proposed development have been mitigated to a level which is deemed appropriate for the construction phase to proceed.

Environmental Management Programme

The objective of the EMP is to describe measures and actions that will be implemented to eliminate or reduce key environmental concerns/ impacts to acceptable levels for all elements of Project's activities. Details of these mitigations measures are included in Section 8.

BMM will ensure the following in order for the appropriate implementation of the EMP:

- *Training and Environmental Awareness:* BMM will identify, plan, monitor, and record training needs for personnel whose work may have a significant adverse impact upon the environment or social conditions. Key staff will, therefore, be appropriately trained in key areas of environmental and social management and operational control with core skills and competencies being validated on an on-going basis.
- *Record Keeping:* BMM will control HSE documentation, including management plans; associated procedures; and checklists, forms and reports, through a formal procedure. All records will be kept on site and kept in both hard copy and soft copy formats.
- *Grievance Mechanisms:* The management of grievances is a vital component of stakeholder management and an important aspect of risk management for the project, since grievances can be an indication of growing stakeholder concerns (real and perceived).
- *Monitoring Programme:* Monitoring will be conducted to ensure compliance with regulatory requirements as well as to evaluate the effectiveness of operational controls and other measures intended to mitigate potential impacts. Monitoring parameters are included in the EMP.
- *Auditing:* Beyond the routine inspection and monitoring activities conducted, audits will be carried out internally by BMM to ensure compliance with regulatory requirements. The audit shall be performed by qualified staff and the results shall be reported to the Site management to be addressed.
- *Corrective Action:* Potential impacts and associated risks should be identified. Investigating a 'near miss' or actual incident after it occurs can be used to obtain valuable lessons and information that can be used to prevent similar or more serious occurrences in the future.
- *Reporting:* BMM will provide appropriate documentation of EHS related activities, including internal inspection records, training records, and reports to the DMR as required.

Conclusion

It is considered that suitable effort has been made to accommodate the mitigation measures recommended during the EIA process, to the extent that is practically possible, without compromising

the economic viability of the proposed Project. The implementation of the mitigation measures detailed in the EMPr, including monitoring, will provide a basis for ensuring that the potential positive and negative impacts associated with the establishment of the Project are respectively enhanced and mitigated to a level which is deemed adequate for the Project to proceed. In addition, a cumulative impact assessment has been undertaken, with the relevant input from specialists obtained.

In summary, based on the findings of this assessment, ERM is of the opinion that the Swartberg Mine Expansion should be authorised, contingent on the mitigations and monitoring for potential environmental and socio-economic impacts as outlined in the EIA Report and EMPr being implemented.

1. INTRODUCTION

1.1 Project Background

Black Mountain Mining (Pty) Ltd (herein referred to as BMM), part of the global Vedanta Resources Plc., intends to expand the Swartberg Mine at the existing Black Mountain Mine, located 10 km west of the town of Aggeneys, Northern Cape Province. The proposed expansion of the Swartberg Mine includes the expansion of the existing decline and the development of three more open pits (the *Project*). It should be noted that the footprint of the existing Black Mountain Mine will not be expanded. The current Swartberg Mine is authorised through a previous Environmental Authorisation from the Department of Mineral Resources (NCS 30/5/1/2/3/2/1/517 EM). An environmental approval for the development of a decline and the establishment of an open pit with associated workshops and infrastructure is included in the existing Authorisation.

BMM is a producer of Copper, Lead and Zinc concentrates in the Northern Cape. BMM currently produces ore from two underground mines; the Deeps mine and the Swartberg Mine (both located at Black Mountain Mine). Extensive exploration in the vicinity of Swartberg to determine the extent of the orebody, has opened up the possibility of expanding the existing underground mine and establishing new open pits at Swartberg to levels on par with, or exceeding, the current Deeps mine. A pre-feasibility study completed in April 2017 concluded that the mining of the identified orebody at Swartberg is financially viable.

The bulk of the current ore production, approximately 1.3 million tonnes per annum (Mtpa), is produced from Deeps mine, and 400 kilo tonnes per annum (Ktpa) from the Swartberg operations. The Black Mountain Mine complex also includes an existing ore processing plant, mine offices, maintenance facilities and other associated services and infrastructure necessary to sustain the existing underground operations. The Deeps Life of Mine (LOM) is scheduled to extend to March 2021. To secure the future of mining at BMM, it is proposed to ramp-up ore production from Swartberg Mine to a minimum of 1.7 Mtpa before Deeps mine is mined out. The expansion will advance the Swartberg LOM within the existing Mining Right Area (MR 517) by at least 19 years.

The expansion of Swartberg Mine will consist of the expansion of the current underground mine and three new open pit mines, which will result in a total of 150,000,000 tons of ore being mined from the Swartberg over the 19 year LOM. Of this expected tonnage, approximately 18,000,000 tons of lead and copper concentrate will be extracted. Lead and copper concentrate will be transported via existing rail and/or road networks and exported via the Port of Saldahna in the Western Cape.

BMM has a long term view to mine additional resources to ensure mining operations at Black Mountain Mine remain viable.

1.2 Previous Mining History and Environmental Authorisations

1.2.1 Existing Mining Right

BMM is the holder of a mining right (MR 517) convened in terms of item 7 of Schedule II to the Mineral and Petroleum Resources Development Act, 28 of 2002. This mining right entitles BMM to mine the Black Mountain Mine for copper, lead, zinc and associated minerals in, on and under Remainder of Portion 1 of the farm Aggeneys 56, Portion 4 of the farm Zuurwater 62 and Portion 1 of the farm Koeries 54, situated in the Magisterial/ Administrative District of Namaqualand. The mining right has been issued for a period of 30 years from 19 August 2008, extending until 18 August 2038.

1.2.2 Existing Environmental Authorisations for Black Mountain Mine

Table 1.1 shows the various existing environmental authorisations for the Black Mountain Mine, copies of which have been attached in Annex E.

Table 1.1 Existing Environmental Authorisations for Black Mountain Mine

Authorisation	Environmental Framework	Reference	Relevant Area	Competent Authority
Approval of waste disposal activities	NEMA EIA Regulations, 2014 (as amended) and NEMWA list of waste Management Activities, 2008 (as amended) for existing waste facilities on Black Mountain Mining (Pty) Ltd.	NCS 30/5/1/2/3/2/1 (517) PR	Black Mountain Mine (Pty) Ltd	Department of Mineral Resources
Approval of development of new Swartberg Decline	Environmental Authorisation in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) as Amended and National Environmental Management: The Impact Regulation, 2014 on Remainder of Aggeneys No 56, Portion 4 of Zuurwater No 62 and Remainder of Rozynenbosch No 41 and Portion 4 of Koeris No 54.	NCS 30/5/1/2/3/2/1/517 EM	Portion 1 of the Farm Koeris No. 54, Portion 14 of the Farm Zuurwater No. 62, remainder and Portion 1 of the Farm Aggeneys No. 56 and Remainder of Rozynenbosch 41, Magisterial District of Namaqualand, Northern Cape Region	Department of Mineral Resources
Approval of amended EMP	Approval of an amendment to the Approved Environmental Management Programme in terms of section 102 of the MPRDA.	NCS 30/5/1/2/3/2/1/517 EM	Portion 1 of the Farm Koeris No. 54, Portion 14 of the Farm Zuurwater No. 62, remainder and Portion 1 of the Farm Aggeneys No. 56 Magisterial District of Namaqualand, Northern Cape Region	Department of Mineral Resources

Authorisation	Environmental Framework	Reference	Relevant Area	Competent Authority
DENC approval for establishment of Open pit and associated infrastructure	Granting of the Environmental authorisation for GN.R544: Activity 9(1), 13, 18 (i), 26, 6, 15 & GN.R546: Activities 12, 13 ii (cc), 14, 16 (iv) (ii) (ff), 19 (ii) (ee). The re-establishment of the Swartberg Open Pit mine for Lead, Copper and Zinc for export purposes.	NC/EIA/02/NAM/KHA/AGG1/2014	Black Mountain Mine (Pty) Ltd	Department Environment Natural Conservation Northern Cape
Water Use Licence	Licence for water uses 21(a), (e), (g) and (j) for a period of 15 years subject to the terms and conditions set out in the licence.	14/D82C/EGJ/171716/2/7/D82C/C1	Black Mountain Mine (Pty) Ltd	Department of Water & Sanitation
Water Use Licence	Licence for water uses 21(a), (e), (g) and (j) for a period of 15 years subject to the terms and conditions set out in the licence.	14/D82C/EGJ/1717	Black Mountain Mine (Pty) Ltd: Vedanta	Department of Water & Sanitation
Waste: General Waste Disposal Site: ECA Permit	Establish, provide or operate a waste disposal site of all types of wastes excluding hazardous and toxic wastes, nuclear, mining waste, medical waste and scheduled pharmaceutical products.	B33/2/450/12/P145	Portion of the remainder of the portion 1 of the Farm Aggeneys 56	Department of Water & Sanitation
Waste: General Waste Disposal Site: ECA Permit	Establish, provide or operate a waste disposal site of all types of wastes excluding hazardous and toxic wastes, nuclear, mining waste, medical waste and scheduled pharmaceutical products.	B33/2/450/12/P146	Portion of Portion 4 of the Farm Zuurwater 62	Department of Water & Sanitation

1.3 Purpose of this Report

Environmental Resources Management Southern Africa Pty Ltd. (ERM) has been appointed by BMM to conduct the Environmental Impact Assessment (EIA) process in terms of the National Environmental Management Act (NEMA), Act No. 107 of 1998, as amended (hereafter referred to as NEMA). This Draft Environmental Impact Assessment Report (EIA) has been compiled as part of the EIA process in accordance with the regulatory requirements stipulated in the EIA Government Regulations promulgated in terms of Section 24(5) of the NEMA.

A typical EIA is undertaken in three phases namely Scoping Phase, Specialist Study Phase and Impact Assessment Phase. The objective of the Scoping Phase, undertaken in 2018, was to identify the potentially significant environmental and social issues relating to the establishment/ construction, operation and decommissioning of the proposed development that should be addressed in the EIA. This was done through desktop review of available project and baseline information, initial engagement with key stakeholders (and other public consultation initiatives) as well as a site reconnaissance.

The Scoping Report included a description of the proposed project, infrastructure and activities, alternatives considered, and the EIA methodology. A description of the stakeholder engagement process and the key issues raised by stakeholders through the consultation activities were also presented. These issues have informed the development of the Plan of Study for EIA which defines the detailed studies to be undertaken as part of the specialist studies phase.

The Draft Scoping Report documented the findings of the Scoping Phase and was disclosed for a 30 day comment period from 8 November to 10 December 2018. All comments received during this time were addressed and included in the Final Scoping Report, which was submitted to the DMR for review on 18 January 2019. The Final Scoping Report was approved on 2 April 2019.

The purpose of this EIA is to present the following:

- A detailed description of the proposed Project and relevant Project alternatives;
- The EIA process and a legal review of legislation and guidelines pertinent to the proposed Project and associated Impact Assessment Report;
- The outcomes associated with stakeholder engagement activities carried out to date;
- A detailed baseline review of the physical, biological and socio-economic characteristics of the Project area;
- An assessment of impacts to the physical, biological and socio-economic environments related with the different phases (construction, operational and decommissioning phases) of the proposed Project;
- Mitigation measures that aim to avoid/ minimise/ manage the severity of identified impacts; and
- An assessment of cumulative impacts associated with Project-related developments in the Project area.

In terms of the identification of the competent authority, NEMA, states the following:

The competent authority in respect of the activities listed in this part of the schedule is the competent authority in the province in which the activity is to be undertaken, unless:

- a) *it is an application for an activity contemplated in section 24C(2) of the Act, in which case the competent authority is the Minister or an organ of state with delegated powers in terms of section 42(1) of the Act;*
- b) *the listed or specified activity is or is directly related to-*
 - i. *prospecting or exploration of a mineral or petroleum resource; or*
 - ii. *extraction and primary processing of a mineral or petroleum resource.*

As such, based on the proposed project, the regulations as stated above, and as confirmed with the Department of Mineral Resources (DMR), the DMR is the competent authority for this application.

Box 1.1 DMR Case Officer

Department of Mineral Resources
Deidre Karstens (Case officer)
Hopley Centre, cnr of Van der stel & Van Riebeeck Streets, Springbok
Phone (027) 712 8160
Fax (027) 712 1959



1.4 Project Proponent

BMM engages in mining operations in South Africa and produces primarily zinc concentrates, as well as lead, copper, and silver concentrates. BMM operates the Gamsberg, Swartberg, and Deeps mines and currently employ 1,667 individuals through direct employment and business partners. The contact details for the applicant are presented in *Box 1.2* below.

Box 1.2 Contact Details of Project Proponent

Black Mountain Mining Company (Pty) Ltd
Pieter David Venter (Environmental Manager)
Address: Penge Rd, Aggeneys, 8893
Tel: +27 54 983 9802
Email: PVenter@vedantaresources.co.za

1.5 The Environmental Assessment Practitioner (EAP) Team

ERM is a global environmental consulting organisation employing over 5,000 people in over 150 offices, in more than 40 countries. ERM Southern Africa employs over 150 environmental consultants across three offices: Johannesburg, Durban and Cape Town.

The requirement for environmental consultants to act independently and objectively is a well-established principle in South African law. The EIA regulations (GN R.326), specifically state:

“that an EAP (environmental assessment practitioner) (must have) no business, financial, personal or other interest in the activity, application or appeal in respect of which that EAP is appointed in terms of these Regulations other than fair remuneration for work performed in connection with that activity; or that there are no circumstances that may compromise the objectivity of that EAP in performing such work.”

ERM is a privately owned company registered in South Africa. ERM has no financial ties to, nor is ERM a subsidiary, legally or financially, of BMM. Remuneration for the services by the Proponent in relation

to this EIA is not linked to an approval by the decision-making authority. Furthermore, ERM has no secondary or downstream interest in the development.

The role of the environmental consultants is to provide credible, objective and accessible information to government and other stakeholders, so that an informed decision can be made about whether the project should proceed or not.

The ERM team selected for this Project possess the relevant expertise and experience to undertake this EIA. As such, ERM has signed the legally required declaration of independence to function as an objective Environmental Assessment Practitioner (EAP). The CVs and details of the Independent Environmental Practitioner are presented in Annex A.

The contact details of the EAP for the application are presented in *Box 1.3* and the core EIA team members involved in this EIA are listed in *Table 1.2*.

Box 1.3 Contact Details of the EAP

Environmental Resources Management Southern Africa (Pty) Ltd.
Stephanie Gopaul
Address: Postnet Suite 90, Private Bag X12, Tokai, 7966, Cape Town, South Africa
Tel: +27 21 681 5400, Fax: +27 21 686 0736
Email: Stephanie.gopaul@erm.com

Table 1.2 The EIA Team

Name	Role	Qualifications, Experience
Philip Johnson	Partner in Charge	BSc. (Hons), MSc, PIEMA, 14 years
Brendon Solik	Project Manager	B Soc Sci (hons), MSc 5 years
Stephanie Gopaul	Technical Specialist	BSc, MSc, 12 years

1.6 Impact Assessment Report Regulations as per EIA Regulations 2017

Table 1.3 indicates where the legislated content required in an EIA, can be found in this EIA Report.

Table 1.3 Legislated Content of Impact Assessment Report (GNR 326) and Corresponding Sections in this Report

Legislated Content- Appendix 2 Section 3	Section in this Report
1. (a) details of-	
(i) the EAP who prepared the report	Chapter 1.5
(ii) the expertise of the EAP, including a curriculum vitae	Chapter 1.5 & Annex A
(b) the location of the development footprint of the activity on the approved site as contemplated in the accepted scoping report including: (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Chapter 2.1
(c) a plan which locates the proposed activity or activities applied for at an appropriate scale (including coordinates) (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken	Chapter 2.2
(d) a description of the scope of the proposed activity, including-	
(i) all listed and specified activities triggered;	Chapter 3.3
(ii) a description of the activities to be undertaken, including associated structures and infrastructure	Chapter 2.4
(e) a description of the policy and legislative context within which the development is located and an explanation of how the proposed development complies with and responds to the legislation and policy context	Chapter 3
(f) a motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred development footprint within the approved site as contemplated in the accepted scoping report;	Chapter 2.11
(g) a motivation for the preferred development footprint within the approved site as contemplated in the accepted scoping report;	Chapter 2.10
(h) a full description of the process followed to reach the proposed development footprint within the approved site as contemplated in the accepted scoping report including:	Chapter 2.10
(i) details of all the development footprint alternatives considered;	Chapter 2.10
(ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs;	Chapter 5.6 & Annex B
(iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them;	Chapter 5.6
(iv) the environmental attributes associated with the development footprint alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Chapter 4 & 7
(v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts- (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated.	Chapter 7
(vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks;	Chapter 6

Legislated Content- Appendix 2 Section 3	Section in this Report
(vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects	Chapter 7
(viii) the possible mitigation measures that could be applied and level of residual risk	Chapter 7
(ix) if no alternative development footprints for the activity were investigated, the motivation for not considering such; and	Chapter 2
(x) a concluding statement indicating the location of the preferred alternative development footprint within the approved site as contemplated in the accepted scoping report;	Chapter 2
(i) a full description of the process undertaken to identify, assess and rank the impacts activity and associated structures and infrastructure will impose on the preferred development footprint on the approved site as contemplated in the accepted scoping report through the life of the activity including:	Chapter 2.11
(ii) a description of all environmental issues and risks that were identified during the environmental impact assessment process; and	Chapter 7
(iii) an assessment of the significance of each issue and risk and an indication of the extent to which the issue and risk could be avoided or addressed by the adoption of mitigation measures;	Chapter 7
(j) an assessment of each identified potentially significant impact and risk, including:	
(i) cumulative impacts;	Chapter 7
(ii) the nature, significance and consequences of the impact and risk;	Chapter 7
(iii) the extent and duration of the impact and risk;	Chapter 7
(iv) the probability of the impact and risk occurring;	Chapter 7
(v) the degree to which the impact and risk can be reversed;	Chapter 7
(vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and	Chapter 7
(vii) the degree to which the impact and risk can be mitigated;	Chapter 7
(k) where applicable, a summary of the findings and recommendations of any specialist report complying with Appendix 6 to these Regulations and an indication as to how these findings and recommendations have been included in the final assessment report;	Chapter 9
(l) an environmental impact statement which contains—	
(i) a summary of the key findings of the environmental impact assessment:	Chapter 9
(ii) a map at an appropriate scale which superimposes the proposed activity and its associated structures and infrastructure on the environmental sensitivities of the preferred development footprint on the approved site as contemplated in the accepted scoping report indicating any areas that should be avoided, including buffers; and	Annex C
(iii) a summary of the positive and negative impacts and risks of the proposed activity and identified alternatives;	Chapter 9
(m) based on the assessment, and where applicable, recommendations from specialist reports, the recording of proposed impact management outcomes for the development for inclusion in the EMPr as well as for inclusion as conditions of authorisation;	Chapter 8 & 9 Annex F
(n) the final proposed alternatives which respond to the impact management measures, avoidance, and mitigation measures identified through the assessment;	Chapter 3 & 8
(o) any aspects which were conditional to the findings of the assessment either by the EAP or specialist which are to be included as conditions of authorisation;	Chapter 7
(p) a description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures proposed;	Chapter 7
(q) a reasoned opinion as to whether the proposed activity should or should not be authorised, and if the opinion is that it should be authorised, any conditions that should be made in respect of that authorisation;	Chapter 9

Legislated Content- Appendix 2 Section 3	Section in this Report
(r) where the proposed activity does not include operational aspects, the period for which the environmental authorisation is required and the date on which the activity will be concluded and the post construction monitoring requirements finalised;	n/a
(s) an undertaking under oath or affirmation by the EAP in relation to-	
(i) the correctness of the information provided in the reports;	Annex A
(ii) the inclusion of comments and inputs from stakeholders and I&APs;	Annex A
(iii) the inclusion of inputs and recommendations from the specialist reports where relevant; and	Annex A
(iv) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties;	Annex A
(t) where applicable, details of any financial provision for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts;	Annex I
(u) an indication of any deviation from the approved scoping report, including the plan of study, including	
(i) any deviation from the methodology used in determining the significance of potential environmental impacts and risks; and	n/a
(ii) a motivation for the deviation;	n/a
(v) any specific information that may be required by the competent authority;	n/a
(w) any other matters required in terms of section 24(4)(a) and (b) of the Act.	n/a

1.7 Report Structure

The remainder of this report is organised as follows:

- Chapter 2: Project Description
- Chapter 3: Administrative Framework
- Chapter 4: Public Participation during the EIA Phase
- Chapter 5: Environmental and Social Baseline
- Chapter 6: Impact Assessment Methodology
- Chapter 7: Impact Assessment and Description
- Chapter 8: Environmental Management Programme (EMPr)
- Chapter 9: Conclusion
- Chapter 10: References

In addition, the report includes the following annexures:

- Annex A: Details of Environmental Assessment Practitioner and Declaration of Independence
- Annex B: Stakeholder Engagement Material
- Annex C: Layout Plans and Maps
- Annex D: Specialist Reports
- Annex E: Proof of Approval for Existing Authorisations
- Annex F: Draft Scoping Report Acknowledgement
- Annex G: Final Scoping Report Acceptance
- Annex H: Standalone EMPr

- Annex I: Financial Provision for Closure
- Annex J: Black Mountain Mine Social and Labour Plan

2. PROJECT DESCRIPTION

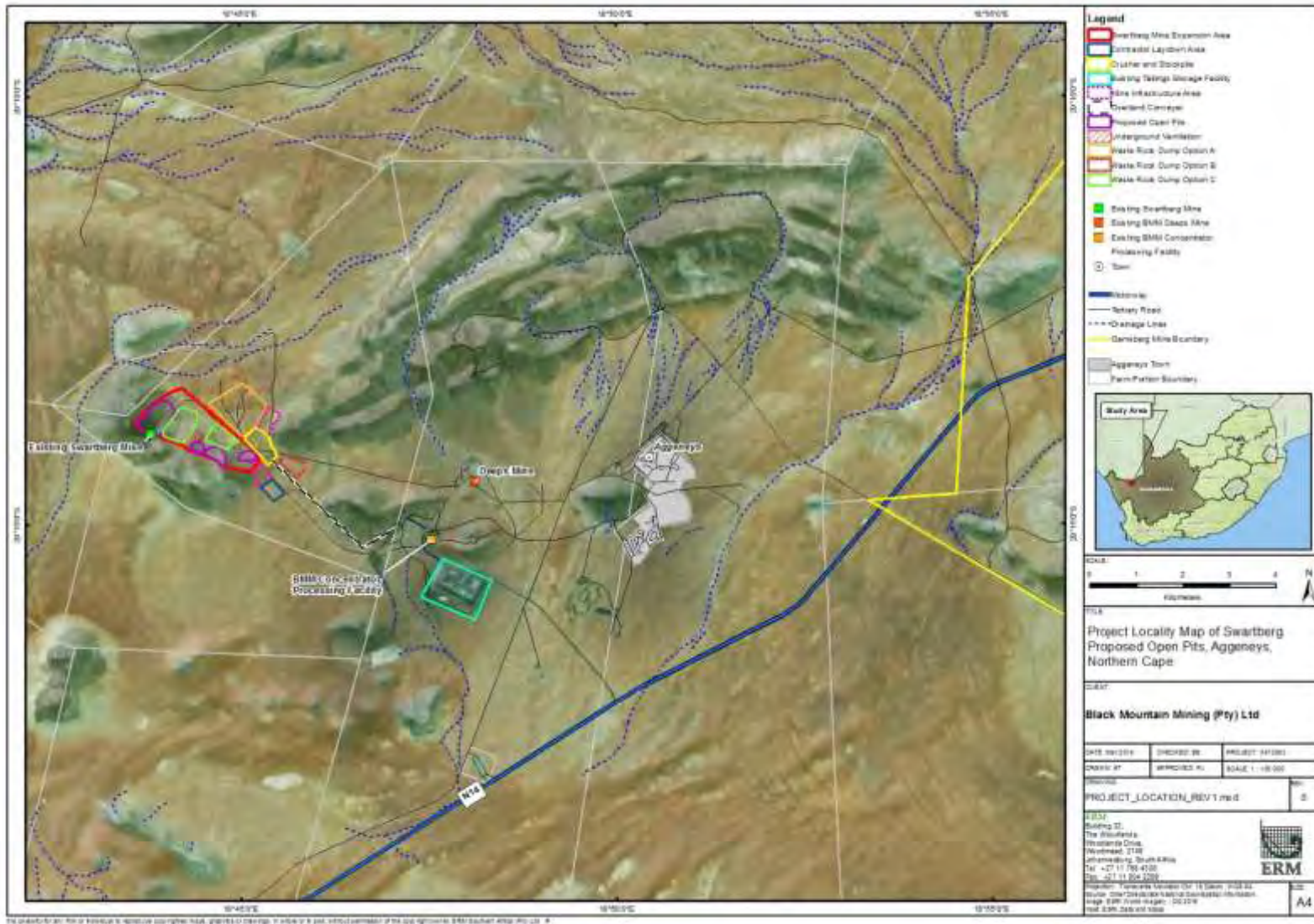
2.1 Project Location

The Project site is located in the Northern Cape Province of South Africa, approximately 10 km west of the town of Aggeneys, between the existing towns of Pofadder and Springbok. The Project site falls within the Black Mountain Mine, which is owned by BMM. *Table 2.1* shows the details of the property where the Project will be located and *Figure 2.1* illustrates the Project location.

Table 2.1 Property Details

Farm Name	Zuurwater 62
Portion Number	Portion 4
SG21 Code	C05300000000006200004
Local Municipality	Khai-Ma Local Municipality
Magisterial District	Namaqualand [C053]
District Municipality	Namakwa District Municipality

Figure 2.1 Project Location Map



2.2 Need and Desirability

2.2.1 Overview

BMM has a long term view to mine additional resources to ensure that the mining continues at the Black Mountain Mine beyond the LOM of Deeps Mine. Therefore the Project is key to ensure that mining continues at BMM, and will have an expected life of mine of 19 years with future potential for the possible extension of this period.

2.2.2 Employment

BMM employs in excess of 1 600 persons, operating as the largest private employer in the Namakwa region and it is a stable employer for the last 30 years. Approximately 80% of the employees are local, with 62% from Namakwa, Khai-Ma and Nama Khoi municipal areas. Should the proposed expansion not occur, approximately 837 permanent employees would be at risk of losing their jobs, with an additional 830 business partners at risk. A number of these business partners also have active contracts with the BMM Gamsberg Mine, and should the proposed Swartberg Mine expansion not occur, a reduction in revenue might be experienced.

2.2.3 Regional Mining Contribution

Mining is a major gross domestic product (GDP) contributor and provides 22% of the provincial economy, followed by agriculture at 7%, manufacturing at 3%, and construction at 2% (Stats SA, 2016). In addition, The Northern Cape contributed 6% of the national mining GDP (Stats SA, 2016). Stats SA reported that mining contributed 40 000 real jobs in 2014, which was up from 22 000 in 2003 (StatsSA, 2016). BMM is one of the mining operations that has contributed to stable employment and economic growth in the area.

2.2.4 Contribution to Service Delivery and Infrastructure

BMM's current contribution to the local service delivery and infrastructure includes:

- Residential accommodation is provided by the mine to the majority of employees. Aggeneys currently houses the existing BMM workforce of approximately 837 permanent employees and a significant number of business partner staff.
- Basic service provision to the town of Aggeneys is maintained by BMM for all residents. Monitoring of resources such as water, energy as well as waste and its recycling takes place continually to enable sustainable management of resources by all the users.
- As part of BMM operation water infrastructure has been developed which provides potable water is provided to Pofadder, Pella, Aggeneys and surrounding farmers (a total of approximately 11,200 people). This infrastructure was subsequently transferred to the Pella water board and Sedibeng Water.
- The public provincial gravel road of 160 km from the N14 to Loop 10 railroad siding is maintained by BMM.
- Supporting businesses and clubs are directly or indirectly supported by BMM, providing additional employment and non-mine skills development and economic benefit to the area.
- In addition to the above, the Black Mountain Social and Labour Plan (SLP) currently implement four projects, affecting approximately 9,000 persons positively with a total spend of approximately R 16.5 million over five years. This SLP will shortly reach the end of its 5 year period. BMM intends to implement another SLP, similar to the current, which will also include a total spend on R 19.5 million over a 5 year period. This SLP will continue to focus on primary health care, education and SMME development

It is expected that the proposed Project will continue to add socio-economic value in similar manner in the future.

2.2.5 Summary

BMM has contributed substantially to local and regional economic growth. The Aggeneys community alone was largely developed as a result of the BMM operations. Mining operations in the Northern Cape Province contribute the highest percentage towards the GDP, followed by the agriculture and manufacturing sectors. Given the crucial role played by the BMM operations both on a local and regional scale, should the proposed mine expansion not occur, the Northern Cape economy faces major employment and development risks.

2.3 Project Components

BMM intends to establish the Project with resultant waste rock dumps (WRDs), mine machinery fleet, workshops and supporting infrastructure to enable mining and handling of the ore towards the concentrator processing plant where the mine ore will be processed. The existing Deeps Mine concentrator processing plant will be upgraded to enable processing of the Swartberg ore, which is metallurgically different from the Deeps Mine feedstock.

The Port of Saldanha will be used for exporting products. As the Swartberg Mine is seen as a replacement for the current Deeps mine, the facilities at Port of Saldanha should not require an upgrade as no significant additional net volume is anticipated. Product will be transported via trucks to the Port.

The expanded mining operations and associated infrastructure will include the following:

- Three open pits;
- Explosives storage area and ammonium nitrate and emulsion silos;
- Primary crusher;
- Conveyor system network;
- Waste rock dumps;
- Mine bulk fuel and lubricant storage facilities
- Mine store yard;
- Engineering workshops;
- Power lines;
- Water treatment and disposal infrastructure;
- Surface water lines with storage tanks and take offs;
- Laydown areas and vehicle parking;
- Service and wash bays;
- Waste transfer points;
- Concrete batch plant; and
- Paste backfill plant.

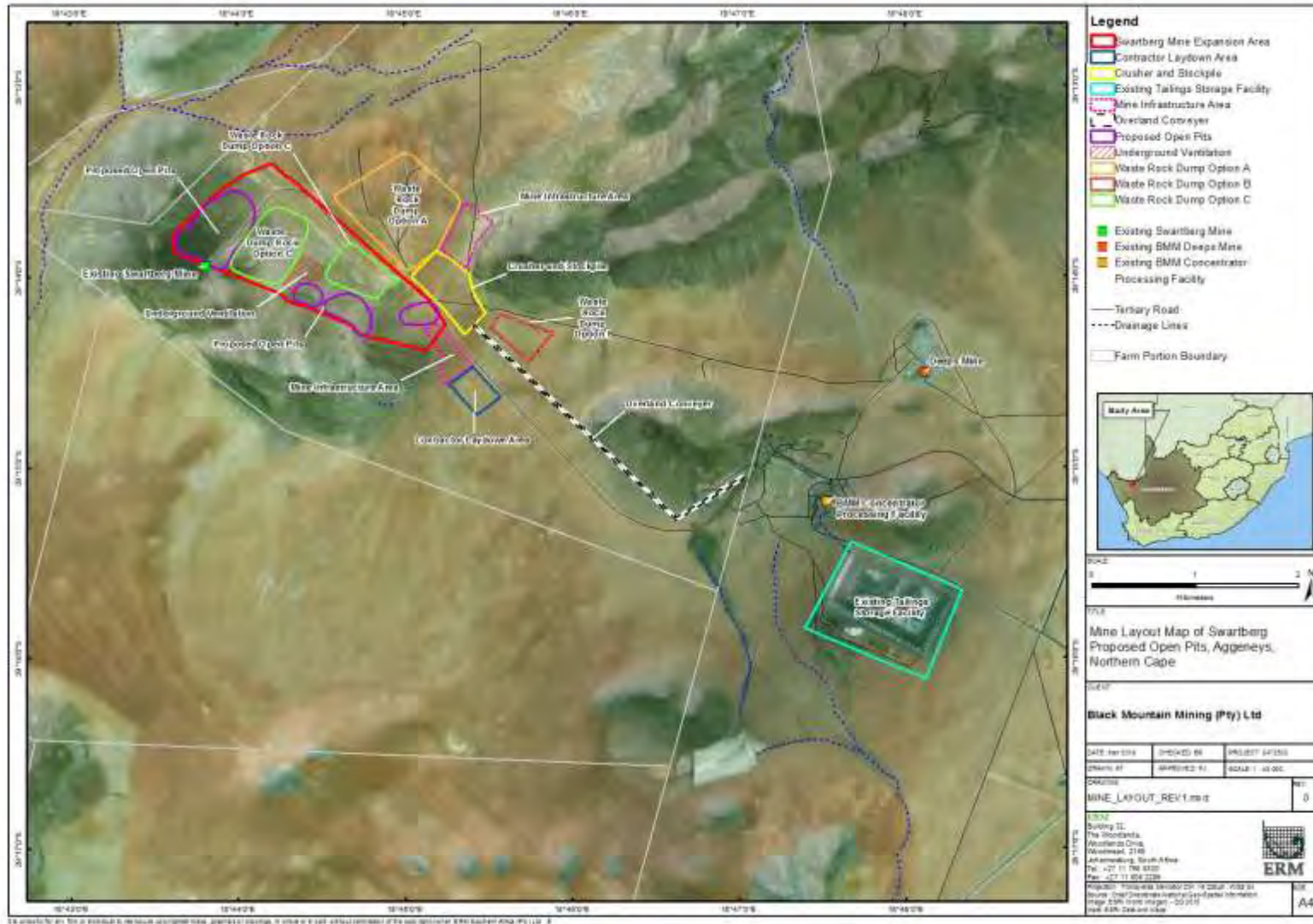
The current processing plant and related infrastructure include the following:

- Upgrade to the crushing circuit;
- Upgrades to the milling circuit;

- Increase in flotation capacity by increasing the float cell size;
- Upgrade to pumping and services infrastructure;
- Tailings dam expansion or new facility; and
- Return water dam at Tailings Storage facility (TSF).

Figure 2.2 illustrates the indicative Mine layout including Plant Layout.

Figure 2.2 Indicative Mine Layout



2.4 Construction Phase

The first phase of the Project will involve the clearance of vegetation (between 120 and 200 ha), site earthworks and excavation. Internal site access roads will need to be constructed in order to facilitate the clearing and excavation. Stockpile and laydown areas will be identified and prepared. Internal site access roads constructed during the site preparation phase will be used to transport the heavy plant equipment required during the construction phase.

The preparation and excavation of the site will be followed by the construction of ancillary facilities. The Construction Phase activities will include the phased establishment of infrastructure, establishment of the expanded mine (both underground and open pits) and associated infrastructure and upgrading of the concentrator processing plant. Plant expansion will include replacement of the current mill with a larger capacity mill and increasing the float cell size to increase the capacity and throughput rate. As far as possible current infrastructure will be utilised.

Construction phase on-site staff of approximately 300 will be housed at the temporary housing facility in Aggeneys, by utilising accommodation established for the Gamsberg project. The existing road between Deeps Mine and Swartberg Mine will be widened by approximately 15 m and will be used during the construction phase.

Key activities that will be undertaken during the construction phase of the Project include the following:

- Upgrading/ widening of internal site access routes by 15 m for approximately 8 km;
- Site clearance;
- Earth-moving, levelling, grading and excavations;
- Topsoil stockpiling and management;
- Blasting (approximately twice per month);
- Installation of equipment;
- Construction of all mine infrastructure and facilities;
- Construction of bulk services facilities (i.e. power infrastructure, waste facilities, water handling system and wastewater treatment); and
- Transport of workers and materials to the Project site.

A construction camp will be established during the construction phase of the Project. The following infrastructure will be needed for the construction camp:

- Office complex;
- Toilets and eating areas;
- Workshops;
- Servicing areas;
- Temporary storage of materials and laydown area;
- Bulk fuel storage (500 m³);
- Bulk lubricant storage (20 m³); and
- Truck yard and vehicle parking.

It is expected that the following equipment and vehicles will be required during the construction phase:

- Dump trucks;

- Front end loaders;
- Shovels;
- Excavators;
- Road rollers;
- Water bowsers;
- Dozer; and
- Blasting equipment and materials.

2.5 Mining Phase (Operational Phase)

Based on current estimations, a total of 150,000,000 tons of ore will be mined from the Swartberg Mine over the 19 year LOM. Of this expected tonnage, approximately 18,000,000 tons of lead and copper concentrate will be extracted. Based on the relatively low grade of the zinc deposit, the treatment process will generate approximately 132,000,000 tons of tailings and approximately 1.5 billion tons of waste rock over the life of mine.

During the Operational Phase, the mine will be operated on a continuous basis (7 days a week, 24 hours a day on a 12 hour shift system) using approximately 280 workers. General maintenance and servicing of the facility will also take place on a regular basis. As open pit areas are mined, fully mined areas will be concurrently rehabilitated. The pits will be backfilled with waste rock as the resource becomes depleted. The fourth pit will not be backfilled however, as it will serve as the new decline entrance.

The conceptual mine work plan will be refined throughout the process taking into consideration the environmental, health, safety and social and labour considerations. Core processes of the mining phase include the following:

- Open pit mining;
- Underground mine expansion;
- Ammonium nitrate and emulsion storage;
- Drilling and blasting activities;
- Loading and haulage of overburden and ore;
- Crushing and processing activities;
- Conveying processed ore;
- Waste rock dumping;
- Processing of ore including milling, stockpiles, flotation, dewatering and wastewater management (Tailings Storage facility and Pollution Control Dams); and
- Stockpiling and export of product.

2.5.1 Open Pits

Four open pits (three small pits and one larger pit) are proposed at the Swartberg Mine. The conventional open pit mining method is planned for the open pits. This will include drilling, blasting, loading and hauling rocks from the open pit to the waste rock dump or Run of Mine (ROM) pad.

Mining equipment involved will be typical for open pit mining and will include drill rigs to prepare the blast blocks for extraction of the ore and waste rock. After blasting, the material will be loaded by

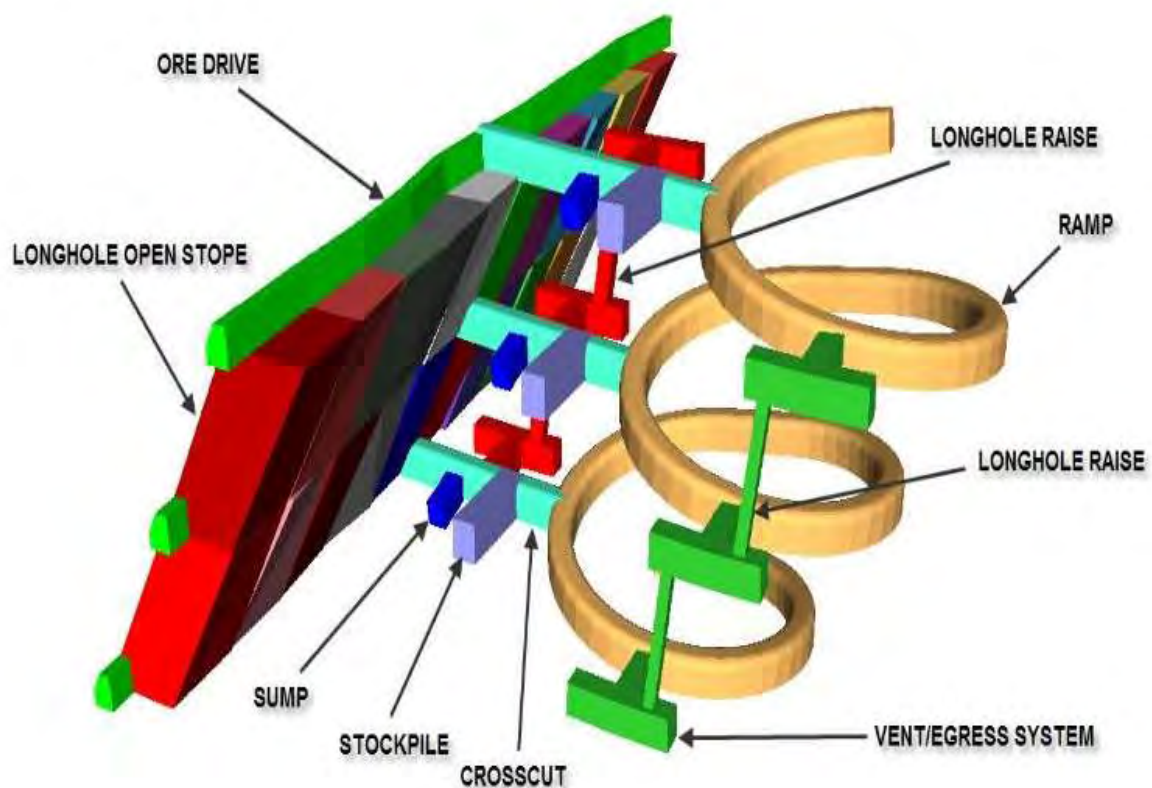
excavators onto dump trucks (60 t – 100 t capacity) for transport to either the waste rock dump or the ROM pad in the case of ore. As the open pits progressively extend deeper, a series of benches will be established.

2.5.2 Underground Mine Expansion

The proposed underground mining method for Swartberg consists of the longhole mining method (Figure 2.3). This will entail the development of ore drives at different levels and the extraction of ore between these levels.

To re-establish access to the underground mine two declines will be developed to allow for a secondary escape. One decline as per the existing authorisation will be developed from the surface to Tank hill. The second decline will potentially be from the side wall in the fourth open pit.

Figure 2.3 Illustration of Proposed Mining Method



Source: AMC Consultants (2017)

2.5.3 Explosive Storage Area and Ammonium Nitrate and Emulsion Silos

To access the ore, blasting by explosives will take place. On average, blasting will be undertaken once a day for underground operations and at a minimum once a week for open cast operations. The current explosives magazine facility will be utilised. This facility covers a total area of approximately 4 hectares and is operated in accordance with the Explosives Act (No. 15 of 2003) to store ammonium nitrate fuel oil (ANFO), detonators, boosters and cartridges. The cumulative volume of explosives on-site (at peak capacity) will be 2 x 85 ton emulsion silos and 2 x 50 ton silos. Provision will also be made for 1 x 200 case detonator magazine and 2 x 200 case explosive magazines. The silos will have a total height of 12 m and cover a total area of 20 m².

Explosives will be transported from the storage facility into the pit for blasting operations in specially constructed and marked vehicles. All traffic in the pit will stop during the explosives transport operation to minimise the risk of accidents between explosives vehicles and hauling or service vehicles in the pit.

2.5.4 Drilling and Blasting

Drilling and blasting of rock faces will be required to excavate the ore and overburden waste in the pit. Drilling patterns are designed to produce rock fragments that are as large as possible but sufficiently small not to require additional drilling and blasting (secondary blasting) before loading and hauling. Details of drilling and blasting patterns for the Mine are not defined at this stage but will be confirmed in the open pit mine design. It will consist of drilling a blast block in a grid pattern of approximately 1m by 1m.

2.5.5 Load and haul of Overburden Core

Loading and hauling of ore and overburden waste will be performed in the pits using a fleet of large capacity shovels, loaders, excavators, haul trucks and other service equipment. All topsoil will be removed and stored separate to ore and overburden. Hauling of ore to the primary crusher and waste to the waste rock dump will be undertaken using large capacity haul trucks (typically between 220 t and 300 t capacity).

2.5.6 Primary Crusher

Upon stripping of overburden, the ore will be transported via haul trucks to the primary crusher located adjacent to the open pit. The bulk ore will be transported to the primary crusher; which will have a total processing capacity of 2.5 Mtpa.

2.5.7 Conveyor System Network

Currently two options are available for transporting ore from Swartberg Mine: either via the extension of the current conveyor infrastructure or utilisation of the existing haul road via 40t/ 50t trucks. The proposed conveyor system will primarily comprise underground crushing, an incline conveyor to lift ore from underground to the portal, and an overland conveyor to transport ore from the portal to the current Broken Hill surface crushing plant for the underground portion of the mine. The surface conveyor and Swartberg crusher plant will be constructed during the open pit phase of the mining at Swartberg.

The overland conveyor is a system of belt conveyors mounted on structural steel frames that transfer ore from the portal area to the Broken Hill crushing plant. The overland conveyor will accept ore from the underground conveyor at the portal transfer tower. Ore from the transfer tower can be directed to a stockpile at the portal or directly onto the belt. A reclaim conveyor is located at the portal to move ore from the stockpile to the overland conveyor. This configuration provides flexibility to allow for surface haul trucking of ore or to allow shifting waste to the surface using the decline conveyor.

The incline conveyors accept crushed material from the underground crusher and move it to the portal transfer tower. These are belt conveyors hung from the back with the carry and return idlers mounted on steel frames.

2.5.8 Waste Rock Dumps

An estimated 74.1 Million tons of waste rock will be generated during the LOM from the open pits, which will be trucked to the waste rock dump. The underground operation will generate an estimated 2.6 Million tons of waste. Three potential options exist for the waste rock dumps namely:

- Placement on the current sand dune mine area; and
- Placement on a site to the south east of the proposed open pits.

In addition, the underground waste can potentially be utilised for void filling and would not necessarily all be brought to surface.

2.5.9 Processing Concentrator Plant

The existing processing plant will be utilised for the Swartberg expansion project. Upgrades to improve throughput will be made to enable processing of 2.5 Mtpa ore. The concentrator processing plant area consists of the following:

- Milling circuit;
- Ore stockpile;
- Flotation;
- Dewatering, filtration and copper and concentrate handling;
- Tailings facility; and
- Pollution control dams.

Milling Circuit

The current milling circuit consists of a crusher contained in the crusher building. The crusher is fed by coarse ore from the coarse ore silos and feeds ore into the fine ore silos. Milling is performed to reduce broken ore to a size at which the minerals can be liberated (valuable mineral grain exposed) from the ore.

Flotation

In the flotation process, milled ore mixed with water (pulp) are passed through a series of agitating tanks. Various reagents are added to the pulp in a sequence that renders some minerals hydrophobic (water-repellent) and other minerals hydrophilic (water-loving). Air is dispersed through the tanks and rises to the surface. The hydrophobic particles attach to the rising air bubbles and are removed from the main volume of pulp as froth.

Various combinations of flotation cells in series are utilised to produce a concentrated stream of valuable mineral particles, called the 'concentrate' and a waste pulp stream, called 'tailings'. Similar to the milling plant, the full processing capacity will be obtained with three flotation modules, namely Copper flotation, Lead flotation and Zinc flotation.

Dewatering, Filtration and Concentrate Handling

The dewatering process comprises two stages; thickening and filtration. A thickener is a large cylindrical tank with a conical bottom and allows solids to settle to the bottom. Conventional thickeners have rakes at the bottom which moves the solids to an exit point. The solid containing slurry is called the underflow and exits the thickener at the bottom. The liquid in the upper part of the thickener (clear process water) overflows into a launder and is called the overflow.

In the filtration process, excess water is removed in a filter by mechanical/ physical means. The remaining solids are termed filter cake with the liquid removed termed as filtrate. The filtrate will be sent to the plant for re-use. The balance of the material from the processing process is waste material, with tailings running at a grind size of 80% passing 75 microns. These tailings will be taken to the tailings pump station from where it will be pumped to the tailings dam via a safe pipeline.

Tailings Dam

The treatment of 2.5 Mtpa run of mine ore is expected to lead to approximately 1.7 Mtpa of tailings material. The mineral wastes (tailings) will be sent to the thickener to reduce the water contents and

then pumped to a tailings dam. Percolated water in the tailings dam will be extracted, returned to a process plant and re-used in the concentrating process, via a return water dam.

The current tailings dam will be utilised for the disposal of waste. The current facility has a footprint area of 86ha and is unlined. Drainage measures were incorporated in the design such that the potential for seepage into the groundwater is minimised.

Pollution Control Dams

Pollution control dams will be constructed according to the final design and location of the pits. Four pollution control dams will be constructed during the construction phase of the project. These will all be lined with a 1 mm to 1.5 mm high density polyethylene (HDPE) lining. An additional four dams will be constructed by the operational phase and therefore have a cumulative total storage capacity of approximately 20 000 m³.

2.5.10 Associated Mine Infrastructure

Associated infrastructure is required for the daily operations of the Project. All associated infrastructure will be located within the approved mine area and consists of the following:

- Mine bulk fuel and lubricant storage;
- Engineering workshops (new workshops to cater for the open cast equipment as the current workshops are geared for underground equipment);
- Power supply and substation network (to be upgraded for the proposed project);
- Water supply system and storage dams (to be upgraded for the proposed project);
- Process water dams;
- Storm water management infrastructure to be constructed at the Swartberg Mine;
- Fire control systems;
 - Waste and wastewater facilities;
 - Waste sorting, re-use and recycling;
 - Domestic waste facility;
 - Temporary hazardous waste facility;
 - Sewerage treatment facility;
- Administrative Buildings;
- Potential paste backfill plant and
- Water treatment plant.

2.6 Export

Concentrate will be transported by road from the processing plant to a storage shed in Saldanha where the concentrate will be stockpiled in a covered shed for bulk shipment as per commercial sales to prospective International clients. Prospective clients include smelters in China, Korea and Europe.

2.7 Decommissioning and Closure

The proposed Project has a 19 year LOM; after which, all infrastructure will be dismantled and removed. Machinery, steel and dismantled materials will be recycled where possible and disposed of at licensed disposal sites. In addition, the underground mine will be partially filled, and the open pits will be backfilled where possible and rehabilitated, except for the pit where the decline will be established. Socio-economic plans will be implemented to reduce the impact of closure.

2.8 Project Schedule and Life of Mine

Site preparation is expected to begin in 2020 and the LOM is expected to be at least 19 years.

2.9 Emissions and Waste

2.9.1 Noise Emissions

Construction

The key temporary noise sources during construction phase will be from the excavation, blasting (as part of preparation of the mine), earth moving equipment, mobile machinery, vehicles, and plant upgrading activities. It is anticipated that upgrading of the plant and construction of new facilities will take place between the working hours of 07H00 to 19H00. Traffic associated with the transport of construction materials and construction workers will result in increased noise levels along transport route.

Operations

Operational phase activities will result in noise generated by blasting and earth moving equipment, and the operation of a crusher and a conveyor.

2.9.2 Air Emissions

Construction

Temporary air emissions will result from excavation, earth moving equipment, mobile machinery and vehicles during the construction phase. These include wind-blown dust and fugitive emissions.

Operations

Blasting activities at the mine and the transport of materials to the processing plant will result in dust generation. In addition, machinery and vehicles will also generate emissions into the atmosphere. Dumps and stockpiles may also be a source of wind-blown dust if not properly designed and maintained or concurrently rehabilitated to a reasonable extent.

2.9.3 Waste Generation

Non-mineral Waste Management

Domestic waste from the business partners camp and the construction operations will be separated. Paper and plastics will be recycled, with the remaining domestic wastes disposed of at the existing BMM waste disposal site. General industrial waste produced would include steel, packaging material and material off-cuts. The temporary waste disposal site will be divided between general/ domestic and hazardous wastes and cover a total area of 100 m² and 200m² respectively.

A total of 3 to 5 ton/ month of domestic waste are expected to be generated during construction. Domestic wastes will be stored within the business partner's campsite, covering a total area of half a hectare. All non-hazardous wastes will be disposed of at the existing BMM waste site (which is a registered landfill site), as and when required.

Hazardous Waste

Hazardous waste will mainly include oil contaminated wastes, used fuel products which will be collected and disposed of as and when required. The proposed hazardous temporary storage facility will be located within the contractor's yard and cover a total area of 0.5 hectares. Hazardous wastes will be temporarily stored within closed containers (possibly within covered skips) and removed, as and when needed (about every two weeks). The hazardous waste storage area is expected to cover an area of approximately 0.5 hectares.

It should be noted that BMM currently has an authorised waste management contractor on site, who is responsible for general and hazardous waste collection and removal. A total volume of 2 ton/ month of hazardous waste is expected to be generated during the construction phase.

All hazardous wastes that cannot be bio-remediated or recycled will be disposed of at the Vissershok hazardous waste facility. Proof must be obtained from each contractor as to the final disposal location and volume of domestic and hazardous wastes.

Wastewater

Existing facilities on site will be used to manage wastewater from the construction and operations of the expanded mine. All raw sewage from the administration offices, ablution blocks and effluent from the workshops will be collected and transferred under gravity to the sewage pond. Lift stations will be used to transfer the grey water to existing treatment facilities at the Deeps mine where required.

Dewatering

The Swartberg Mine, in general, can be described as dry with a limited amount of ground water needing to be brought to surface. Some bleed and flush water from the backfill will also need to be managed. It is assumed that the amount of water that will be brought to surface is 720 m³ per day.

The dewatering system for Swartberg will be a series of staged, submersible pumps installed along the conveyor decline. Each pump will be staged together using HDPE lines until the water is discharged on surface. Solids entrained in the system will also be sent to the pollution control dams.

The dewatering system will comprise of the following:

- Staged slurry pumps with hardened impellers;
- Size the pumps for a 30 or 60 metre lift with the system curve / pump curve intersection to the right of the maximum efficiency operating point;
- Minimize the line size installed – use parallel smaller lines rather than one larger line if required;
- Sumps installed up the conveyor gallery also allow dewatering of various lenses along the way;
- One pump feeds into one discharge line – interconnection of pumps shall be avoided;
- Standardisation of pump selection shall be implemented to simplify maintenance and spares;
- A simple sump design that allows swift change out of the submersible pump;
- Staged pumps allow for the use of HDPE pipe as pressures are low; and
- Sump design shall enable the dense particles to settle out and for the solids to be periodically disposed of into the underground voids.

2.10 Resource Use

2.10.1 Water

The Sedibeng Pella Water is the official water service provider for the towns of, inter alia, Aggeneys and Pofadder. Pella Water current infrastructure includes an existing pump-station and water treatment works, located along the Orange River, near the town of Pella. An existing pipeline extends from the water treatment works to the town of Aggeneys and the mining operations. Water will be drawn from existing municipal infrastructure during construction and operation. Operational water requirements are anticipated to be 80,000 m³ per month.

2.10.2 Power

The construction phase is expected to require a temporary 4 MVA supply point on the existing Swartberg 66 kV line. The electricity will be supplied to the construction site via a 5 km overhead line and 4 x 500 kVA miniature substations. One of the substations will be in a fixed position at the construction camp and the other three will be movable units on the construction site. An additional 66kV line need to constructed to ensure mining from both open pits and underground and ultimately full production from underground.

This transmission line will continue to evacuate power to the mine during operations.

2.10.3 Fuel and Lubricants

The expected bulk fuel requirements for all on-site equipment during the construction phase will be approximately 100 m³ per day, without exceeding more than two days of storage at any one time. The fuel will be stored in a bunded area of 50 m² within the construction camp. In addition to this, approximately 20 m³ of lubricants and oils will be stored in the contractor's campsite, for the duration of construction. The lubricant and oil containers will also be stored within a bunded area of approximately 10 m².

The mine bulk storage tank farm will be constructed for operations and located adjacent to the Mine workshop area. The estimated storage will be 600 m³ and stored in a bunded area in Above Ground Storage tanks. Tank installations will be installed according to applicable SANS Standards.

2.11 Process Followed to Reach the Preferred Project Alternative

One of the objectives of an EIA is to investigate alternatives to the project. In relation to a proposed activity, Alternatives means different means of meeting the general purpose and requirements of the activity (EIA Regulations, 2017 GNR 326). This section presents the alternatives considered as part of the development plans for the Project and describes the process followed to reach the preferred alternative.

As required in terms of Appendix 2 of the 2017 EIA Regulations, impacts and risks associated with alternative locations and technologies have been identified. There are no viable activity alternatives (due to the nature of this Project), however a description of the technology alternatives are described below.

2.11.1 Location Alternatives

There is no location alternative to the mine as it is dependent on the location of the orebody that will be mined.

As there are no location alternatives, a comparison of the alternatives is not possible.

2.11.2 Layout Alternative

Three potential waste rock dumps (WRDs) were identified during the Project's feasibility study and are considered layout alternatives (see *Figure 2.2*). Alternative sites for the waste rock dump include:

- Placement on the current sand dune mine area (Site A);
- Placement on a site to the south east of the proposed open pits (Site B); and
- Placement on the south of the large open pit and west of the two centre pits (Site C).

An analysis of the alternatives is included in *Table 2.2*.

Table 2.2 Analysis of Layout Alternatives

Key Environmental Impacts Identified	Alternative	Nature of Impact	Description of Preliminary Assessment	Mitigation
Air Quality	This impact is consistent between Site A, Site B and Site C.	This will include construction related impacts such as dust emissions during construction and operations	This impact is likely to occur, is considered local in extent and long-term in duration. The significance of this impact is likely to be moderate without mitigation given the proximity to the source of emissions	Standard mitigation measures are available to reduce emissions.
Noise	This impact is consistent between Site A, Site B and Site C.	Noise from construction activities may have an impact on sensitive receptors. Noise from blasting (operations) may have an impact on sensitive receptors. Noise and vibration from construction and operation traffic along main transport/access routes.	This impact is likely to occur, is considered local in extent and long-term in duration. The significance of this impact is likely to be moderate without mitigation given the existing noise in the area and the minimal sensitive receptors.	Standard and inbuilt mitigation measures are available to reduce emissions.
Flora and Fauna	Site A	Clearance of vegetation for the construction of the mine and associated infrastructure will lead to an impact on terrestrial ecosystems. The area fall within a CBA, however surveys were undertaken to establish the sensitivity of the area. The vegetation sensitivity of this Site A is low as it is modified habitat and Faunal habitat sensitivity is low for Site A	The impact rating is likely to be greater for site B and C than Site A. This impact is likely to occur, is considered national in extent (due to the loss of CBA) and permanent in duration. Based on the sensitivity of the environment the impact is likely to be major in significance.	Mitigation including minimising the area required to be cleared, avoidance and demarcation of particularly sensitive habitats is possible and may reduce the significance of the impact. Additional specialist input is required in order to confirm the mitigation measures and ratings.
	Site B	Clearance of vegetation for the construction of the mine and associated infrastructure will lead to an impact on terrestrial ecosystems. The majority of the area is has a low to medium sensitivity. However there is a thin strip of high botanical sensitivity along a rocky outcrop.		

Key Environmental Impacts Identified	Alternative	Nature of Impact	Description of Preliminary Assessment	Mitigation
	Site C	Clearance of vegetation for the construction of the mine and associated infrastructure will lead to an impact on terrestrial ecosystems. Site C predominantly ranges from low to medium vegetation sensitivity with small patches of high sensitivity. Faunal sensitivity is medium to high for Site C		
Groundwater quality	The impact is consistent with Site A, Site B and Site C	Sites A, B and C are located immediately adjacent to the mine pit and contaminated seepage from the waste rock is expected to partly flow into the pits. Due to the high evaporation rate, salts and other contaminants are expected to accumulate in the pit and can be dissolved and mobilised during rain events. Further, toe seepage is expected to occur at the base of the WRDs following rain events. This seepage is expected to be contaminated. The sensitivity of the groundwater resource is rated as Medium since the groundwater is an important resource even though groundwater quality does not meet drinking water or stock watering standards.	The planned activity will not result in the loss of irreplaceable resource with regards to the groundwater resource. Impacts are expected to be moderate.	Mitigation measures required to reduce the impact on groundwater quality include the following: <ul style="list-style-type: none"> ■ Prior to construction of WRDs (enlarged foot print area), the ground of the facility's footprint should be prepared to reduce the hydraulic conductivity of the material. ■ Toe drains (interception trenches) along the base of both WRDs to intercept drainage and convey to a return water dam.

Key Environmental Impacts Identified	Alternative	Nature of Impact	Description of Preliminary Assessment	Mitigation
Socio-economic	This impact is consistent between Site A, Site B and Site C.	<p>Community Health Safety and Security</p> <p>Equipment and activities will create noise and vibration and changes to air quality during construction, operations and demolition that could impact human health;</p> <p>Movement of materials and workers during construction, operation and demolition could impact public safety; and</p>	This impact is likely to occur, will be regional in scale and long-term in duration. The significance of the impact is likely to be moderate without mitigation.	<p>Adhere to the national/ and provincial noise regulations.</p> <p>Adherence to national/ and provincial air quality regulations and standards.</p> <p>Additional specialist input is required in order to confirm the mitigation measures and ratings.</p> <p>This is a stakeholder perceived impact and it's not anticipated to actually occur; however, should it occur, the project proponent, should, in collaborate with local/ and provincial health services to monitor changes in health outbreaks. Should such be observed – disease or illness specific measures will be developed and implemented.</p>
	This impact is consistent between Site A, Site B and Site C.	<p>Worker Health & Safety</p> <p>Hazardous construction operational or decommissioning activities could impact worker health and safety; and</p> <p>Handling of hazardous materials could impact worker health and safety.</p>	The impact is unlikely to occur, would be local in scale and temporary in duration should they occur. Significance prior to mitigation is likely to be moderate.	<p>Standard mitigation measures are available for the prevention of health and safety incidents. Adherence to the Occupational Health and Safety Act (Act No. 85 of 1993) will be required. Additional specialist input is required in order to confirm the mitigation measures and ratings.</p>

Key Environmental Impacts Identified	Alternative	Nature of Impact	Description of Preliminary Assessment	Mitigation
	This impact is consistent between Site A, Site B and Site C.	Local Community Demographics Influx of workers looking for opportunities and the presence of a construction workforce from outside of the local Project area will result in a change in demographics of the local communities.	This impact is likely to occur, will be regional in scale and long-term in duration. The significance of the impact is likely to be moderate without mitigation.	Working with local government (specifically Ward Councilors), the project proponent will carry out monitoring of settlements to determine patterns of in-migration, understand the origins, characteristics and motivations of in-migrants, and identify the impacts of in-migration, and will use the results to develop an in-migration management plan should it be required. Additional specialist input is required in order to confirm the mitigation measures and ratings.
	This impact is consistent between Site A, Site B and Site C.	Local and Macro Economy Procurement of goods and services required by the Project during construction, operation and decommissioning of the Project and the presence of workers in the area may enhance the local economy both directly and indirectly. In addition, the development of the Project will replace operations of the Deeps Mine when it reaches its life of mine in 2021.	This positive impact will occur, will be regional in scale and long-term.	Mitigation measures include utilisation of local labour and sourcing of local materials as far as possible. Additional specialist input is required in order to confirm the mitigation measures and ratings.
	This impact is consistent between Site A, Site B and Site C	Traffic Transport of materials and equipment and waste during the construction, operation and decommissioning stages could impact traffic patterns.	This impact is likely to occur, will be local in scale and long-term in duration. The impact is likely to be minor without mitigation.	Large construction vehicles to not utilise public roads during peak hours. Damage to public roads caused by large construction vehicles must be repaired immediately.

Key Environmental Impacts Identified	Alternative	Nature of Impact	Description of Preliminary Assessment	Mitigation
	This impact is consistent between Site A, Site B and Site C	<p><i>Cultural/Heritage Resources</i></p> <p>Construction activities could have an impact on local cultural sites (paleontological); and</p> <p>The presence of workers in the Project area, transportation of materials and equipment to the construction sites may impact on cultural areas. Isolated quartz flakes were found on both alternatives and both of low sensitivity ratings.</p>	This impact is possible, would be regional in extent should finds occur and permanent in duration should they be damaged. Significance prior to mitigation is likely to be minor/moderate.	Standard mitigation measures such as chance finds procedures, demarcation of heritage sites are easily implementable and will be identified during the specialist study.
Risk (Non-Routine Impacts)	This impact is consistent between Site A, Site B and Site C	<p>Additional storage of dangerous goods on site will include diesel for construction and operation related activities.</p> <p>Leaks or accidental releases of diesel or chemicals during construction and operation activities could impact on soil and groundwater. Accidental release of natural gas during transportation via pipeline could be a risk to surrounding receptors.</p>	The impact is unlikely to occur, would be local in scale and temporary in duration should they occur. Significance prior to mitigation is likely to be moderate.	Standard mitigation measures are available for the prevention of accidental releases during transportation and storage of dangerous goods. An emergency response plan will be required for the project.

Summary of Risks for Layout Alternative

The placement of the waste rock dump site to the south east of the proposed open pits presents a lower technical risk due to the proximity of the open pits to the waste rock dump site (i.e. a shorter distance to transport waste rock). However, the sand mine dune area is a previously disturbed area and represents a lower ecological value, and therefore minimal environmental risk. Neither options differ in their impact on the socioeconomic environment.

Based on the above the Sites A and C are the preferred Alternatives.

2.11.3 Technology Alternatives

A mining method selection study was undertaken by BMM 2018 in order to determine most appropriate mining method to be used.

Assumptions and Inputs

The deposits being mined at Swartberg have, in general, the following characteristics relevant to the selection of the mining method:

- Moderate dip;
- Moderate to narrow width;
- Relatively low grade; and
- Generally competent HW and FW.

A key requirement of the analysis was to achieve ore production at rates that sustain ore feed to the existing processing plant. This will require the selected mining method to be highly productive. It is noted that non-entry underground stoping methods are now accepted industry practice for both safety and productivity reasons. In addition, only modern mechanized mining methods have been considered

Mining Method Assessment

The potential mining methods for the Project can initially be categorised as follows:

- Open pit methods;
- Caving methods;
- Open-stoping methods; and
- Drifting methods.

Table 2.3 assesses the different mining methods.

Table 2.3 Mining Method Options

Alternative Mining Method	Description	Advantages	Nature of Impact	Preliminary Assessment	Mitigation
Open Pit	Open-pit mines are used when deposits of commercially useful ore or rocks are found near the surface; that is, where the overburden (surface material covering the valuable deposit) is relatively thin or the material of interest is structurally unsuitable for tunnelling	<p>Access to ore which cannot be extracted by underground mining.</p> <p>This ore could be extracted at the same time as the Swartberg underground infrastructure is being developed and be used to replace diminishing ore supply from Deeps.</p>	<ul style="list-style-type: none"> ■ Noise and dust emissions from blasting and transporting. ■ Groundwater contamination from WRDs. ■ Generation of open pit voids. ■ Generation of surface WRDs. 	<ul style="list-style-type: none"> ■ These impacts are possible and will be localised. ■ Noise and dust generation will be temporary. ■ Significance of before mitigation is moderate to major. 	<ul style="list-style-type: none"> ■ Dust suppression during operations will minimise dust. ■ Infilling of mined out open pit voids of the smaller pits. ■ Rehabilitation of the waste rock dumps will prevent impact in longer term.
Underground-Open stoping	Long hole stoping is a highly selective and productive method of mining and can cater for varying ore thicknesses and dips (0 - 90 degree).	<p>Mining methods suitable to type of deposit.</p> <p>High productivity and safer production method.</p>	<ul style="list-style-type: none"> ■ This mining method will create large open voids underground in the region of 30m x 15m x 60m and will be localised. ■ The impact will be localised impacting underground stability. ■ Impact on Ground water levels. 	<ul style="list-style-type: none"> ■ This impact will occur as it is the most preferable and safe mining method. ■ Significance prior to mitigation is likely to be negligent, as it will not affect the surface. 	<ul style="list-style-type: none"> ■ Paste fill and backfill with waste rock of open voids underground to ensure local stability.

Alternative Mining Method	Description	Advantages	Nature of Impact	Preliminary Assessment	Mitigation
Underground-Drifting	Cut and fill stoping, drift and fill stoping employed as either overhand and underhand sequences and post pillar cut and fill stoping.	These methods are considered suitable for high value ore with a variety of orebody conditions and geometry but are less productive and higher cost than open stoping methods.	<ul style="list-style-type: none"> ■ This mining method will create an underground void and the impact will be localised underground stability. ■ Impact on ground water levels. 	<ul style="list-style-type: none"> ■ This impact is likely to occur but will create a permanent localised impact. ■ Significance prior to mitigation is likely to be negligent as this mining method will not affect the surface. 	<ul style="list-style-type: none"> ■ Hanging wall support using long anchors and roof bolts will improve local stability. ■ Paste fill and backfill with waste rock of open voids underground to ensure local stability.

Source: Information provided by BMM (2019)

Summary of Risks for Technology Alternative

Broadly, open pit mining is considered to have greater environmental impacts than underground mining. However, due to the type of ore body at Swartberg, it is not possible to only undertake underground mining. Therefore, a combination of both open pit and underground mining will be undertaken.

2.11.4 No-Go Alternative

The no-go alternative would mean that the project does not go ahead (with respect to air, noise, flora, fauna and others), however, in this case the no-go alternative would likely mean that BMM Mine would likely shut down by 2021.

BMM shut down could have major negative socio-economic consequences on the local and regional communities and economies.

Summary of Risk for No-Go Alternative

The no-go alternative presents a low environmental risk as the Project would not commence and the current environmental conditions will remain the same. However, the no go alternative presents a high socioeconomic risk as the Project will become a significant employer once operational. The no-go option does not present any technical risks.

2.11.5 Summary

The location of the mine is dependent on the location of the ore body and existing mining operations and therefore different locations were not considered. However, different waste dump locations have assessed. The prefeasibility study undertook a mining method alternatives assessment where different mining methods were assessed and modelled. The outcomes of the assessment indicated that a combination of open pits and underground mining was the preferred mining method. If the expansion did not go ahead the potential environmental impacts associated with the Project would not occur, however it would likely mean that the Black Mountain Mine would shut, resulting in significant job losses and economic disruption.

3. ADMINISTRATIVE FRAMEWORK

3.1 Introduction

This section provides an overview of legislation, guidelines and information documents that have informed the scope and content of this report and the approach to the EIA process.

3.2 Constitution of the Republic of South Africa (108 of 1996)

South African law, including environmental law, is strongly influenced by the Constitution (No. 108 of 1996), which promotes specific moral, social and political values. The Constitution is the highest law of the land, and all South African law has to follow the spirit of the Constitution. The Constitution commits to the establishment of a society based on democratic values, social justice and fundamental human rights through improving the quality of life of all citizens and realising the potential of each person. Chapter Two of the Constitution contains the Bill of Rights, which is the cornerstone of South African democracy. The Bill of Rights is binding on South African law and courts, all government departments and organisations and all South Africans, not only in terms of the rights, privileges and benefits which it confers, but also in terms of the duty and responsibility which it imposes, namely to implement and protect Constitutional rights and values. Sections 7, 8 and 24 of the Bill of Rights give constitutional force to sustainable development and provide that all people in South Africa have the right to a clean and healthy environment. These sections oblige government to pass reasonable legislation to protect the environment, prevent pollution and ecological degradation, and secure sustainable development.

All mining operations are obliged to operate within the spirit and to the letter of the South African Constitution, as it is the supreme law of South Africa and as such, all other legislation is consistent with its provisions and principles. Furthermore, it is important for such companies to have knowledge of the Constitution, as an infringement of any of the fundamental rights entrenched in the Constitution may result in civil damage claims.

3.3 National Environmental Management Act (No. 107 of 1998)

The National Environmental Management Act, as amended (NEMA) is a framework Act, which embraces three major areas of environmental concern, namely; resource conservation and exploitation; pollution control and waste management; and land use planning and development. NEMA is underpinned by the globally accepted principle of sustainable development. Section 2 (4)(b) of NEMA gives effect to the South African Constitution, which states that all South African citizens have a right to an environment that is not harmful to their health or well-being.

The Environmental Authorisation process in South Africa is governed by NEMA (No. 107 of 1998) as amended, and the Environmental Impact Assessment (EIA) Regulations of 2014 as amended, promulgated under NEMA. The relevance of this legislation is summarised below.

3.3.1 NEMA Environmental Authorisation

Chapter 5 of NEMA, as amended, outlines the general objectives and implementation of Integrated Environmental Management. This provides a framework for the integration of environmental issues into the planning, design, decision-making and implementation of plans and projects that are likely to have a detrimental effect on the environment. Whilst Section 23 sets out the basic objectives and principles of the IEM procedure, Section 24 sets out how these objectives and principles are to be accomplished.

Regulations governing the environmental authorisation process have been promulgated in terms of NEMA and include the following:

- Environmental Impact Assessment Regulations (GNR 326/2017);
- Environmental Impact Assessment Regulations Listing Notice 1 (GNR 327/2017);
- Environmental Impact Assessment Regulations Listing Notice 2 (GNR 325/2017); and
- Environmental Impact Assessment Regulations Listing Notice 3 (GNR 324/2017).

Activities that trigger GNR 327 and GNR 324 require a Basic Assessment Report (BAR) process to be undertaken, whereas activities identified in terms of GNR 325 will require a full Scoping and Environmental Impact Assessment (S&EIA) process. GNR 326 sets out the general procedure to follow when conducting either a BAR or S&EIA process.

Numerous listed activities have been identified for this Project in terms of all the NEMA listing notices. In instances where all the listing notices are triggered (as in this Project), GNR 325 requirements will take precedent and the Project will be subject to a full Scoping & Environmental Impact Assessment process prior to commencement of any of the associated activities.

Section 24(C) of the Act defines the competent decision-making authority, which is normally the provincial environmental department. However, in cases where the Project footprint transverses territorial boundaries, the National DEA becomes the competent authority'.

Table 3.1 lists the potential listed activities from the NEMA Environmental Impact Assessment Regulations Listing Notice 1, 2, 3 of 2017 for the Project.

Table 3.1 Triggered Listed Activities

LN Reference	Listed Activity	Project Trigger
EIA Regulations Listing Notice 1 of 2017 (GNR R327 of 2017) – Basic Assessment		
Activity 9	<p>The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water-</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more.</p>	<p>Water and storm water infrastructure will be constructed for the operation of the underground mine and the open pits. Infrastructure required includes:</p> <ul style="list-style-type: none"> ■ Diversion of water from the entrance of the underground mine and open pits. ■ Pipelines from the underground mine to Pollution Control Dams as part of dewatering activities. ■ Connection of Pollution Control Dams to existing Tailings Storage Facility. ■ Connection of mining operations to water treatment facilities. ■ Extension of existing surface water infrastructure from the ore processing facility to the Swartberg Mine. <p>The length of the bulk water infrastructure will be greater than 1,000 m, the internal diameter greater than 0.36 metres.</p>
Activity 21	<p>Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including -</p> <p>(a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource[.]; or [including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)]</p> <p>(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in Listing Notice 2 applies.</p>	<p>BMM is the holder of a mining right (MR 517) convened in terms of item 7 of Schedule II to the MRPDA. This mining right entitles BMM to mine the Black Mountain Mine for copper, lead, zinc and associated minerals in, on and under Remainder of Portion 1 of the farm Aggeneys 56, Portion 4 of the farm Zuurwater 62 and Portion 1 of the farm Koeries 54. The mining right has been issued for a period of 30 years from 19 August 2008, extending until 18 August 2038.</p> <p>BMM intends to expand the existing Swartberg Mine (on Portion 4 of the farm Zuurwater 62) and develop a further three open pits. BMM will extract ore from the Swartberg Mine and process it at the existing concentrator plant on the Black Mountain Mine.</p> <p>150,000,000 tons of ore will be mined from the Swartberg Mine over the 19 year Life of Mine.</p>

LN Reference	Listed Activity	Project Trigger
Activity 25	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres.	A wastewater treatment plant will be constructed as part of the Project. The wastewater treatment facility will have a throughput capacity of between 2,000 and 15,000 m ³ .
Activity 34	The expansion [or changes to] of existing facilities or infrastructure for any process or activity where such expansion [or changes] will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions, effluent or pollution, excluding- (i) where the facility, infrastructure, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; [or] (ii) the expansion of [or changes to] existing facilities or infrastructure for the treatment of effluent, wastewater, polluted water or sewage where the capacity will be increased by less than 15 000 cubic metres per day; or (iii) the expansion is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will be increased by 50 cubic meters or less per day.	The general, industrial and hazardous waste from Swartberg Mine is included in the existing authorised EMPr and is regarded as licenced (See <i>Annex E</i> for proof of approval). Existing wastewater treatment plant on the Black Mountain Mine will be expanded. The capacity of the existing wastewater treatment plant will be less than 15,000 m ³
Activity 56	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre- (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.	The existing internal road between the ore processing plant and the Swartberg Mine will be upgraded by expanding the existing road by 13.5 m and for approximately 10 km.
EIA Regulations Listing Notice 2 of 2017 (GNR 325 of 2017) - Full Scoping and EIR		
Activity 4	The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.	The development of bulk fuel storage of approximately 600 m ³ for Swartberg Mine operations

LN Reference	Listed Activity	Project Trigger
Activity 15	The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Clearance of more than 20 hectares (between 100 and 200 ha) of indigenous vegetation for the establishment of the Swartberg underground mine expansion, open pits, and associated infrastructure.
Activity 17	Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including- (a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource [,] ; or (b) [including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)] the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.	BMM is the holder of a mining right (MR 517) convened in terms of item 7 of Schedule II to the MRPDA. This mining right entitles BMM to mine the Black Mountain Mine for copper, lead, zinc and associated minerals in, on and under Remainder of Portion 1 of the farm Aggeneys 56, Portion 4 of the farm Zuurwater 62 and Portion 1 of the farm Koeries 54. The mining right has been issued for a period of 30 years from 19 August 2008, extending until 18 August 2038. BMM intends to expand the existing Swartberg Mine (on Portion 4 of the farm Zuurwater 62) and develop a further three open pits. BMM will extract ore from the Swartberg Mine and process it at the existing concentrator plant on the Black Mountain Mine. 150,000,000 tons of ore will be mined from the Swartberg Mine over the 19 year Life of Mine.
Activity 19	The removal and disposal of minerals contemplated in terms of section 20 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including— (a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource [,] ; or (b) including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)] the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.	BMM is the holder of a mining right (MR 517) convened in terms of item 7 of Schedule II to the MRPDA. This mining right entitles BMM to mine the Black Mountain Mine for copper, lead, zinc and associated minerals in, on and under Remainder of Portion 1 of the farm Aggeneys 56, Portion 4 of the farm Zuurwater 62 and Portion 1 of the farm Koeries 54. The mining right has been issued for a period of 30 years from 19 August 2008, extending until 18 August 2038. BMM intends to expand the existing Swartberg Mine (on Portion 4 of the farm Zuurwater 62) and develop a further three open pits. BMM will extract ore from the Swartberg Mine and process it at the existing concentrator plant on the Black Mountain Mine. 150,000,000 tons of ore will be mined from the Swartberg Mine over the 19 year Life of Mine.

LN Reference	Listed Activity	Project Trigger
Activity 21	Any activity including the operation of that activity associated with the primary processing of a mineral resource including winning, reduction, extraction, classifying, concentrating, crushing, screening and washing but excluding the smelting, beneficiation, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies	<p>BMM is the holder of a mining right (MR 517) convened in terms of item 7 of Schedule II to the MRPDA. This mining right entitles BMM to mine the Black Mountain Mine for copper, lead, zinc and associated minerals in, on and under Remainder of Portion 1 of the farm Aggeneys 56, Portion 4 of the farm Zuurwater 62 and Portion 1 of the farm Koeries 54. The mining right has been issued for a period of 30 years from 19 August 2008, extending until 18 August 2038.</p> <p>BMM intends to expand the existing Swartberg Mine (on Portion 4 of the farm Zuurwater 62) and develop a further three open pits. BMM will extract ore from the Swartberg Mine and process it at the existing concentrator plant on the Black Mountain Mine.</p> <p>150,000,000 tons of ore will be mined from the Swartberg Mine over the 19 year Life of Mine.</p>
Activity 24	The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of 15 000 cubic metres or more.	A water treatment plant will be constructed as part of the Project. The wastewater treatment facility will have a throughput capacity of greater than 15,000 cubic metres.
<p>EIA Regulations Listing Notice 3 of 2017 (GNR 324 of 2017) - Basic Assessment</p>		

LN Reference	Listed Activity	Project Trigger
Activity 12	<p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan</p> <p>g. Northern Cape</p> <p>i. Within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004;</p> <p>ii. Within critical biodiversity areas identified in bioregional plans;</p> <p>iii. Within the littoral active zone or 100 metres inland from high water mark of the sea or an estuary, whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas; or</p> <p>iv. On land, where, at the time of the coming into effect of this Notice or thereafter such land was zoned open space, conservation or had an equivalent zoning.</p>	<p>Clearance of more than 300 m² (about 136 ha) of indigenous vegetation for the establishment of the Swartberg underground mine expansion, open pits, and associated infrastructure.</p>
18	<p>The widening of a road by more than 4 meters or the lengthening of a road by more than 1 kilometre</p> <p>g. Northern Cape</p> <p>i. In an estuary;</p> <p>ii. Outside urban areas:</p> <p>(aa) A protected area identified in terms of NEMPAA, excluding conservancies;</p> <p>(bb) National Protected Area Expansion Strategy Focus areas;</p> <p>(cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;</p> <p>(dd) Sites or areas identified in terms of an international convention;</p> <p>(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;</p>	<p>The existing internal road between the ore processing plant and the Swartberg Mine will upgraded by expanding the existing road by 13.5 m and for approximately 10 km.</p>
<p>EIA Regulations Listing Notice 1 of 2017 (GNR R327 of 2017) – Basic Assessment</p>		

LN Reference	Listed Activity	Project Trigger
Activity 9	<p>The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water-</p> <p>(i) with an internal diameter of 0,36 metres or more; or</p> <p>(ii) with a peak throughput of 120 litres per second or more</p>	<p>Water and storm water infrastructure will be constructed for the operation of the underground mine and the open pits. Infrastructure required includes:</p> <p>Diversions of water from the entrance of the underground mine and open pits.</p> <p>Pipelines from the underground mine to Pollution Control Dams as part of dewatering activities.</p> <p>Connection of Pollution Control Dams to existing Tailings Storage Facility.</p> <p>Connection of mining operations to water treatment facilities.</p> <p>Extension of existing surface water infrastructure from the ore processing facility to the Swartberg Mine.</p> <p>The length of the bulk water infrastructure will be greater than 1,000 m, the internal diameter greater than 0.36 m.</p>
Activity 21	<p>Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including -</p> <p>(a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource[,]; or [including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)]</p> <p>(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in Listing Notice 2 applies.</p>	<p>BMM is the holder of a mining right (MR 517) convened in terms of item 7 of Schedule II to the MRPDA. This mining right entitles BMM to mine the Black Mountain Mine for copper, lead, zinc and associated minerals in, on and under Remainder of Portion 1 of the farm Aggeney's 56, Portion 4 of the farm Zuurwater 62 and Portion 1 of the farm Koeries 54. The mining right has been issued for a period of 30 years from 19 August 2008, extending until 18 August 2038.</p> <p>BMM intends to expand the existing Swartberg Mine (on Portion 4 of the farm Zuurwater 62) and develop a further three open pits. BMM will extract ore from the Swartberg Mine and process it at the existing concentrator plant on the Black Mountain Mine.</p> <p>150,000,000 tons of ore will be mined from the Swartberg Mine over the 19 year Life of Mine.</p>
Activity 25	<p>The development and related operation of facilities or infrastructure for the treatment of effluent, wastewater or sewage with a daily throughput capacity of more than 2 000 cubic metres but less than 15 000 cubic metres</p>	<p>A wastewater treatment plant will be constructed as part of the Project. The wastewater treatment facility will have a throughput capacity of between 2000 and 15 000 cubic metres.</p>

LN Reference	Listed Activity	Project Trigger
Activity 34	The expansion [or changes to] of existing facilities or infrastructure for any process or activity where such expansion [or changes] will result in the need for a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the release of emissions, effluent or pollution, excluding- (i) where the facility, infrastructure, process or activity is included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; [or] (ii) the expansion of [or changes to] existing facilities or infrastructure for the treatment of effluent, wastewater, polluted water or sewage where the capacity will be increased by less than 15 000 cubic metres per day; or (iii) the expansion is directly related to aquaculture facilities or infrastructure where the wastewater discharge capacity will be increased by 50 cubic meters or less per day.	The general, industrial and hazardous waste from Swartberg Mine is included in the existing authorised EMPr and is regarded as licenced (See Annex E for proof of approval). Existing wastewater treatment plant on the Black Mountain Mine will be expanded. The capacity of the existing wastewater treatment plant will be less than 15 000 cubic metres.
Activity 56	The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre- (i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.	The existing internal road between the ore processing plant and the Swartberg Mine will upgraded by expanding the existing road by 13.5 m and for approximately 10 km.
EIA Regulations Listing Notice 2 of 2017 (GNR 325 of 2017) - Full Scoping and EIR		
Activity 4	The development and related operation of facilities or infrastructure, for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of more than 500 cubic metres.	The development of bulk fuel storage of approximately 600 m ³ for Swartberg Mine operations
Activity 15	The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	Clearance of more than 20 hectares of indigenous vegetation for the establishment of the Swartberg underground mine expansion, open pits, and associated infrastructure.

LN Reference	Listed Activity	Project Trigger
Activity 17	<p>Any activity including the operation of that activity which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including-</p> <p>(a) associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource [,] ; or</p> <p>(b) [including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)] the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.</p>	<p>BMM is the holder of a mining right (MR 517) convened in terms of item 7 of Schedule II to the MRPDA. This mining right entitles BMM to mine the Black Mountain Mine for copper, lead, zinc and associated minerals in, on and under Remainder of Portion 1 of the farm Aggeneys 56, Portion 4 of the farm Zuurwater 62 and Portion 1 of the farm Koeries 54. The mining right has been issued for a period of 30 years from 19 August 2008, extending until 18 August 2038.</p> <p>BMM intends to expand the existing Swartberg Mine (on Portion 4 of the farm Zuurwater 62) and develop a further three open pits. BMM will extract ore from the Swartberg Mine and process it at the existing concentrator plant on the Black Mountain Mine.</p> <p>150,000,000 tons of ore will be mined from the Swartberg Mine over the 19 year Life of Mine.</p>
Activity 19	<p>The removal and disposal of minerals contemplated in terms of section 20 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including—</p> <p>(a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource [,] ; or</p> <p>(b) including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)] the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in this Notice applies.</p>	<p>BMM is the holder of a mining right (MR 517) convened in terms of item 7 of Schedule II to the MRPDA. This mining right entitles BMM to mine the Black Mountain Mine for copper, lead, zinc and associated minerals in, on and under Remainder of Portion 1 of the farm Aggeneys 56, Portion 4 of the farm Zuurwater 62 and Portion 1 of the farm Koeries 54. The mining right has been issued for a period of 30 years from 19 August 2008, extending until 18 August 2038.</p> <p>BMM intends to expand the existing Swartberg Mine (on Portion 4 of the farm Zuurwater 62) and develop a further three open pits. BMM will extract ore from the Swartberg Mine and process it at the existing concentrator plant on the Black Mountain Mine.</p> <p>150,000,000 tons of ore will be mined from the Swartberg Mine over the 19 year Life of Mine.</p>

3.4 Mineral and Petroleum Resources Development Act (No. 28 of 2002)

The objectives of the MPRDA, inter alia, is to promote equitable access to the nations minerals and petroleum resources, expand opportunities for previously disadvantaged individuals, promote economic growth and mineral and petroleum resources development (objective), employment opportunities, and ensure that the holders of the mining right contribute to the socio-economic development on the surrounding communities.

The MPRDA identifies the state as the official custodian of South Africa's Mineral and Petroleum Resources. Therefore, all activities relating to reconnaissance, prospecting rights, mining rights, mining permits and retention permits are regulated by the State.

An application must be submitted and approved by the National Department of Mineral Resources, before proceeding.

As discussed above, BMM already has an existing new order mining right and approved Environmental Management Programme (EMPr) for the mining activities that are currently being undertaken within the Project area. In this regard, the existing mining right allows the applicant to mine (using an open pit technique). Due to the proposed expansion of the development, the existing EMPr (including the social labour plan and associated works programme) will require amendment, specifically in light of the changes to the proposed project description.

In terms of Section 102 of the MPRDA, amendments to an approved EMPr will require an EIA process to be undertaken in terms of NEMA. In addition, Section 49 and 50 of Regulation 527 of the MPRDA outlines specific information requirements for the Scoping and EIA Reports, inter alia, are as follows:

- Stakeholder engagement process;
- Assessment of impacts;
- Assessment of feasible alternatives;
- Development of an environmental management and monitoring plan;
- Provision of maintenance and emergency procedures; and
- Environmental awareness plan.

An EMPr is included in Chapter 8 of this Report and as a standalone report (*Annex H*). Black Mountain Mines existing Social and Labour Plan (SLP), and Financial Provision for Closure for the rehabilitation of land disturbed by mining activities are included *Annex J* and *Annex I* respectively.

3.5 Consolidated Permitting Requirements

Due to nature of the Project, a suite of environmental legislation will be applicable. In order to meet the various legislative requirements, ERM intends to run a single integrated EIA process, which will also meet the requirements in terms of the following laws:

- National Environmental Management: Biodiversity Act (No. 10 of 2004) (NEMBA); and
- National Heritage Resources Act (No. 25 of 1999).

Table 3.2 Consolidated Permitting Requirements

Law	Requirements	Project Relevance	Authority
National Environmental Management Waste Act (59 of 2008)	Section 19 of NEMWA provides for the listing of waste management activities that have, or are likely to have a detrimental effect on the environment. In accordance with this, GN 921 of 29 November 2013 lists waste management activities for which a waste management licence (WML) is required in terms of Section 20 of the Act. Furthermore, it classifies each of the waste management activities into different categories, with more onerous provisions assigned for activities that are regarded as being more detrimental to the environment. In this regard, 'Category A' activities require a NEMA BAR process to be conducted prior to commencement. 'Category B' activities require a full S&EIR process to be conducted, while 'Category C' activities are wholly exempt from the WML permitting process, as long as they show compliance with a set of prescribed standards.	BMM currently holds a Waste Management Licence (WML) for the current Mining Right. The general, industrial and hazardous waste from Swartberg Mine is included in the existing authorised EMPr and is regarded as licenced (See <i>Annex E</i> for DMR approval).	Not applicable.
National Environmental Management Biodiversity Act (10 of 2004)	Part 1 of Chapter 4 of NEMBA discusses the protection of threatened or protected ecosystems. In this section, the Minister or the provincial environmental MEC may publish a national or provincial list of ecosystems that are threatened and in need of protection. Subsequently, the Minister can identify by notice in the Gazette, any process or activity in a listed ecosystem as a 'threatening process'. Once so identified, the threatening process is regarded as an activity requiring an EIA to be carried out in terms of section 24(2) (b) of NEMA.	Biodiversity specialist studies will be part of the EIA and any threatened ecosystems will be identified through the specialist studies.	DENC
National Heritage Resources Act (25 of 1999)	Section 38 (1) of the NHRA requires any person who intends to undertake a development which exceeds 5000 m ² in extent or 300 m in length to notify the responsible heritage resources authority, viz. the South African Heritage Resources Agency (SAHRA) or the relevant provincial heritage agency. The applicable authority will in turn indicate whether or not a full Heritage Impact Assessment (HIA) would need to be undertaken.	Before undertaking the development the South African Heritage Resources Agency (SAHRA) will have to be informed of the planned construction activities (via submission of a Notice of Intent to Develop (NID). The footprint of the Project will be 370 Ha.	SAHRA

Law	Requirements	Project Relevance	Authority
National Water Act (36 of 1998)	Based on potential water uses, the NWA requires that a water user must either register a water use in terms of the General Authorisation or alternatively undertake a full licensing process. In order to distinguish between the need for registration and licensing, the DWA have issued a General Authorisation (Government Notice 1199 of 2009) for water uses in terms of Section 21 (c) and (i) only (see below). However, this General Authorisation is applicable to these specific water uses and contains exclusionary clauses. Should a water use activity fall outside of this General Authorisation or alternatively trigger any exclusionary clauses contained therein, a full license application process would need to be completed, prior to commencement of a water use.	It is expected that a water use licence will be required, although this will be run as a separate process.	DWS.
National Environmental Management Waste Act (59 of 2008)	Section 19 of NEMWA provides for the listing of waste management activities that have, or are likely to have a detrimental effect on the environment. In accordance with this, GN 921 of 29 November 2013 lists waste management activities for which a waste management licence (WML) is required in terms of Section 20 of the Act. Furthermore, it classifies each of the waste management activities into different categories, with more onerous provisions assigned for activities that are regarded as being more detrimental to the environment. In this regard, 'Category A' activities require a NEMA BAR process to be conducted prior to commencement. 'Category B' activities require a full S&EIR process to be conducted, while 'Category C' activities are wholly exempt from the WML permitting process, as long as they show compliance with a set of prescribed standards.	BMM currently holds a Waste Management Licence (WML) for the current Mining Right. The general, industrial and hazardous waste from Swartberg Mine is included in the existing authorised EMPr and is regarded as licenced (See Annex E for DMR approval).	Not applicable.
National Environmental Management Biodiversity Act (10 of 2004)	Part 1 of Chapter 4 of NEMBA discusses the protection of threatened or protected ecosystems. In this section, the Minister or the provincial environmental MEC may publish a national or provincial list of ecosystems that are threatened and in need of protection. Subsequently, the Minister can identify by notice in the Gazette, any process or activity in a listed ecosystem as a 'threatening process'. Once so identified, the threatening process is regarded as an activity requiring an EIA to be carried out in terms of section 24(2) (b) of NEMA.	Biodiversity specialist studies are part of this Report and impact on biodiversity are assessed in Section 7.	DENC

Law	Requirements	Project Relevance	Authority
National Heritage Resources Act (25 of 1999)	Section 38 (1) of the NHRA requires any person who intends to undertake a development which exceeds 5000 m ² in extent or 300 m in length to notify the responsible heritage resources authority, viz. the South African Heritage Resources Agency (SAHRA) or the relevant provincial heritage agency. The applicable authority will in turn indicate whether or not a full Heritage Impact Assessment (HIA) would need to be undertaken.	Before undertaking the development the South African Heritage Resources Agency (SAHRA) will have to be informed of the planned construction activities (via submission of a Notice of Intent to Develop (NID). The footprint of the Project will be 370 Ha.	SAHRA
National Water Act (36 of 1998)	Based on potential water uses, the NWA requires that a water user must either register a water use in terms of the General Authorisation or alternatively undertake a full licensing process. In order to distinguish between the need for registration and licensing, the DWA have issued a General Authorisation (Government Notice 1199 of 2009) for water uses in terms of Section 21 (c) and (i) only (see below). However, this General Authorisation is applicable to these specific water uses and contains exclusionary clauses. Should a water use activity fall outside of this General Authorisation or alternatively trigger any exclusionary clauses contained therein, a full license application process would need to be completed, prior to commencement of a water use.	It is expected that a water use licence will be required, although this does not fall part of this scope of work and is run as a separate concurrent process.	DWS

3.6 Other Applicable Legislation, Policies and/or Guidelines

3.6.1 National Legislation

National legislation relevant for the Project (in addition to those presented in preceding sections) is listed below.

- National Water Act (36 of 1998);
- Mine Health and Safety Act (29 of 1996);
- Noise Control Regulations under the Environmental Conservation Act (73 of 1989);
- Major Hazard Installation Regulations (GNR. 692 of 30 July 2001);
- Hazardous Substances Act (56 of 1973); and
- Explosives Act (15 of 2003).

Applicable provisions from these laws and regulations will be incorporated into the design and implementation of the Project.

3.7 Broader Policy and Planning Context

This Section briefly describes the broader policy and planning context within which the Project will take place. The strategies and planning documents are summarised below.

3.7.1 Northern Cape Provincial Growth and Development Strategy (2011)

The Northern Cape Provincial Growth and Development Strategy (NCPGDS) (2011) plays a vital role in achieving efficacy in delivery of the overall strategic development objectives of Northern Cape. From the plethora of societal challenges that are prevalent in South Africa, the NCPGDS identifies the following aspects that require attention:

- Reducing the backlog of basic needs such as water, sanitation and housing;
- Improving and increasing access to health, education and social services;
- Decreasing the prevalence rate of TB, HIV and AIDS;
- Creating opportunities for employment;
- Reducing contact crime; and
- Targeting vulnerable groups.

The strategy identifies long-term sustainable economic growth and development as an effective means to target the key societal concerns. Mining is identified as an important economic sector to promote such growth, as well as agriculture and tourism.

3.7.2 The Northern Cape Provincial Spatial Development Framework (2012)

Spatial Development Frameworks attempt to guide overall development in a direction that local and provincial authorities see as being desirable. They also aim to specify the spatial implications of Integrated Development Plans (IDPs) that are designed to optimise economic opportunities.

Amongst other things, the Northern Cape Provincial Spatial Development Framework (2012) recognises the importance of the mining sector, as a driver behind the region's economic growth. Nevertheless, it also identifies that economic development often has a detrimental impact on the environment which, in turn, often manifests in a negative impact on human-wellbeing and on tourism in the region. As such, the NCPSPDF sets out the following objectives and policies to address such concerns:

- Offsetting direct detrimental impacts of resource use;
- Providing measures to cater for indirect impacts or impacts that may in the long-term emerge as a result of resource use; and
- Unlocking the latent benefits and synergies vested in the resource use in order to create a positive socio-economic legacy once the initial resource use has reached its productive life cycle.

Similarly, but at a slightly lower level, the Namakwa District SDF (2012) addresses key trends in the area. In addition to the provisions made in the NCPSPDF, it proposes a conceptual Solar Corridor consisting of a roughly 30km wide strip of land with the N14 at its centre encompassing Aggeneys, as well as Pofadder and surrounds.

3.7.3 Namakwa District Municipality Local Economic Development Strategy (2007)

A Local Economic Development (LED) Strategy is a government funded initiative that attempts to improve the economic environment of all District Municipalities (DMs) and Local Municipalities (LMs) through the implementation of various projects. The Local Economic Development strategy (2007) for the Namakwa District Municipality identifies a suite of sectors that are seen to play a critical role in the economic growth of the District. With respect to this the strategy advocates for the agricultural development in selected groups of targeted areas namely:

- Hydroponic and organic crop production next to the Orange River, agriculture and cultivation of the hoodia plant for medicinal purposes
- Copper beneficiation as well as diamond cutting and processing;
- Recycled manufacturing;
- Cultural, science and nature tourism;
- Infrastructure upgrades; and
- Alternative energy production.

It also identifies the mining sector as one of the key potential development sectors within the District Municipality. In this regard, there is a drive to encourage processing and manufacturing of minerals into final product, as this will result in increased economic development as well as additional employment opportunities.

Finally, the strategy refers to a "One-Stop Mining Centre". This is envisaged as a facilitation centre where information and guidance on business opportunities will be made available, as well as assist with formulating business plans, proposals and tenders related to the local mining industry.

3.7.4 Khai Ma Integrated Development Plan (2012-2017)

The Integrated Development Plan (IDP) constitutes the blueprint with respect to Khai Ma Municipality's strategies in addressing the socio-economic development needs of local communities (Local Government: Municipal Systems Act, Act 32 of 2000). As such, it reflects the key development focus areas agreed upon with communities and stakeholders in the Khai Ma municipality.

The following issues are highlighted in the Khai Ma IDP (2012-2017) as local development areas that need specific attention/intervention:

- Increasing unemployment rates;
- No rent is paid and no management or maintenance is undertaken by small upcoming farmers on farms allocated to them by government;
- Lack of land for livestock farming and irrigation farming;
- Need for housing; and
- Backlogs in relation to the provision of basic services.

In terms of the vision and mission set out in the IDP, the Local Municipality aims to utilise its limited resources in improving the quality of life of its residents by striving to provide improved basic services and create an environment conducive to investment through strengthening local economic development.

3.7.5 Khai Ma Rural Spatial Development Framework Plan (2010)

The Khai Ma Spatial Development Framework (SDF) is currently under review and guides and informs land development and management in the region. Three key aspects transpire from the SDF in relation to what is required in order to achieve its vision. These include the following:

- Improve living standards;
- Ensure health and safety; and
- Strengthen local economic development.

The mining, agricultural and tourism sectors are again highlighted as important sectors to drive local economic growth in the area. The Khai Ma SDF also recognises the importance of Pella and its surroundings for potential tourism activities in the area and identifies two primary tourism corridors between Pofadder and Witbank (along the Klein Pella Road) and between Pofadder and Onseepkans. In general, the SDF places particular emphasis on the protection of tourism assets and the development of tourism in areas north of the N14, along the Orange River and the mountainous areas relatively close to the Orange River.

Finally, the SDF recognises that mining activities could present a significant threat to local biodiversity in the area, particularly with respect to the proposed development of an opencast mine at Gamsberg. As such, mining development in areas with sensitive biodiversity is earmarked as an area that should require specific policy intervention. With respect to this, the compilation of an Environmental Management Plan for mining and agricultural activities in the municipality is recommended in order to protect environmental conservation corridors and zones.

3.7.6 Alignment with Regional Planning Policies

Given the above, it is clear that the Project achieves in-principle compatibility with the key thrusts of planning documents for the province, district and local municipality. These documents also do, however, call for caution regarding the conservation status of the Project site in particular. Further discussion on the Projects alignment with applicable regional and local planning and land-use policies/ frameworks is discussed in the following section, which provides a background to the 'Need and Desirability' guidelines as developed by the Western Cape Department of Environmental Affairs and Development Planning (2010).

4. BASELINE

To provide a baseline against which the impacts of the Project can be assessed, a description of the existing physical, biological, social and health conditions has been summarized in this Chapter. The baseline data have been derived from the following sources:

- *Primary data collection*: Various specialists conducted impact assessment studies for the proposed Project activities. The specialists studies include the Heritage Impact Assessment (Morris *et al*, 2019), Flora Impact Assessment (Strohbach, 2018), Fauna Impact Assessment (Todd, 2019) and the Groundwater Impact Assessment (GHT Consulting, 2019);
- *Secondary data*: data available from previous studies conducted around the area, the Gamsberg ESIA Report drafted by ERM in 2013, and existing published or government resources; and
- *Stakeholder engagement*: engagement with relevant stakeholders.

4.1 Area of Influence

The IFC Performance Standards require project proponents to identify and manage environmental and social risks and impacts within the Project Area of Influence (AoI). The AoI is defined in IFC Performance Standard 1 as:

The area likely to be affected by: (i) the project and the client's activities and facilities that are directly owned, operated or managed (including by contractors) and that are a component of the project; (ii) impacts from unplanned but predictable developments caused by the project that may occur later or at a different location; or (iii) indirect project impacts on biodiversity or on ecosystem services upon which Affected Communities' livelihoods are dependent.

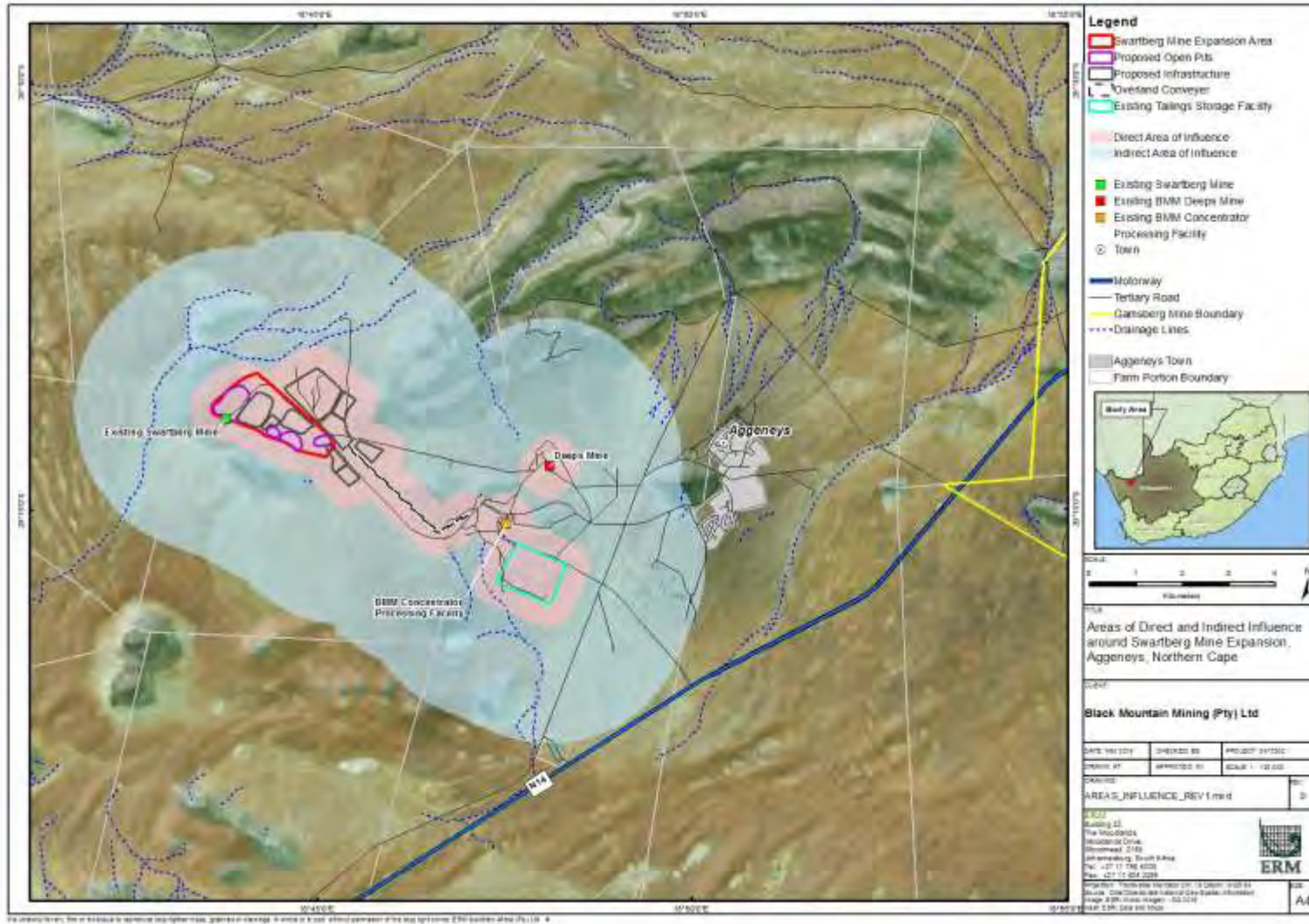
Associated facilities, which are facilities that are not funded as part of the project and that would not have been constructed or expanded if the project did not exist and without which the project would not be viable.

Cumulative impacts that result from the incremental impact, on areas or resources used or directly impacted by the project, from other existing, planned or reasonably defined developments at the time the risks and impacts identification process is conducted.

In the context of this Project, the Direct Area of Influence (DAoI) includes the Project mining footprint, and the surrounding areas likely to be directly affected by the Project activities during construction, operation, and decommissioning phases. Areas that will be impacted by the construction of access roads, health and safety impacts (including disturbance from noise and dust during construction), and construction camps and in-migration of job opportunists into the local area is also included in the DAoI.

The Indirect Area of Influence (IAoI) includes areas within a wider radius (3km) of the Project site, which may be affected by the Project, although to a lesser extent. The IAoI and DAoI are collectively referred to as the Project area (*Figure 4.1*).

Figure 4.1 Project Area of Influence



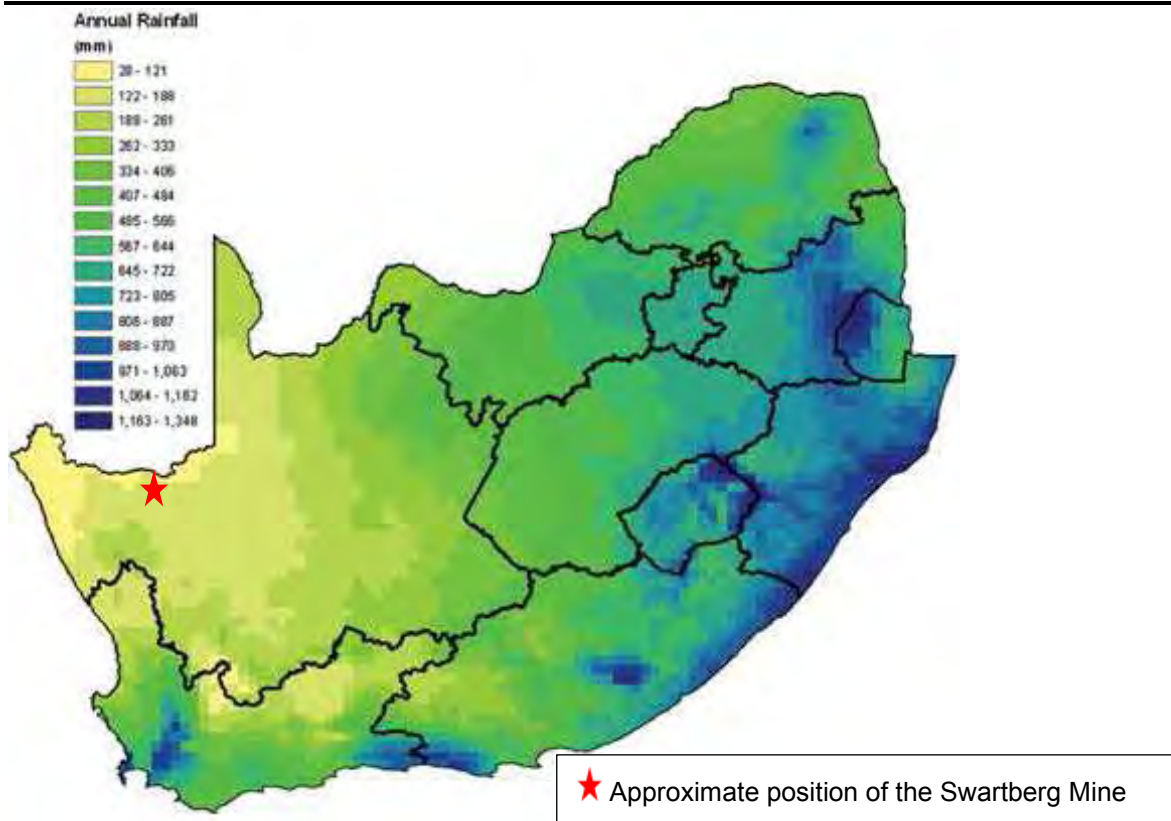
4.2 Biophysical Baseline

4.2.1 Climate

Precipitation

The Project area is located in the Northern Cape Province of South Africa, comprising a portion of the Kalahari Desert (*Figure 4.2*). The Project area falls within the Bushmansland and Namaqualand areas, which experience summer and winter rainfall respectively (Gamsberg ESIA, 2013).

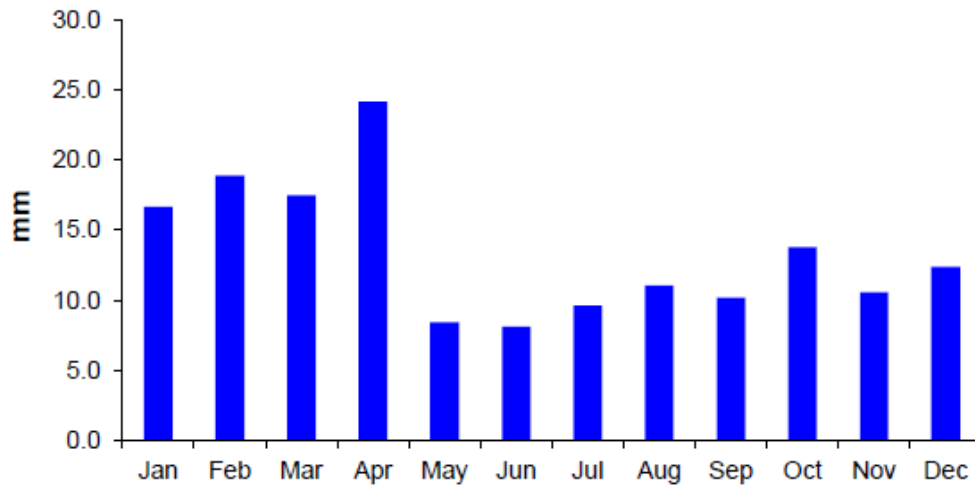
Figure 4.2 Average Rainfall over South Africa



Source: Gamsberg ESIA, 2013

Aggeneys receives an average of 98 mm of rainfall per annum, while Pella and Pofadder receive an average of 77 and 117 mm of rainfall per annum, respectively (Gamsberg ESIA, 2013). Between the years 1986 to 2012, the Swartberg Mine region was recorded to receive greater than 75 percent of its annual rainfall between January and June (± 68 mm), with the months of January, February and April receiving the majority of this rainfall. Aggeneys experienced its highest mean monthly rainfall during April (approximately 24 mm), over a period from 1986 to 2012 (*Figure 4.3*).

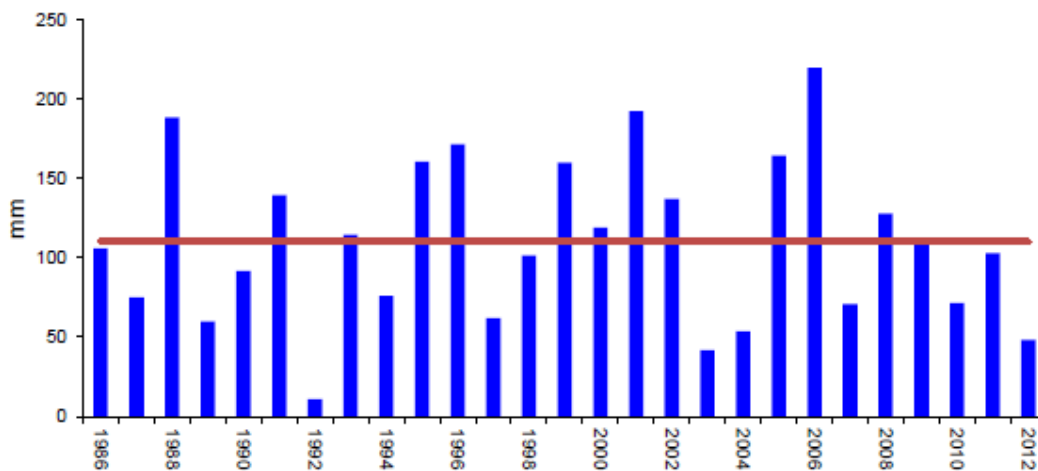
Figure 4.3 Average Monthly Precipitation in Aggeneys (1986 - 2012)



Source: Gamsberg ESIA, 2013

The lowest mean monthly rainfall was experienced in Aggeneys during May and June during the period between 1986 and 2012. In general, annual precipitation in the region is highly variable (*Figure 4.4*).

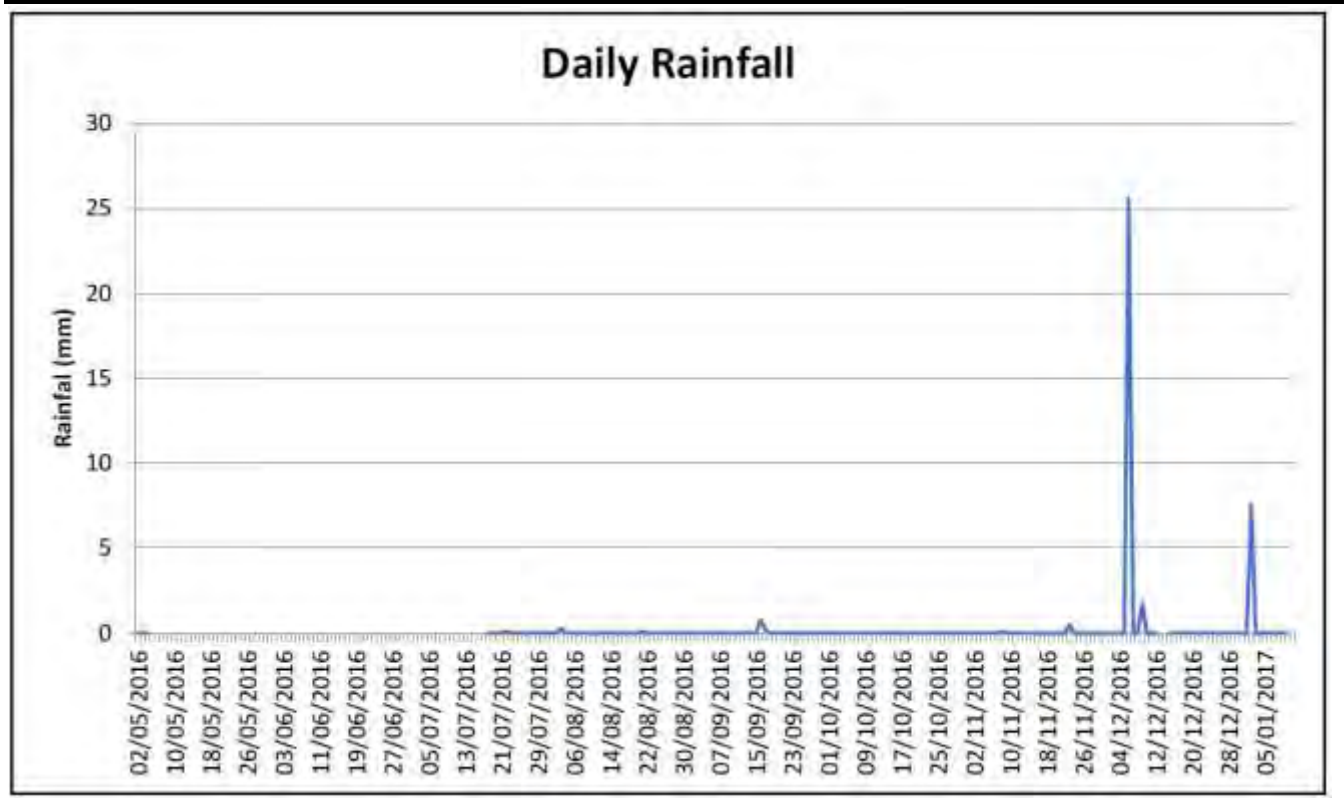
Figure 4.4 Total Annual Precipitation in Aggeneys (1986 - 2012)



Source: Gamsberg ESIA, 2013

During the period between July 2016 to January 2017, the peak rainfall recorded at the BMM site was in December 2016 with over 25mm of rainfall (*Figure 4.5*). This is substantially lower than the recorded rainfall between 1986 and 2012. The total rainfall recorded by BMM at the station during this period was 37mm.

Figure 4.5 Daily Rainfall Data Recorded at Black Mountain Mine (July 2016 to January 2017)



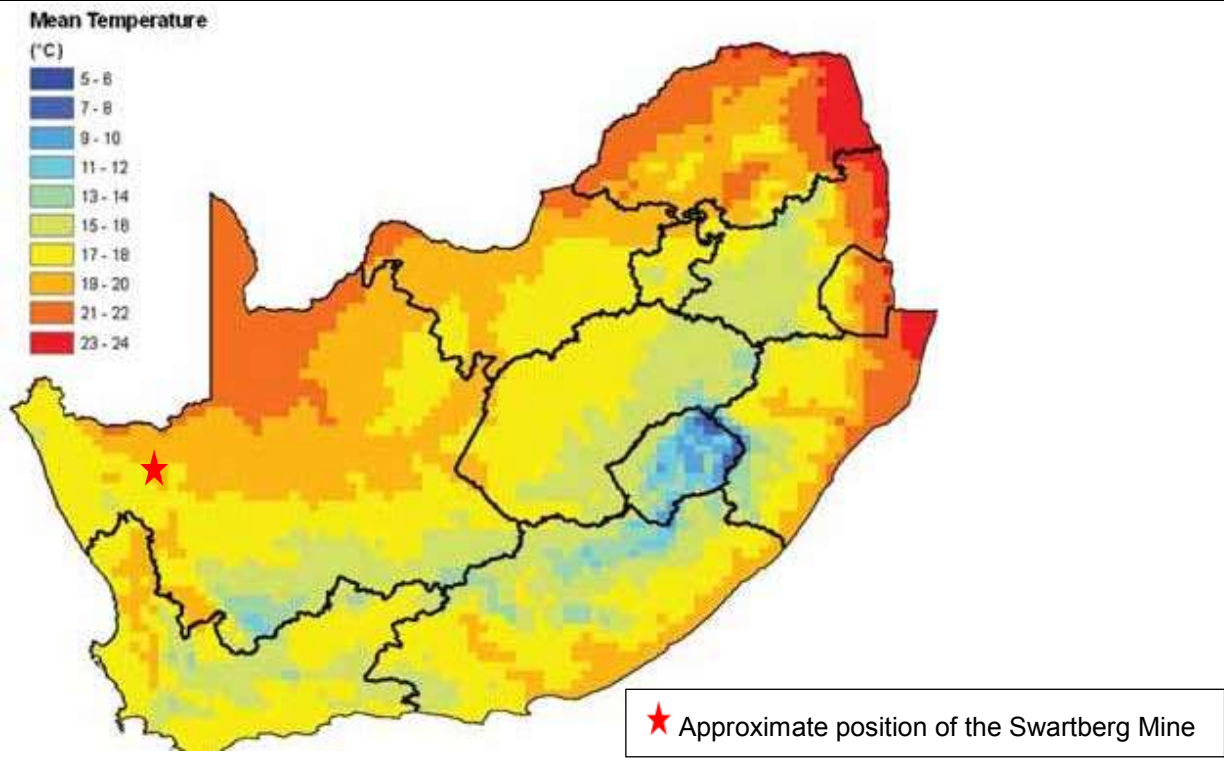
Source: Liebenberg-Enslin and von Reiche (2017)

Temperatures

The temperatures experienced in the Northern Cape are influenced by surrounding topographies, generally characterised with desert and semi-desert conditions. The average temperatures experienced within the Project area varies significantly between the summer and winter months, with the highest average temperatures being experienced during the wettest months on the year. Temperatures within the region range from a minimum of -3 °C to a maximum of +40.8 °C based on historic records from 1961 - 1990 and 2000 - 2012 (Figure 4.6).

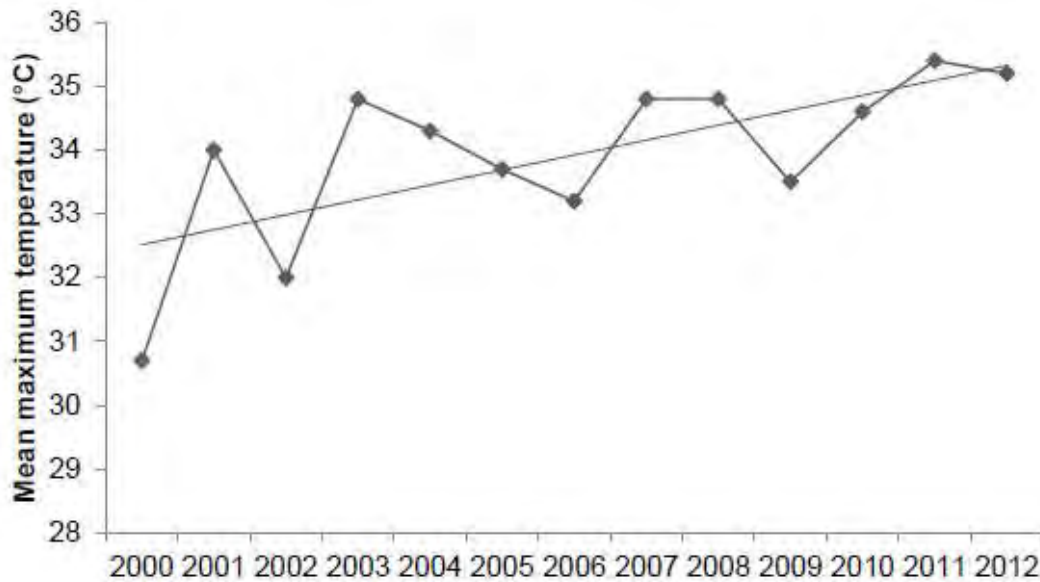
Summers (November to March) are very hot with recorded mean maximum temperatures (from 1961-1990) being 30+°C. January is the hottest month, with mean maximum temperatures, between 2000 and 2012, ranging from 30.7 to 35.4 °C (Figure 4.7). Recordings have shown a general trend of recorded January temperatures increasing by approximately 2.8°C over the period 1961 to 2012 (Figure 4.7).

Figure 4.6 Average Annual Temperature over South Africa



Source: Gamsberg ESIA, 2013

Figure 4.7 Mean Maximum Temperature in Pofadder for January between 2000 to 2012



Source: Gamsberg ESIA, 2013

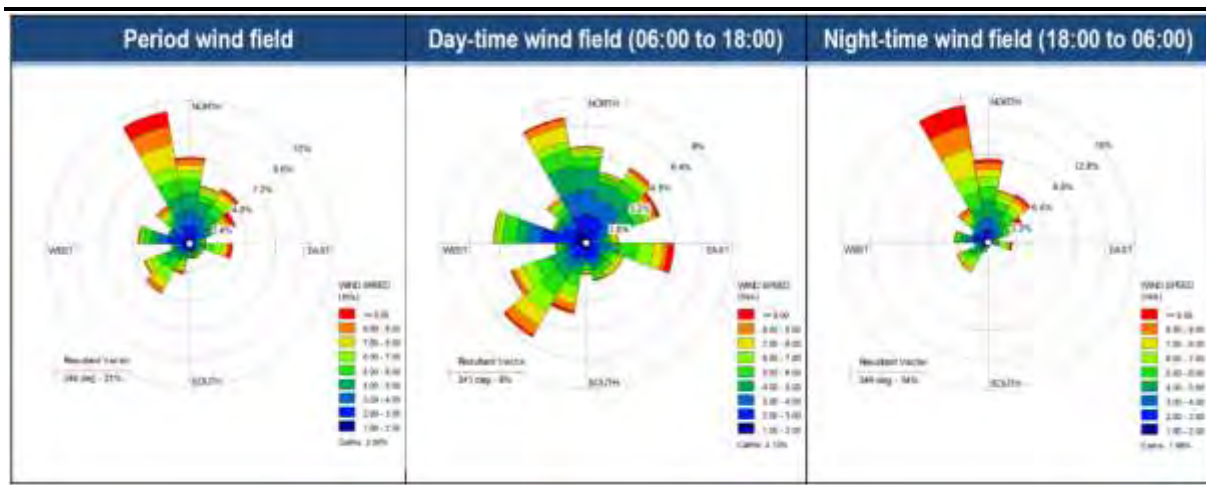
During winter, mean maximum temperatures range from 17.8°C to 20°C; days are cool and nights are cold. The minimum winter temperatures experienced in Pofadder and Springbok can vary from -1°C to

– 13°C, with significant temperature reductions at night time. June is the coolest month with a mean temperature of 12.1°C and a mean maximum temperature of 17.8°C.

Wind

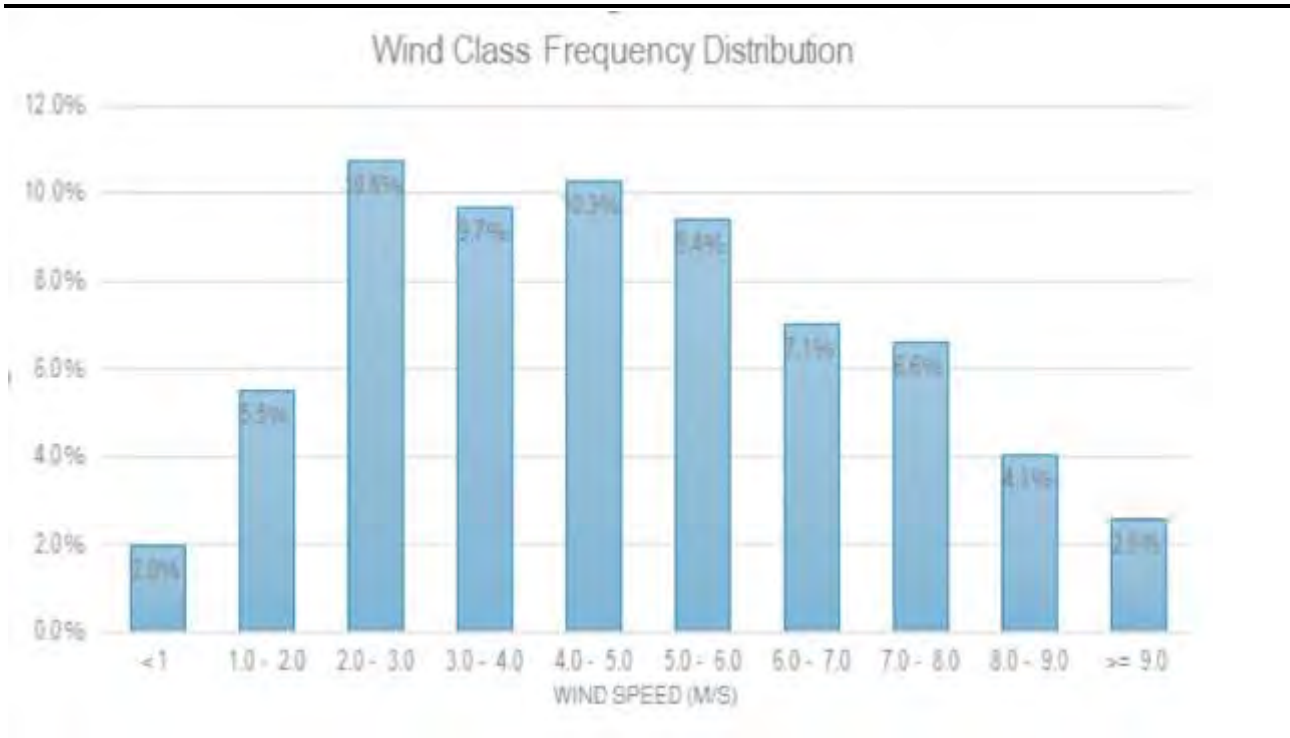
Data from the BMM meteorological station between July 2016 and January 2017 indicated that the prevailing wind is from a northerly and north-north-westerly direction. Daytime airflow varies with predominantly north-north-westerly, south-westerly and east-south-easterly winds (Liebenberg-Enslin and von Reiche, 2017). At night, winds are mostly from the north-northwest. The average wind speed over the July 2016 to January 2017 period was 4.7 m/s (Liebenberg-Enslin and von Reiche, 2017). *Figure 4.8* illustrates the wind roses for the period July 2016 to January 2017 and *Figure 4.9* illustrates the wind class frequency distribution.

Figure 4.8 Wind Roses Data for the BMM Meteorological Station



Source: Liebenberg-Enslin and von Reiche (2017)

Figure 4.9 Wind Class Frequency Distribution



Source: Liebenberg-Enslin and von Reiche (2017)

Evaporation

The mean annual evaporation (MAE) for the proposed Project area is 2,650 mm and average monthly evaporation is set out in *Table 4.1* below.

Table 4.1 Average Monthly Evaporation (mm) (Gamsberg ESIA, 2013)

Month	Mean Evaporation (mm)
January	355
February	290
March	259
April	184
May	129
June	98
July	101
August	137
September	189
October	253
November	304
December	351

4.2.2 Air Quality

The sources of atmospheric pollutants in this area are anticipated to be from the current BMM mining activity, the vehicle traffic and dust from the haul roads or unpaved roads. The largest contributor to

particulate emissions in the area is the BMM. The majority of these particulate emissions are generated during the operations of the mine (Liebenberg-Enslin and von Reiche, 2017). The proposed Swartberg opencast mining operations are anticipated to generate the most particulate emissions during the operational phase of the project.

Another major source of emissions in the area comes from unpaved roads. The force of the movement of vehicles on unpaved roads results in particulate matter left suspended in the atmosphere. Dust emissions in unpaved roads is depended on the silt loading on the roads as well as the vehicle traffic present at the time (Liebenberg-Enslin and von Reiche, 2017).

Dust

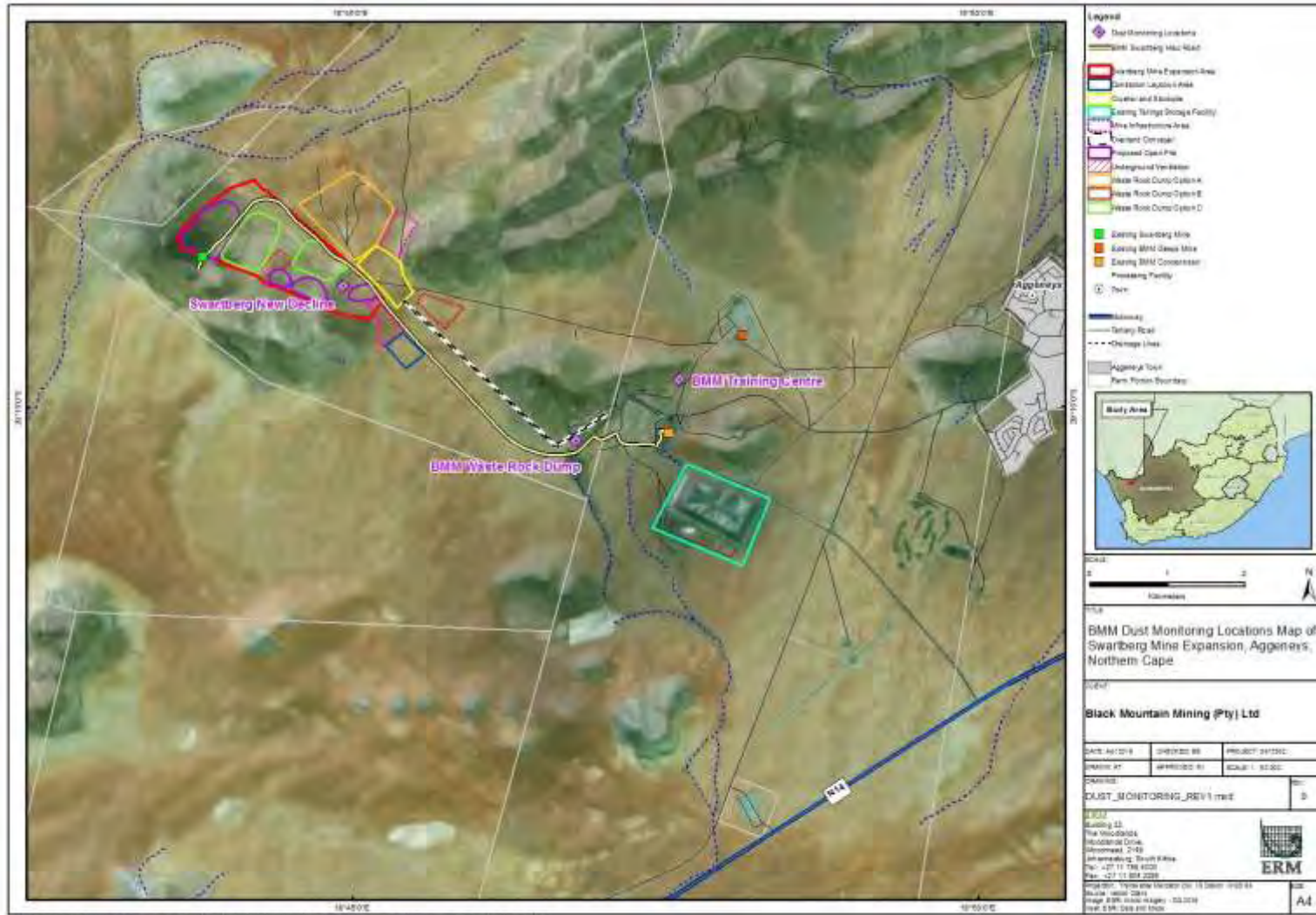
As part of BMM's existing Dust Fall-out Monitoring Programme, the dust levels of four sites around the mine are understood to be monitored on a daily basis. The dust data is compiled and reported on in a monthly dust monitoring report to show monthly averages. These averages should not exceed the acceptable dust fall rate stated in the National Dust Control Regulations, 2013, as set out in Table 4.2.

The four dust fall monitoring units are as follows:

- BMM Waste Rock Dump.
- BMM Swartberg Haul Road.
- BMM Training Centre.
- BMM Swartberg New Decline.

The location of the dust monitoring units is displayed in *Figure 4.10*.

Figure 4.10 The location of BMM's Dust Monitoring Station



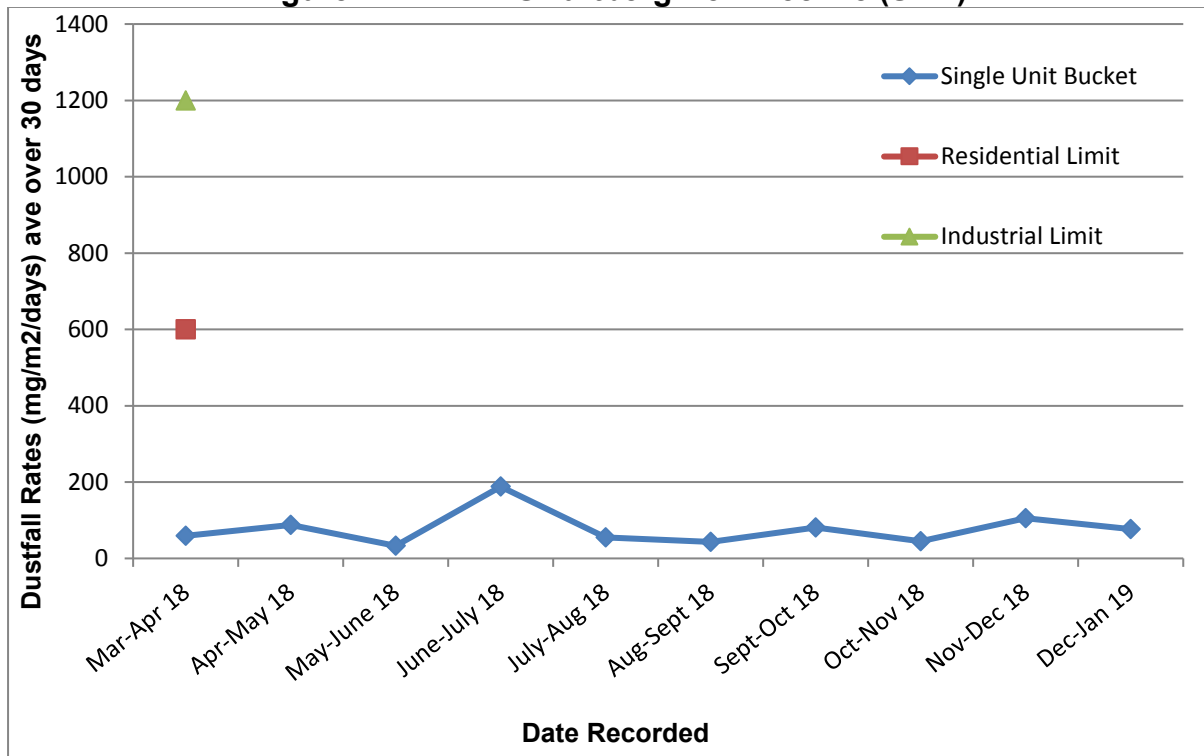
The standard for the acceptable dust fall rate according to the National Dust Control Regulations, 2013, is set out in *Table 4.2*.

Table 4.2 Acceptable Dust fall Rates

Restriction Areas	Dustfall rate (D) (mg/m ² /day) – averaged over 30 days.	Permitted frequency of exceeding dust fall rate
Residential area	D < 600	Two within a year, not sequential months.
Non-residential area	D < 1200	Two within a year, not sequential months.

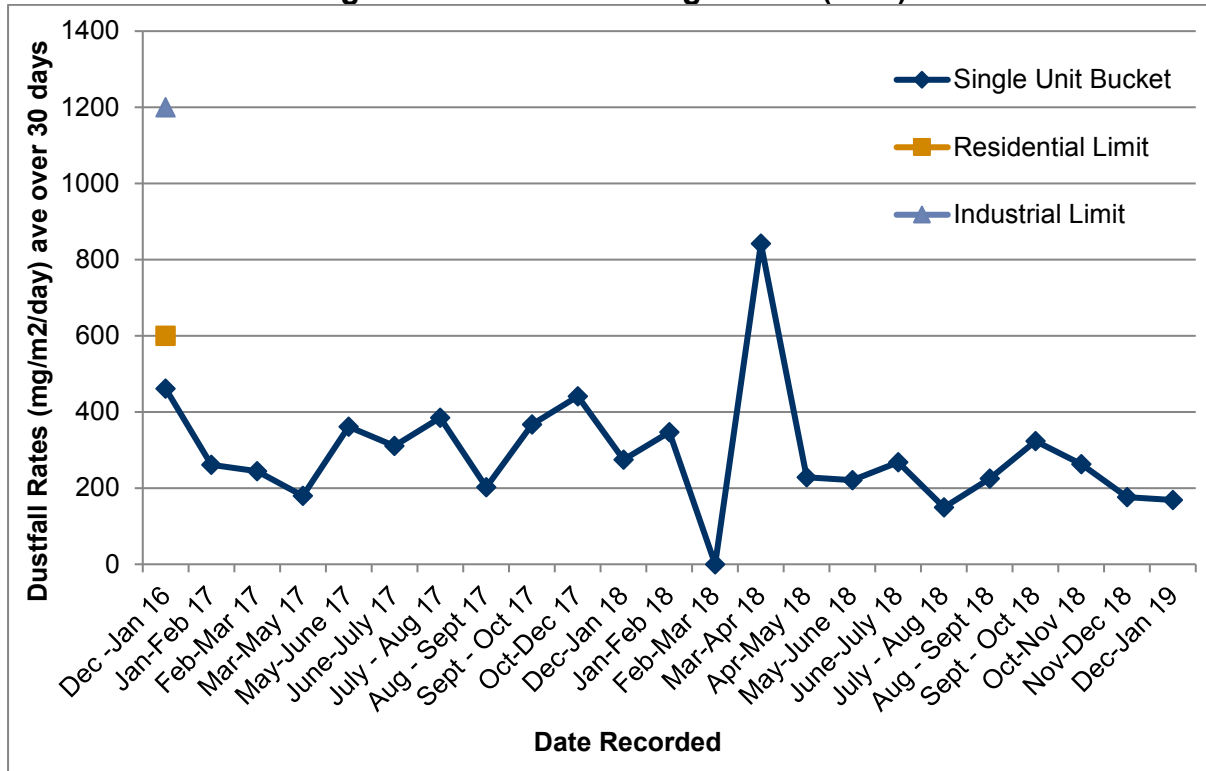
Dust monitoring data from the BMM Swartberg New Decline (SND) over the period from March 2018 to January 2019 is displayed in *Figure 4.11*. The recorded dust levels fell under the permitted dust fall rates, for residential areas (600 mg/m²/day) and for industrial areas (1200 mg/m²/days), according to the fall-out dust standards from National Dust Control Regulations, 2013.

Figure 4.11 BMM Swartberg New Decline (SND)



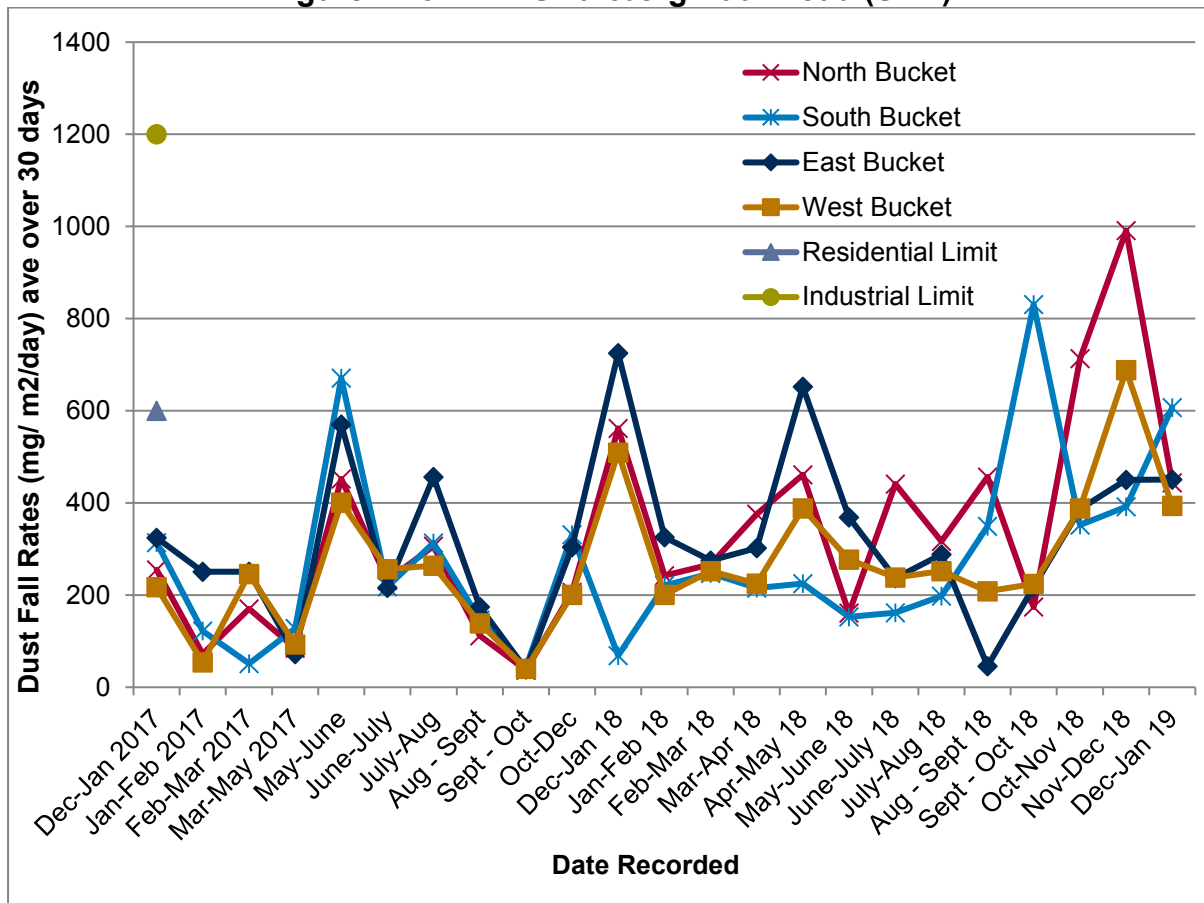
Dust monitoring data from the BMM Training Centre (TRC) over the period from December 2016 to January 2019 is displayed in *Figure 4.12*. The recorded dust levels fell well under the permitted dust fall rates, for residential areas (600 mg/m²/day) and for industrial areas (1200 mg/m²/days), according to the fall-out dust standards from National Dust Control Regulations, 2013.

Figure 4.12 BMM Training Centre (TRC)



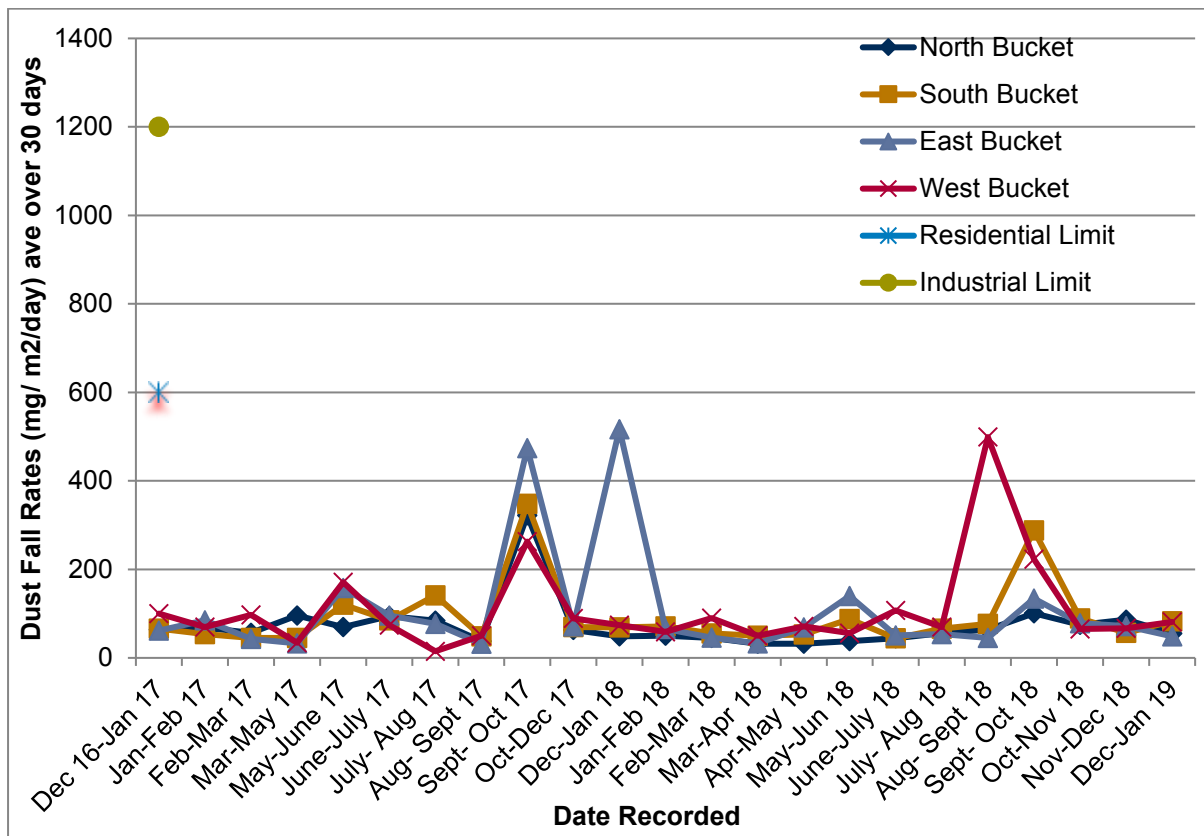
Dust monitoring data from the BMM Swartberg Haul Road (SHR) over the period from December 2016 to January 2019 is displayed in *Figure 4.13*. The recorded dust levels fell predominantly under the dust fall limites for residential areas (600 mg/m₂/day) (except during March-April 2018). Recorded dust levels fell under permitted dust fall rates or industrial areas (1200 mg/m₂/days), according to the fall-out dust standards from National Dust Control Regulations, 2013.

Figure 4.13 BMM Swartberg Haul Road (SHR)



Dust monitoring data from the BMM Waste Rock Dump (WRD) over the period from December 2016 to January 2019 is displayed in Figure 4.14. The recorded dust levels fell under the dust fall limits for industrial areas (1,200 mg/m²/days), according to the fall-out dust standards from National Dust Control Regulations, 2013.

Figure 4.14 BMM Waste Rock Dump (WRD)



4.2.3 Noise

The areas around the BMM mining area are sparsely populated, and only a limited number of noise-sensitive receptors are situated within the immediate surroundings. Sensitive receptors in the area include the town of Aggeneys and a few farm houses, north of the site.

A noise study was undertaken by Demos Dracoulides on behalf of Parsons Brinckerhoff Africa (Pty) Ltd for the existing Swartberg Mine operations in 2014. The following conclusions were made about the baseline noise environment:

- The noise environment of the area bordering the Swartberg mining area is that of typical Rural districts with one major road (N14) and local secondary roads. The daytime and night-time levels away from the above-mentioned roads were within the SANS guideline for Rural districts of 45 dB(A) and 35 dB(A) respectively.
- The current noise levels at Aggeneys were above the guidelines for Rural but within the SANS and WHO guidelines for Urban residential districts of 55 dB(A) and 45 dB(A) for daytime and night-time respectively.
- The main noise contributors within the extended area of the project were primarily the vehicular traffic on the N14 and the existing Black Mountain mine operations. During night-time, most of these sources were still the main contributors, however, at certain locations the frog and insect activity also contributed significantly to the local noise levels.

It is assumed that the noise environment has not changed significantly since this assessment was undertaken.

4.2.4 Geology

Regional Geology

The Project area is situated in the Northern Cape's tectonically bound terrains namely the Bushmanland Terrane which forms part of the Namaqua Orogeny and is composed of basement granitic and gneissic rocks from the Proterozoic Eon (1200 – 1000 Ma). The rocks have been subjected to various phases of metamorphic deformation. The area also consists of metasedimentary, metavolcanic and intrusive rock units.

Rozendaal (1982) and Praekelt *et al.* (1994) reported that due to the rapid facies changes and sedimentological characteristics a relatively shallow water environment for the deposition of the Aggeneys and Gams Ore Formations were favoured with the depositional conditions varying between oxidising and reducing.

The ore assemblages and host rocks were intensely affected by medium to high-grade metamorphism and poly-phase deformation. Four phases of deformation were recognised in the Bushmanland area and the main episode of deformation was during a period of the highest degree metamorphism resulting in large open synformal features, fractures and shear zones. Joubert (1986) suggested that these structures represent the final phase of uplift for the area exposing the high-grade rock of the Bushmanland and Namaqualand.

The lower lying plains consist of various depths of surficial cover of wind-blown sand, dunes, scree rubble, sandy soil, calcrete and alluvium of Quaternary and Tertiary age. There are also a number of pale channels filled with this material. Gneiss, quartzite and schist underlie these surficial deposits.

Local Mine Geology

The stratigraphy of the Swartberg deposit is contained within a major recumbent isoclinal synformal fold which extends into the basal gneisses. This fold dips towards the north east. As a result of this folding event the succession of the stratigraphy is overturned or reversed. The general stratigraphy of the site is summarised in *Table 4.3*. *Figure 4.15* shows the regional and local geology of the Project site.

Table 4.3 Summary of Stratigraphic Succession of Swartberg

Stratigraphic Unit			Thickness (m)
Aggeneys Ore Formation: (Stratigraphic Top)			
7	Baritic-sulphidic quartzite, massive sulphide, garnet-quartzite, magnetite-amphibolite	Lower Orebody	(0 – 17)
6	Baritic quartz schist	Upper Orebody	(5 – 25)
5	Magnetite-barite rock		(10 – 25)
4	Magnetite amphibolite		(0 – 45)
3	Magnetite quartzite		(0 – 20)
2	Mixed zone consisting of gradations between garnet quartzite and quartz schist	Copper Lenses	(30 – 65)
1	Banded quartz schist		(10 – 25)
White Quartzite Formation			
Aluminium Schist Formation			
Pink Gneiss Formation (Stratigraphic Bottom)			

Source: GHT Consulting, 2019

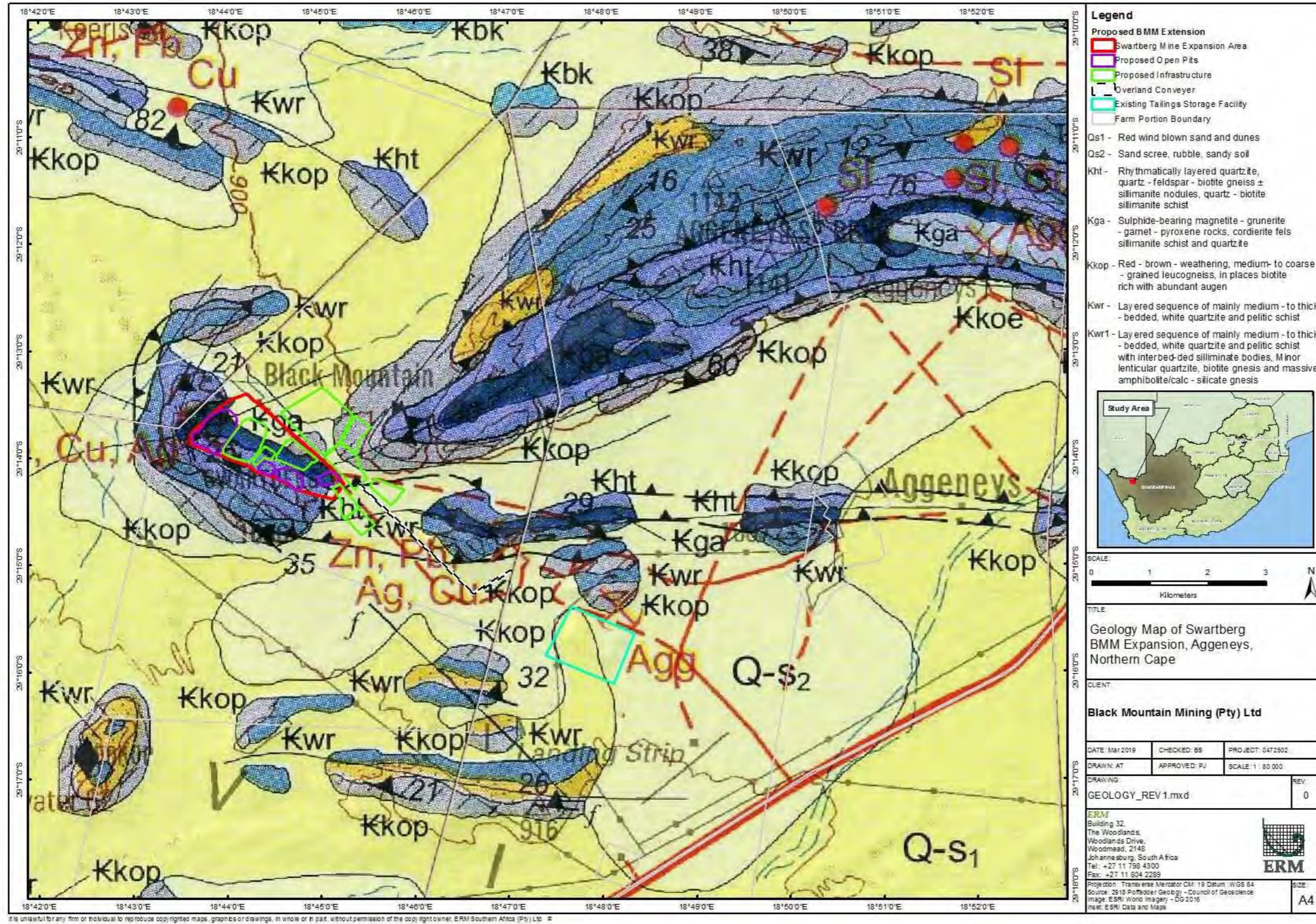
A series of quartzite, schist, gneisses and pegmatites is found in the areas as seen in *Figure 4.15*. The strike and dip of these rocks were reported to be east-west orientated and steeply dipping to the north. The quartzite is the most resistant to erosion from the east-west trending range of hills surrounding the

site area namely, Swartberg, Tank Hill, Saddleback Hill, Broken Hill, Maanhaarkop and Froneman-se-Kop. The hard rock geology is covered by sands, calcareous sands, gravels and calcrete of various thicknesses over a large area of the site.

The general geology which includes Swartberg, Old Shaft Area and Deeps can be summarised into the following main lithologies of importance:

- Rhythmically layered quartzite, quartz-feldspar-biotite gneiss, sillimanite nodules, quartz-biotite sillimanite schist (Lithology Code: Kht);
- Sulphide bearing magnetite, gunerite-garnet-pyroxene rocks, cordierite fels sillimanite schist (Lithology Code: Kga);
- Red brown weathering, medium to coarse grained leucogneiss, in places biotite rich with abundant augen (Lithology Code: Kkop); and
- Red windblown sand and dunes (Lithology Code: Qs1) / Sand scree, rubble, sandy soil (Lithology Code: Qs2).

Figure 4.15 Geological Map for the Black mountain Mining Region



Source: GHT Consulting, 2019

4.2.5 Hydrology

The rainfall patterns, driving the hydrological cycles, indicate a relatively low rainfall of between 100mm and 200mm per year. The rainfall events are erratic and annual rainfall seldom results in river systems flowing. Extreme rain events or a good rainfall year with sufficient follow-up rain could result in the Aggeneys berge catchment flowing out towards the lower lying plains (Endemic Vision Environmental Services, 2017).

Freshwater and wetland information was extracted from the National Freshwater Ecosystem Priority Areas assessment (NFEPA). The Black Mountain mine falls within the Orange River Gorge (28) freshwater priority area. In terms of surface hydrology categories by the Department of Water Affairs, South Africa is divided into a number of drainage regions. The Aggeneys farm 56 within the Lower Orange water management area and the Big Syncline Valley sub-catchment. The surface area is further investigated in terms of national data bases to look for the presence of any listed hydrological features that may be directly or indirectly affected by the Project (Endemic Vision Environmental Services, 2017).. According to the latest NFEPA categorization, there is no permanent river or hydrological feature in the Project area (Endemic Vision Environmental Services, 2017).

In terms of hydrological habitats, washes are found in the Project area. The vegetation of washes are described in *Section 4.2.7*.

4.2.6 Groundwater

The Swartberg Mine is likely to be situated in relatively stagnant hydrogeological setting. Vegter (2006) which found that groundwater level changes as large as 40 metres have been observed in boreholes on a major drainage divide. The regional water levels indicate that groundwater flow does takes place, while the aquifer storage is limited, and recharge events are occasional.

Regional Groundwater Levels

The groundwater level data obtained for the regional area around the mining site included data from the National Groundwater Archive (NGA), exploration boreholes and monitoring boreholes. The regional water levels ranged between 3.5 and 108 meters below ground level (mbgl) with an average groundwater level of 33.7 mbgl. These water levels were measured over a long period of time (1981 to 2002) and were therefore only used as an indication of water levels on a regional scale. The average groundwater elevation for the Project area was calculated to be 781 metres above mean sea level (mamsl) and ranged between 671 and 945 mamsl. The shallow water levels are however often the influence of the upper Quaternary (primary) aquifer system (water level a combination of the upper and lower aquifer) or artificial recharge from surface water bodies.

Newly taken groundwater levels for Gamsberg Mine and surrounding farm area as well as groundwater levels for Black Mountain indicates that the average groundwater levels around the BMM mine is on average for 31 mbgl or 865 mamsl.

Local Groundwater Levels

Groundwater level testing was conducted for the privately owned farms in the Aggeneys district in the vicinity of the Gamsberg Mine and BMM using BMM's monitoring boreholes. Each of the boreholes were given reference numbers for ease of reference when analysing the results. The results of February 2019, BMM groundwater levels can be viewed in *Table 4.4* and *Table 4.5* below and illustrated in *Figure 4.16*. The results of the groundwater elevations for BMM are as follows:

- The monitoring boreholes of BMM indicates that the groundwater has mostly been stable over time in this region. Boreholes N13, M5, AD14, AD15, AD19, BH4, BH5 and M6 indicates stable to slightly decreasing groundwater level trends. Stable to slightly increasing groundwater levels were observed for boreholes AD24, N6, M9, AD21, AD9, and M18.

- The groundwater elevations of BMM have been disturbed unnaturally by mining activities, which includes artificial recharge (pouring into) to the local groundwater aquifer as well as dewatering (Shafts and Declines). Naturally, the groundwater levels in an area should be a direct replica of the topographical elevations. However, it was noted that in this particular area, the groundwater levels do not mimic the topographical elevations. This suggests that there have been unnatural disturbances to the groundwater levels either by dewatering activities or artificial recharges into the local aquifer as seen in mining operations.
- In terms of groundwater depth and elevation in general the groundwater table is shallowest in the vicinity of the Tailings Dam and Reed Beds due to artificial recharge. It is deepest in the vicinity of the Swartberg Mine due to dewatering effects. Background groundwater depths of the gneiss aquifer is between 35 to 45 meters below ground level (AD9, AD19, N13, N4, N14 and N12).

Table 4.4 Part A: Groundwater Level and Elevation Results for Black Mountain Mining (GWL for February 2018)

Borehole Name	Quaternary catchment	Sub-Owner	Date	Elevation (mamsl)	Datum Level (m)	Aquifer Monitored	Water Level Type	Static Level (mbgl)	Water Static Elevation (mamsl)	Ground Water Level Tread	Comments	
1	N13	D82C	BMM	2018/10/29	846.14	0.300	Gneiss Aquifer/ Waste Rock (15m)	Static Water Level	57.50	788.94	Stable to Slightly Decreasing GWL Trend	Limited local dewatering effects at Deeps Shaft
2	N14	D82C	BMM	2018/10/29	845.46	0.450	Gneiss Aquifer/ Waste Rock (15m)	Static Water Level	55.75	790.16	Stable GWL Trend	Limited local dewatering effects at Deeps Shaft
3	AD24	D82C	BMM	2018/10/24	818.00	0.510	Upper Quaternary Aquifer	Static Water Level	4.94	813.55	Stable to Slightly Decreasing GWL Trend	Shallow GWL due to artificial recharge from reed beds
4	M3	D82C	BMM	2018/10/24	811.90	0.340	Gneiss Aquifer	Static Water Level	4.73	807.51	Stable GWL Trend	Shallow GWL due to artificial recharge from reed beds
5	M8	D82C	BMM	2018/10/24	822.72	0.160	Gneiss Aquifer	Static Water Level	6.94	815.94	Stable GWL Trend	Shallow GWL
6	N6	D82C		2018/10/24	818.33	0.720	Upper Quaternary Aquifer	Static Water Level	4.84	814.21	Stable to Slightly Decreasing GWL Trend	Shallow GWL due to artificial recharge from increased recharge at rock waste stockpile
7	M4	D82C	BMM	2018/10/24	800.77	0.060	Gneiss Aquifer	Static Water Level	9.72	791.11	Stable GWL Trend	Shallow GWL due to artificial recharge from evaporation dam
8	M5	D82C	BMM	2018/10/24	802.80	0.060	Gneiss Aquifer	Static Water Level	9.34	793.52	Stable to Slightly Decreasing GWL Trend	Shallow GWL due to artificial recharge from evaporation dam
9	M9	D82C	BMM	2018/10/24	818.60	0.170	Gneiss Aquifer	Static Water Level	48.54	770.23	Stable to Slightly Decreasing GWL Trend	Unaffected GWL borehole situated in gneiss aquifer
10	N8	D82C	BMM	2018/10/24	799.53	0.190	Gneiss Aquifer	Static Water Level	13.02	786.70	Stable GWL Trend	Shallow GWL due to artificial recharge from evaporation dam
11	AD14	D82C	BMM	2018/10/25	848.68	0.780	Gneiss Aquifer	Static Water Level	17.95	831.51	Stable to Slightly Decreasing GWL Trend	Borehole seem to be unaffected by dewatering
12	AD15	D82C	BMM	2018/10/25	921.92	0.375	Gneiss Aquifer	Static Water Level	61.10	861.20	Stable to Slightly Decreasing GWL Trend	Potentially affected by dewatering. More GWL data needed to confirm
13	AD20	D82C	BMM	2018/10/25	870.30	0.480	Gneiss Aquifer	Static Water Level	Dry	~	Borehole Dewatered	Aquifer dewatered by decline
14	AD21	D82C	BMM	2018/10/25	908.20	0.200	Gneiss Aquifer	Static Water Level	50.72	857.68	Stable to Slightly Decreasing GWL Trend	Potentially affected by dewatering. More GWL data needed to confirm
15	M1	D82C	BMM	2018/10/25	884.33	0.205	Quartzite/ Schist Aquifer	Static Water Level	Dry	~	Borehole Dewatered	Aquifer dewatered by decline
16	N1	D82C	BMM	2018/10/25	n/a	0.000	Quartzite/ Schist Aquifer	Static Water Level	~	~	~	~
17	N3	D82C	BMM	2018/10/25	n/a	0.155	Quartzite/ Schist Aquifer	Static Water Level	Dry	~	Borehole Dewatered	Aquifer dewatered by decline
18	AD17	D82C	BMM	2018/10/25	887.97	0.175	Quartzite/ Schist Aquifer	Static Water Level	Dry	~	Borehole Dewatered	Aquifer dewatered by decline
19	AD19	D82C	BMM	2018/10/25	865.13	0.300	Gneiss Aquifer	Static Water Level	46.16	819.27	Decreasing GWL Trend	Potentially affected by dewatering. More GWL data needed to confirm
20	AD22	D82C	BMM	2018/10/25	831.67	0.430	Gneiss Aquifer	Static Water Level	Dry	~	~	Borehole dry. Affected by dewatering

	BMM Site (Deeps Shaft Operations)
	BMM Mine Site (Old Shaft Area)
	BMM Mine Site (Plaatjies Vlei Area)
	BMM Mine Site (Swartberg Operations)

Source: GHT Consulting, 2019

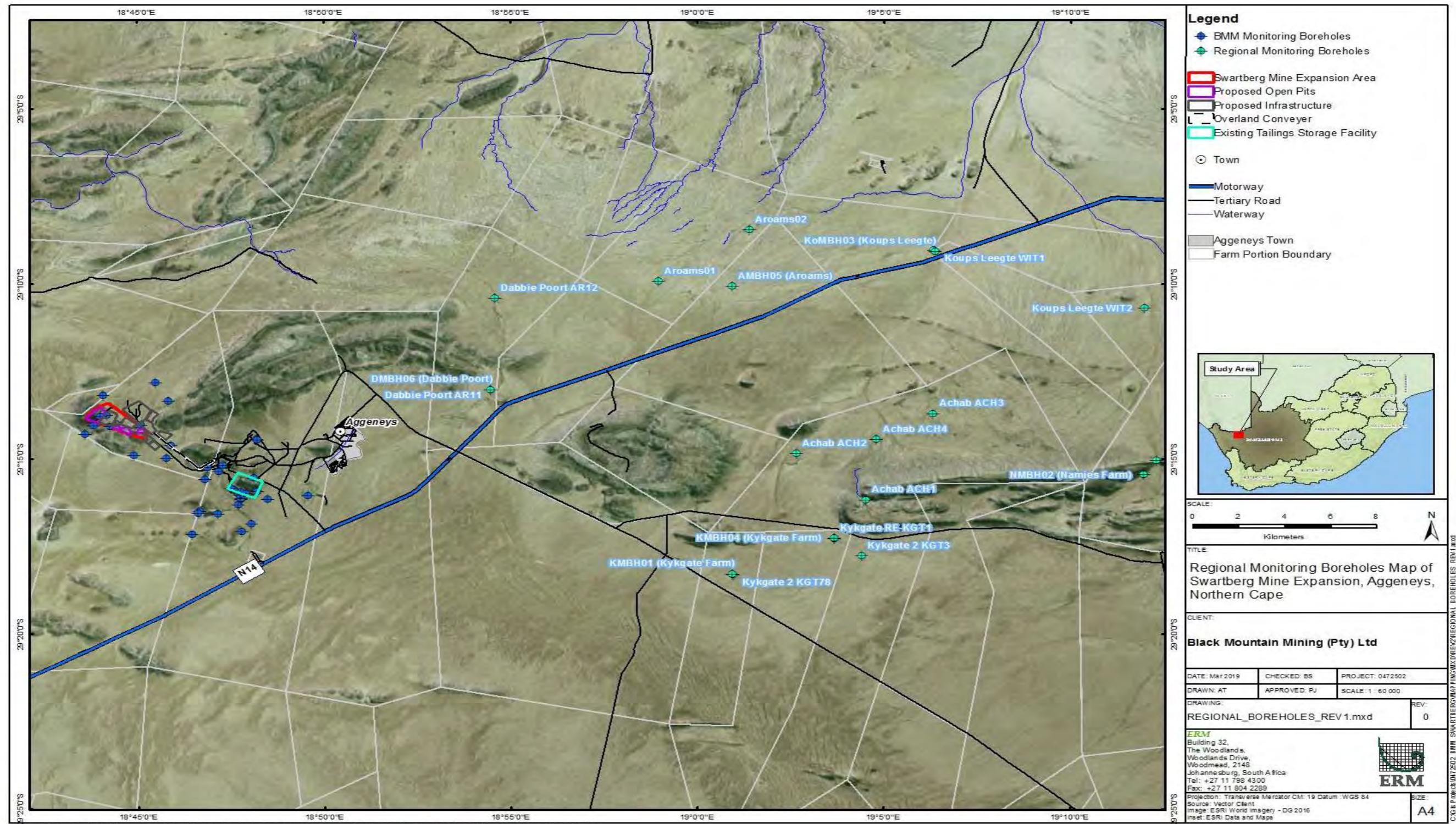
Table 4.5 Part B: Groundwater Level and Elevation Results for Black Mountain Mining (GWL for February 2018)

Borehole Name	Quaternary catchment	Sub-	Owner	Date	Elevation (mamsl)	Datum Level (m)	Aquifer Monitored	Water Level Type	Static Level(mbgl)	Water Static Elevation (mamsl)	Ground Water Level Tread	Comments
21	AD10	AD10	BMM	2018/10/24	815.21	0.170	Upper Quaternary Aquifer	Static Water Level	1.45	813.93	Stable GWL Trend	Shallow GWL due to artificial recharge from TSF
22	AD8	AD8	BMM	2018/10/24	795.93	8.180	Gneiss Aquifer	Static Water Level	Dry	~	~	~
23	AD9	AD9	BMM	2018/10/25	797.43	0.380	Gneiss Aquifer	Static Water Level	35.99	761.82	Slightly Increasing GWL Trend	Shallow GWL due to artificial recharge from TSF
24	BH2	BH2	BMM	2018/10/25	801.02	0.220	Upper Quaternary Aquifer	Static Water Level	7.01	794.23	Stable GWL Trend	Shallow GWL due to artificial recharge from TSF
25	BH4	BH4	BMM	2018/10/26	802.47	0.120	Upper Quaternary Aquifer	Static Water Level	5.98	796.61	Stable to slightly decreasing GWL Trend	Shallow GWL due to artificial recharge from TSF
26	BH5	BH5	BMM	2018/10/26	802.92	0.390	Upper Quaternary Aquifer	Static Water Level	6.15	797.16	Stable to slightly decreasing GWL Trend	Shallow GWL due to artificial recharge from TSF
27	M6	M6	BMM	2018/10/27	803.41	0.090	Upper Quaternary Aquifer	Static Water Level	3.89	799.61	Stable to slightly decreasing GWL Trend	Shallow GWL due to artificial recharge from TSF
28	M7	M7	BMM	2018/10/27	809.27	0.310	Upper Quaternary Aquifer	Static Water Level	7.45	808.13	Stable GWL Trend	Shallow GWL due to artificial recharge from TSF
29	N10	N10	BMM	2018/10/28	807.94	0.060	Upper Quaternary Aquifer	Static Water Level	14.05	793.95	Stable GWL Trend	Shallow GWL due to artificial recharge from TSF
30	M18	M18	BMM	2018/10/28	804.65	0.755	Upper Quaternary Aquifer	Static Water Level	1.79	808.61	Stable GWL Trend	Shallow GWL due to artificial recharge from TSF
31	M19	M19	BMM	2018/10/29	804.18	1.091	Upper Quaternary Aquifer	Static Water Level	4.11	801.16	Stable GWL Trend	Shallow GWL due to artificial recharge from TSF
32	M20	M20	BMM	2018/10/29	805.08	0.770	Upper Quaternary Aquifer	Static Water Level	4.79	801.06	Stable GWL Trend	Shallow GWL due to artificial recharge from TSF
33	M21	M21	BMM	2018/10/30	805.34	0.700	Upper Quaternary Aquifer	Static Water Level	5.49	800.55	Stable GWL Trend	Shallow GWL due to artificial recharge from TSF
34	N12	N12	BMM	2018/10/29	813.05	0.185	Gneiss Aquifer	Static Water Level	39.68	773.56	Stable GWL Trend	Groundwater level may be influenced by artificial recharge from golf course irrigation or sewage ponds
35	AD23	AD23	BMM	2018/10/27	844.35	0.430	Gneiss Aquifer	Static Water Level	75.63	769.15	Stable GWL Trend	GWL may be influenced in downward trends when new decline is constructed
36	N4	N4	BMM	2018/10/27	831.70	0.100	Gneiss Aquifer	Static Water Level	43.05	788.75	Stable GWL Trend	GWL may be influenced in downward trends when new decline is constructed

- BMM Mine Site (Tailing Dam Facility, TSF)
- Aggeneys Tom Sewage Ponds
- BMM Mine Site (General Waste Site)

Source: GHT Consulting, 2019

Figure 4.16 Groundwater Monitoring Boreholes



Source: GHT Consulting, 2019

Groundwater Quality

In general the regional groundwater quality results indicate that the groundwater is suitable for livestock water (sheep in general) but not suitable for domestic use, which pertain especially to drinking uses if untreated (GHT Consulting, 2019).

The quality of water from BMM monitoring boreholes was tested against the Human Drinking Standards (South African National Standards, SANS241-2015 and SANS241-2006). It was found that the groundwater of BMM is not suitable for domestic purposes and livestock watering due to the high chemical content found in it.

The groundwater of the monitoring boreholes of BMM are classified as “ARS” (inorganic water quality). What this means is that the water is unsuitable for consumption according to SANS241-1:2015. The water quality was tested for the following constituents contributing to its inorganic water quality status: Electrical Conductivity (EC), Total Dissolved Solids (TDS), Sodium (Na), Calcium (Ca), Magnesium (Mg), Potassium (K), Chloride (Cl), Sulphate (SO₄), Fluoride (F), Nitrate (NH₃-N, lesser extent), Zinc (Zn, lesser extent), Lead (Pb, lesser extent) and Manganese (Mn, lesser extent). The Total Petroleum Hydrocarbon (Total TPH) below detection limit, <382.0 µg/L (GHT Consulting, 2019).

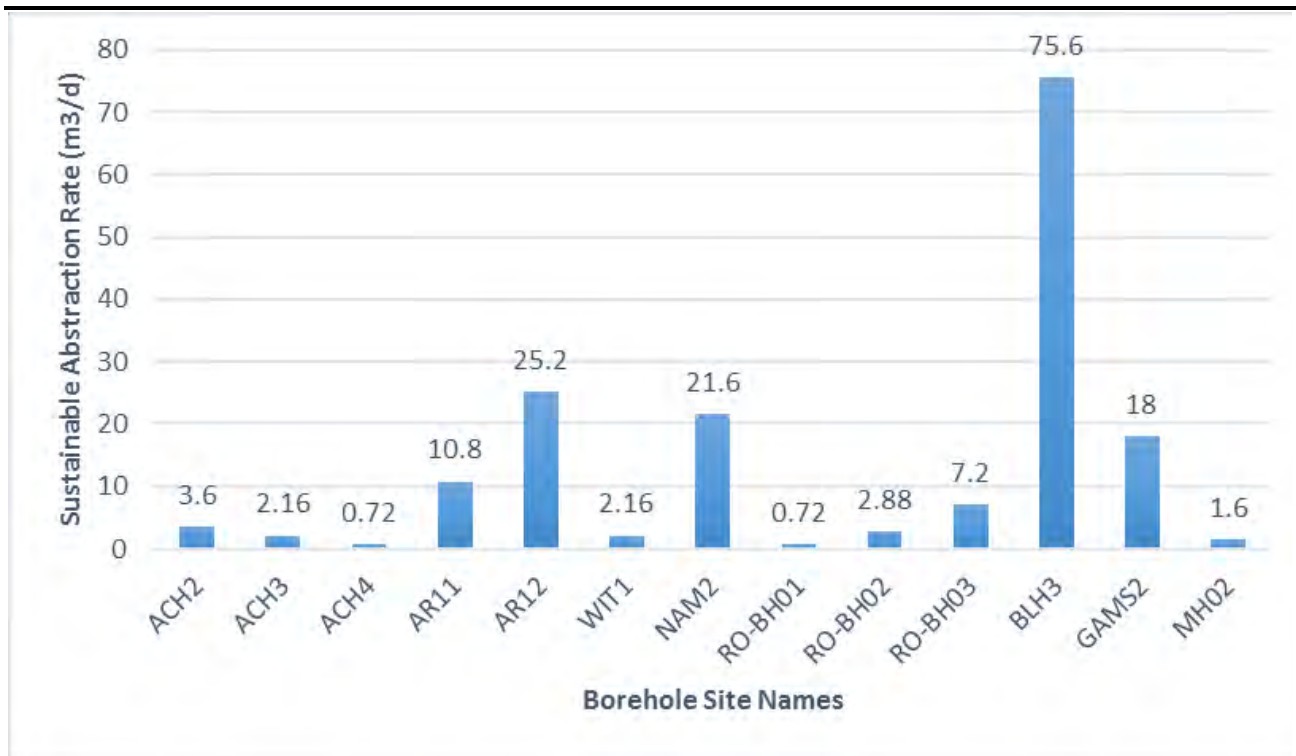
In terms of agricultural use, monitoring results of the boreholes classified the groundwater as unsuitable for livestock watering. In other words, the water could not be used to water the agricultural fields that livestock use for feeding (according to South African Water Quality Guidelines, Volume 5 - Agricultural Use: Livestock Watering) due to elevated concentrations of Total Dissolved Solids (TDS), Sulphate (SO₄) and to a minor extent due to calcium (Ca), chloride (Cl) and Nitrate (NO₃-N).

Current Groundwater Use

Groundwater serves as a key water source, especially for livestock farmers in the Project area. Groundwater resources in the Namakwa District are more abundant than surface water features. Based on estimated projections, a total of ±75 000 m³/a of groundwater is abstracted on the western side of Swartberg Mine, primarily for livestock watering and to a lesser extent domestic use at the farm houses of the farmers and farm workers¹. The boreholes present in the region have sustainable yield in the order of between 0.02 and 0.70 L/s (Figure 4.17), which are likely to experience seasonal variations based on rainfall patterns. Higher yielding boreholes are scarce, but they do exist for instance monitoring borehole BLH3 on the Gamsberg Mine Lease that has an aquifer tested sustainable yield of 2.10 L/s (GHT Consulting, 2019).

¹ This was calculated based on the hydro-census analysis undertaken in 2010 by SRK Consulting for the various boreholes, wells and springs as well as aquifer test pumping performed on the production farm boreholes in 2017 / 2018.

Figure 4.17 Recommended sustainable abstraction rates of the aquifer tested farm boreholes.



Source: GHT Consulting, 2019

4.2.7 Flora

Regional Vegetation Overview

The Project area is situated in the Nama-Karoo biome. The vegetation types covering the Project area are Bushmanland Inselberg Shrubland (SKr18) and Bushmanland Sandy Grassland (Nkb4). In the wider area around the Project area, Bushmanland Arid Grassland (Nkb 3), and Aggeneys Gravel Vygieveld (SKr19) can be found (Mucina and Rutherford 2006). According to Mucina and Rutherford (2006), these vegetation types can be shortly described as follows:

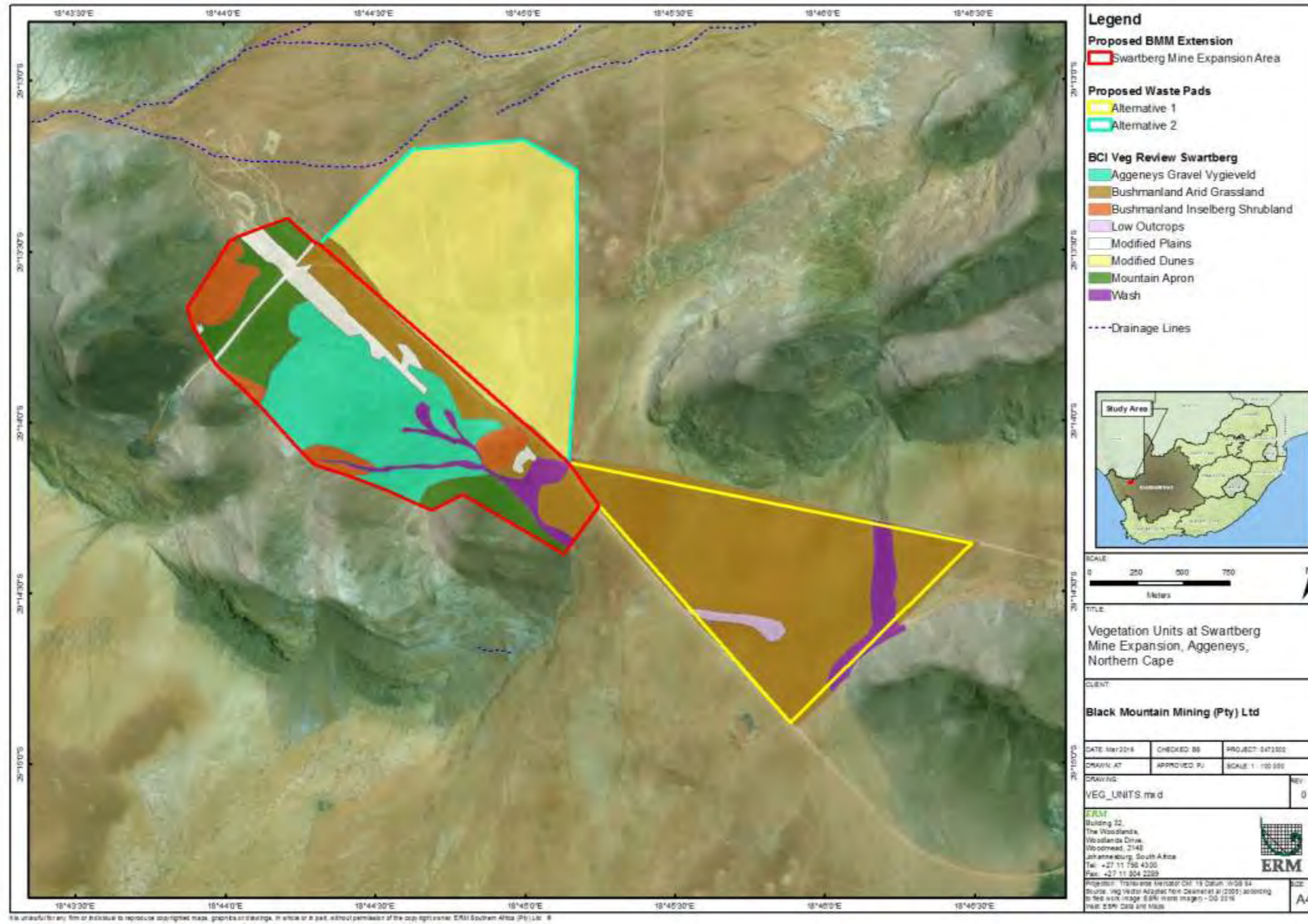
- **Bushmanland Inselberg Shrubland** has both succulent (*Aizoaceae*, *Asphodelaceae*, *Crassulaceae*, *Euphorbiaceae*, *Zygophyllaceae*) as well as non-succulent (mainly *Asteraceae*) elements, with sparse grassy undergrowth (*Aristida*, *Eragrostis*, *Stipagrostis*) and is found on mostly steep slopes and upper ridges of the inselbergs. Common species include *Boscia foetida*, *Ruschia divaricata*, *Euphorbia gariepina*, *Kleinia longiflora*, *Othonna euphorbioides*, *Psilocalon subnodosum*, *Tetragonia reduplicata* and *Tylecodon rubrovenosus*.
- **Bushmanland Sandy Grassland** is found on sandy grassland plains with white grasses (*Stipagrostis*, *Schmidtia*) dominating and abundant drought-resistant shrubs. After rainy periods rich displays of ephemeral spring flora (*Grielum humifusum*, *Gazania lichtensteinii*) can occur. Other common species include *Rhigozum trichotomum*, *Sisyndite spartea* and *Eriocephalus* species.
- **Bushmanland Arid Grassland** constitutes sparsely vegetated extensive to irregular plains, consisting of grassland dominated by white grasses (*Stipagrostis* species). In places low shrubs of *Salsola* or *Zygophyllum* change the vegetation structure. In years of abundant rainfall rich displays of annual herbs can be expected.

- Aggeneys Gravel Vygieveld is found on flat or slightly sloping plains (appearing as distinctly white surface quartz layers against the background of red sand or reddish soil) and supporting sparse, low-growing vegetation dominated by small to dwarf leaf-succulents of the families *Aizoaceae*, *Crassulaceae*, *Euphorbiaceae*, *Portulacaceae* and *Zygophyllaceae*, with some perennial component. *Eragrostis nindensis* and *Stipagrostis ciliata* are the dominant perennial grasses. Common succulents include *Avonia* species, *Ruschia divaricata*, *Euphorbia gregaria*, *Hypertelis salsoloides*, *Kleinia longiflora* and *Psilocaulon subnodosum*.

Delineations of the vegetation types of South Africa are approximate, based on large-scale extrapolation of little-available field data, hence elements of all above vegetation types is possible within the Project area. Vegetation naturally occurs in gradually transitioning mosaics, hence the above delineation (as seen in *Figure 4.18*) should be taken as approximate only. A more detailed delineation of the broader Project area and surroundings was done by Desmet et al. (2005) as part of the Bushmanland Inselberg Region, where above vegetation types were further subdivided according to more specific habitat features. As indicated by Desmet et al. (2005), their delineation was based on a large amount of fieldwork conducted, but for the Land Portion Zuurwater (where the Project area falls within Zuurwater 62 Portion 4) no specific ground-survey information was available at the time, hence their delineation of plant associations and habitat types is based on extrapolation of data to the wider area with the help of available remotely sensed data.

Vegetation units were mapped only as far as the anticipated physical footprint of the mine was indicated (i.e. extent of open-pit and waste rock dump). At the time of the survey, remnants of short-lived annual forbs were still visible, and several short-lived succulents were also still present after some rainfall in the preceding months. However, it can be anticipated that after sufficient rainfall, more than the current total of 165 indigenous species can be expected to occur within the Project area.

Figure 4.18 The Approximate Delineation of Plant Associations Observed



Source: Strobach, 2019

A large portion of the proposed open pit area is covered by undulating and dissected plains coming off the Swartberg Mountain scree slopes, and merging into the surrounding sandy plains. The plains are covered with a mosaic of patches - some covered densely with smaller, whitish quartz pebbles, others covered with larger rock fragments (mostly quartzite and magnetite) and occasional low rocky ridges. Surface soil is limited, but rather accumulated in patches between rock fragments (*Figure 4.19*).

Overall the vegetation structure is dominated by a succulent shrub component, interspersed with Quiver trees and smaller areas appearing more 'open', where low succulent shrubs and few isolated dwarf succulents can be found. The Aggeneys Gravel Vygieveld in the Project area is dissected with various small and larger ephemeral drainages, some coming off the mountain, many too small to map, which converge into a larger ephemeral wash to the south-east of the Project area.

These plains have in the past been disturbed by past exploration and the construction of water- and electrical infrastructure. These disturbances have had a limited negative impact on the overall diversity or ecological functioning of the area, especially the many tracks and compacted open areas. Being on the northern (warmer) side of Swartberg, this portion of the Aggeneys Vygieveld does not have as high a diversity – especially in dwarf succulents - as expected, and thus should be seen as more of a transition zone rather than high-conservation-value Aggeneys Gravel Vygieveld. However, what would make this area of high conservation importance is that within the Project area, this habitat is host to the highest density of Quiver trees (*Aloidendron dichotomum*), ranging from relatively young to rather old trees. There is an ongoing steady decline of Quiver trees as a result of climatic change (Foden *et al.* 2007).

Figure 4.19 Typical views of Aggeneys Gravel Vygieveld in the Project Area

Bushmanland Inselberg Shrublands

Desmet et al. (2005) describe the Bushmanland Inselberg Shrubland sub-vegetation type as including all vegetation communities on all inselbergs. They do acknowledge that it is a diverse and heterogeneous unit with numerous distinct vegetation communities that relate to the specific habitats – slope, aspect and geology - associated with inselbergs. They are further divided into north-slopes, south-slopes and other micro-habitats, which allow the persistence of unique flora. The cooler southern slopes are known to have the most diverse floristic composition, although these slopes fall outside the area investigated. Rather, the Project area is situated on the harsher north-eastern side of the Swartberg Mine. The geology of the different types of Koppies studied does show differences in geological make-up and species composition, and it was decided to divide these inselbergs into three types according to the dominant species composition, which was strongly influenced by the position of

these habitats within the broader landscape. Table 4.6 details the most prominent species which were recorded within the vicinity of the Project area.

Table 4.6 The Most Prominent Species Recorded on the Landscape Surrounding the Project Area

Growth Form	Species
Aggeneys Gravel Vygieveld	
Woody shrubs and trees	<i>Rhigozum trichotomum</i>
Dwarf shrubs	<i>Eriocephalus ambiguus</i> , <i>Galenia crystalline</i>
Grasses	<i>Enneapogon desvauxii</i>
Forbs	<i>Aptosimum spinescens</i> , <i>Heliophila cf. lactea</i> , <i>Hypertelis salsoloides</i>
Succulents	<i>Ruschia cf. robusta</i> , <i>Zygophyllum dregeanum</i> , <i>Euphorbia gregaria</i> , <i>Tetragonia reduplicata</i> , <i>Aloidendron dichotomum</i> (<i>Aloe dichotoma</i> – Quiver tree), <i>Ruschia muricata</i> , <i>Zygophyllum dregeanum</i> <u>Unique Dwarf Succulents:</u> <i>Anacampseros filamentosa</i> , <i>Avonia albissima</i> , <i>Avonia papyracea</i> subsp. <i>papyracea</i> , <i>Dinteranthus puberulus</i>
Observed species diversity	72 of which: 71 Indigenous species, including: 1 Red-Data species 5 endemic species 24 protected species 1 Exotic and/or alien invasive species
Bushmanland Inselberg Shrublands	
Woody shrubs and trees	<i>Boscia foetida</i> subsp. <i>foetida</i> , <i>Commiphora gracilifrondosa</i> , <i>Diospyros ramulosa</i> , <i>Montinia caryophyllacea</i> , <i>Ozoroa dispar</i> , <i>Searsia burchellii</i>
Dwarf shrubs	<i>Eriocephalus pauperrimus</i> , <i>Berkheya canescens</i> , <i>Pteronia mucronata</i>
Grasses	<i>Enneapogon desvauxii</i> , <i>Panicum arbusculum</i> , <i>Stipagrostis anomala</i>
Forbs	<i>Forsskaolea candida</i>
Succulents	<i>Portulacaria namaquensis</i> , <i>Ruschia divaricata</i> , <i>Euphorbia</i> species <u>Unique Dwarf Succulents:</u> <i>Adromischus alstonii</i> , <i>Anacampseros filamentosa</i> , <i>Avonia recurvata</i> subsp. <i>minuta</i> , <i>Conophytum fulleri</i> , <i>Stapelia similis</i> , <i>Larryleachia cactiformis</i> , <i>Tylecodon rubrovenosus</i>
Observed species diversity	102 of which: 102 Indigenous species, including: 3 Red-Data species 4 endemic species (2 narrow-endemics – restricted to these environments) 29 protected species
Mountain Aprons	
Woody shrubs and trees	<i>Boscia foetida</i> subsp. <i>foetida</i> , <i>Commiphora gracilifrondosa</i> , <i>Rhigozum trichotomum</i>
Dwarf shrubs	<i>Galenia crystallina</i> , <i>Tripteris sinuata</i> , <i>Dyerophytum africanum</i> , <i>Eriocephalus microphyllus</i> , <i>Pteronia mucronata</i>
Grasses	<i>Stipagrostis ciliata</i> , <i>Danthoniopsis ramosa</i> , <i>Eragrostis nindensis</i> , <i>Panicum arbusculum</i> , <i>Stipagrostis anomala</i>
Forbs	<i>Aptosimum spinescens</i> , <i>Heliophila cf. deserticola</i>
Succulents	<i>Cynanchum pearsonianum</i> , <i>Ruschia cf. robusta</i> , <i>Zygophyllum dregeanum</i> , <i>Euphorbia gregaria</i> , <i>Ruschia divaricate</i>
Observed species diversity	70 species of which: 70 Indigenous species, including: 2 Red-Data species 3 endemic species

Growth Form	Species
	16 protected species
Low Outcrops	
Woody shrubs and trees	<i>Rhigozum trichotomum</i> , <i>Boscia foetida</i> subsp. <i>foetida</i> , <i>Lycium cinereum</i>
Dwarf shrubs	<i>Ericephalus pauperrimus</i> , <i>Hermannia spinosa</i> , <i>Hermbstaedia glauca</i> , <i>Limeum aethiopicum</i> , <i>Monechma genistifolium</i>
Grasses	<i>Enneapogon desvauxii</i> , <i>Enneapogon scaber</i> , <i>Panicum arbusculum</i>
Forbs	<i>Forsskaolea candida</i> , <i>Heliophila</i> cf. <i>deserticola</i> , <i>Didelta carnos</i> var. <i>carnos</i>
Succulents	<i>Kleinia longiflora</i> , <i>Mesembryanthemum arenosum</i> , <i>Portulacaria fruticulosa</i> , <i>Ruschia</i> cf. <i>robusta</i> , <i>Ruschia divaricate</i>
Observed species diversity	46 of which: 46 Indigenous species, including: 0 Red-Data species 8 protected species (but geophytes may be present after rains)
Washes	
Woody shrubs and trees	<i>Rhigozum trichotomum</i> , <i>Boscia albitrunca</i> , <i>Pappea capensis</i> , <i>Ehretia alba</i>
Dwarf shrubs	<i>Dyerophytum africanum</i> , <i>Indigofera heterotricha</i> , <i>Monechma incanum</i> , <i>Salsola</i> species
Grasses	<i>Stipagrostis ciliata</i> , <i>Stipagrostis hochstetteriana</i> , <i>Stipagrostis namaquensis</i> , <i>Stipagrostis obtuse</i>
Forbs	<i>Acanthopsis hoffmannseggiana</i> , <i>Aptosimum spinescens</i> , <i>Blepharis furcata</i> , <i>Chascanum garipensis</i> , <i>Dicoma capensis</i> , <i>Didelta carnos</i> var. <i>carnos</i>
Succulents	<i>Mesembryanthemum subnodosum</i> , <i>Mesembryanthemum coriarium</i> , <i>Mesembryanthemum guerichianum</i> , <i>Zygophyllum chrysopteron</i> , <i>Tetragonia reduplicata</i>
Observed species diversity	79 of which: 79 Indigenous species, including: 2 Red-Data species 2 endemic species 13 protected species (including several ruderal species)

Bushmanland Arid grassland on Sandy Gravel Plains

At the eastern periphery of the proposed open-pit mining area, as well as the plains south east of Swartberg (Waste Rock Dump Alternative 1) are covered with a mixture of fine gravel and sand mixed with this finer gravel. Small patches of quartz- and calcrete pebbles occur south of the small outcrop, but these do not host a significantly unique dwarf succulent flora, nor could they be described as Aggeney's Gravel Vygieveld. Overall the soil layer appears to be eroding after significant rainfall events, with very shallow gullies visible all over, but only few more distinct washes present. The vegetation is largely dominated by shrub-like grasses and succulent shrubs, of which many are short-lived and may appear or disappear for several years depending on prevailing rainfalls. Occasionally larger trees and woody shrubs such as *Rhigozum trichotomum* (Driedoring) and *Parkinsonia africana* (Green-hair-thorn) can be found. Table 4.6 details the most prominent species which were recorded within the vicinity of the Project area.

Figure 4.20 Typical View of Bushmanland Arid Grassland in the Project Area

Modified Dunes

The area immediately east/north-east of the proposed opencast mining area would appear to have been part of the Bushmanland Sandy Grassland, where – as defined by Mucina and Rutherford – red soils would be > 300 mm deep. From communication with mine staff it would appear that the area was originally covered with low dunes, but has been used over many years to mine sand for various purposes. Currently the area can only be described as modified dunes, as there are still numerous tracks across the area, and the topography has been clearly modified from extensive groundworks. Despite the significant past disturbances, vegetation typical of the Bushmanland Sandy Grassland has re-established – most notably a moderate layer of hard, shrub-like grasses. Occasionally tall woody shrubs are still present, whilst a low presence of the alien invasive plants has been – mostly coming from some of these species being part of the gardens of the original Aggeneys Mining Camp just north-east of Swartberg (abandoned and demolished after flooding because of an extreme rainfall event). *Table 4.6* details the most prominent species which were recorded within the vicinity of the Project area.

Figure 4.21 Typical View of Modified Dunes in the Project Area



Washes

The washes in the Project area are relatively varied in nature, all ephemeral (i.e. flowing only for a short time after sufficient precipitation) draining in a south-westerly direction off the northern slopes of Swartberg as well as the mountain east of Swartberg. Although many smaller drainage systems exist off the slopes, only the larger washes with either or all of the following characteristics were mapped, based on the following characteristics:

- Distinct apron of denser, higher and woody vegetation able to persist from higher sub-surface water availability;
- Distinct bed consisting of coarse sand – even if it is interspersed with boulders – the latter showing clear signs of fluvial erosion; and
- Distinct incision from the surrounding landscapes.

The species assemblage showed that some species are unique to this ecosystem, or at least only able to persist under the more favourable conditions of the washes in the otherwise very arid surroundings. *Table 4.6* details the most prominent species which were recorded within the vicinity of the Project area.

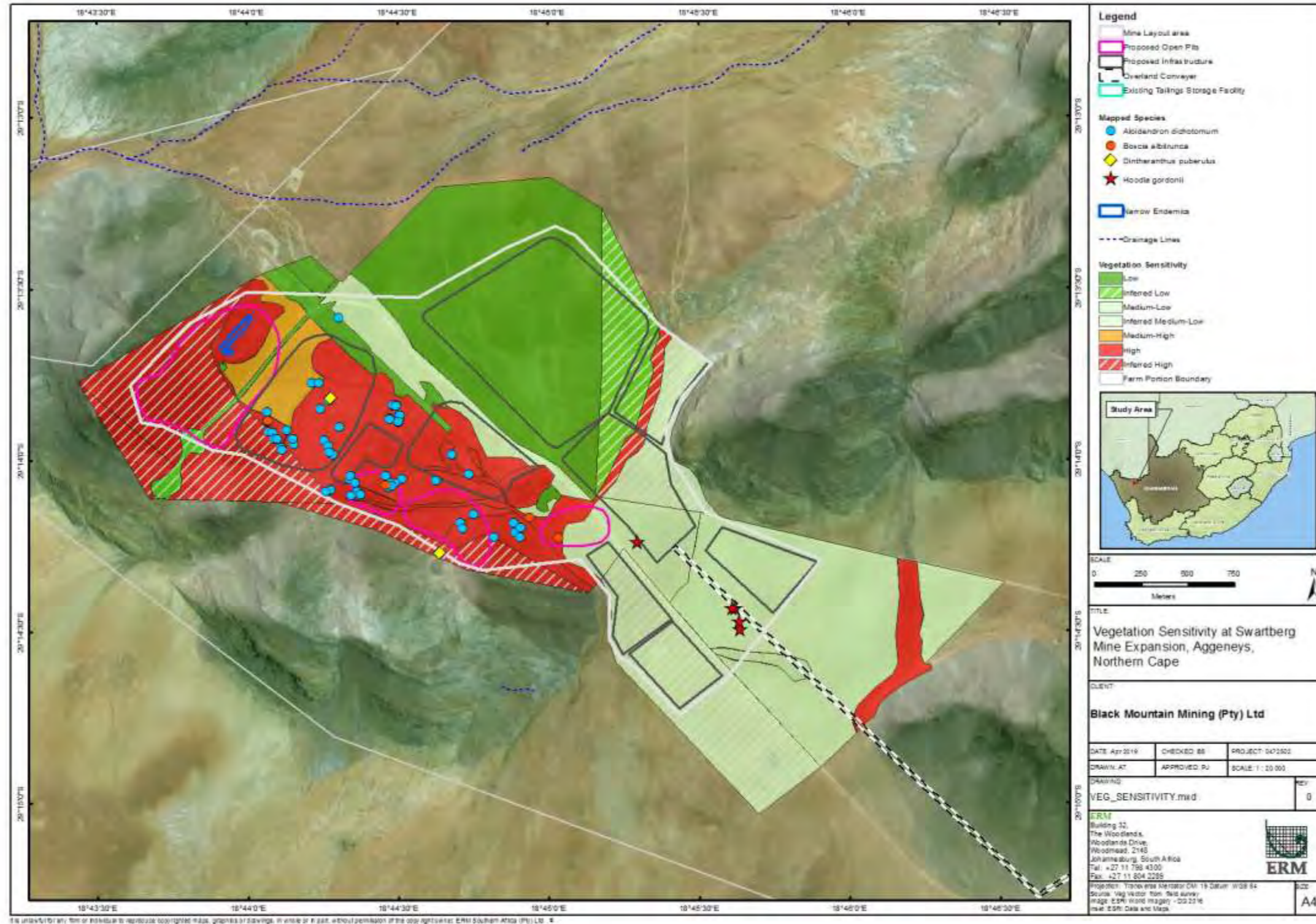
Modified Plains

Areas with extensive past or relatively recent groundworks, including disturbed areas adjacent to large gravel roads, have been observed on the transition areas between the Aggeneys Gravel Vygiveld, the Mountain Apron and the Bushmanland Arid Grassland. Although some vegetation has re-established here, including a small Quiver Tree, the soils remain compacted and vegetation, where present, is dominated by ruderal and common species. It would appear that without more specific rehabilitation works, the natural regeneration of vegetation as it may have originally been will remain limited. Apart from the one quiver tree there, this vegetation type has not been described in further detail, and overall vegetation sensitivity in its current state is regarded as low (Strohbach, 2018). *Table 4.6* details the most prominent species which were recorded within the vicinity of the Project area.

Species of Conservation Concern

The map (Figure 4.22) below illustrates the Project area and alternative sites with an overlay of vegetation sensitivity found in the area as well as some species of conservation concern.

Figure 4.22 Vegetation Sensitivity Map and localities of Some Species of Conservation Concern



Source: Strohbach, 2018

Alien Invasive Plant Species

In general, the occurrence of alien and invasive species within the Project area is very low. However, past and current land-use and related disturbances have made the open areas within the entire Project area prone to invasion by undesirable alien plant species. The latter often happens unintentionally through wind- or bird-distributed seed, or seeds distributed by the movement of soils and materials contaminated with seeds of such plants, or movement of machinery. In addition, species such as Mesquite had been planted as part of the initial Aggeneys settlement, from where seed may gradually spread (Strohbach, 2018).

Table 4.7 Alien Invasive Species observed within the Project Area

Category 1b	Category 3	CARA Indicators of Bush Encroachment
<i>Salsola kali</i>	<i>Prosopis glandulosa</i>	<i>Rhigozum trichotomum</i>
<i>Argemone ochroleuca</i> *		
<i>Datura stramonium</i> *		
<i>Pennisetum setaceum</i> *		

* Species occurring in the area (road verges) with a high risk to become established

Source: Strohbach, 2018

4.2.8 Fauna

Mammals

The mammalian community at the Project site is likely to be of moderate diversity. Although more than 50 species of terrestrial mammals are known from the wider area, the extent and habitat diversity of the Project site is relatively low and would not support a very wide range of mammals. Species that can be confirmed present in the area based on previous site visits to the area include Caracal, Black-backed Jackal, African Wildcat, Cape Fox, Chacma Baboon, Rock Hyrax, South African Ground Squirrel, Steenbok, Duiker, Springbok, Gemsbok, Cape Porcupine, Yellow Mongoose, Cape Grey Mongoose, Small-spotted Genet, Striped Polecat, Cape Hare, Red Rock Rabbit, Springhare, Aardvark, Aardwolf, Round-eared Elephant Shrew, Western Rock Elephant Shrew, Namaqua Rock Mouse, Pygmy Rock Mouse and Hairy-footed Gerbil.

Species associated with the rocky outcrops of the area include Rock Hyrax, Klipspringer, Pygmy Rock Mouse, Namaqua Rock Mouse and Western Rock Elephant Shrew. The open plains which characterise the majority of the Project area are likely to be dominated by species associated with open hard or sandy ground such as various gerbils including the Hairy-footed Gerbil, Cape Hare, Steenbok, Cape Fox, Bat-eared Fox, Aardvark and Aardwolf. There are also burrows of Ground Squirrels and Yellow Mongoose at the site and these appear to be the most common fauna within the Project area.

The only small mammal captured at the site was the Hairy-footed Gerbil, *Gerbillus paebe* (Figure 4.23). This species is widespread across the arid and semi-arid parts of the country and is restricted to the sandy pediments of the Project site.

Figure 4.23 Hairy-footed Gerbil (*Gerbillurus paeba*) captured on the Project Site



Source: Strohbach, 2018

Two listed species may occur in the Project area, the Black-footed cat *Felis nigripes* (Vulnerable) and Leopard *Panthera pardus* (Vulnerable). Given the existing levels of anthropogenic disturbance in the Project area, it is not likely that the Leopard is very active in the Project area. The Project site is however broadly suitable for the Black-footed Cat which favours a mix of open and more densely vegetated areas. This species is however widely distributed across the arid and semi-arid areas of South Africa

Reptiles

Although reptile diversity in the Project area is high with as many as 60 species known. However, a much smaller subset of these are likely to be present within the Project site. Species observed at the site are typical of the area and include Verrox's Tent Tortoise, Western Rock Skink, Western Three-striped Skink, Namaqua Sand Lizard, Spotted Desert Lizard, Southern Rock Agama and Plain Sand Lizard. Conditions at the time of the site visit were not ideal for reptiles, given the prolonged drought that the area has been experiencing and the likely depressing effect this is likely to have had on local reptile populations. However, the rocky hills and gravel plains were observed to have a higher density and diversity of reptiles present, as compared to the sandy plains. There are only two listed species recorded in the Project area, Good's Gecko (VU) and the Speckled Padloper (VU).

Reptiles observed at the Project site include Verrox's Tent Tortoise, Western Three-striped Skink, Western Rock Skink and Variegated Skink (*Figure 4.24*)

Figure 4.24 Reptiles observed on the Project Site

From top left, Verroxx's Tent Tortoise, Western Three-striped Skink, Western Rock Skink and Variegated Skink.

Amphibians

Only eight frog species are known in the Project area and this is likely to be an overestimate of the number of amphibian species likely to be present within the Project site as there is no natural perennial water in or near the site. The only species likely to be present within the site would be species that are relatively independent of water such as the Karoo Toad and possibly the Paradise Toad. The ephemeral drainage lines are likely to be the most important areas for amphibians, but given the extreme drought conditions which characterise the area, there are not likely to be any parts of the site that are of high importance for amphibians.

Avifauna

A total of 56 bird species have been recorded in the broader Project area, based on limited Southern African Bird Atlas Project (SABAP) 2 surveys (2 pentads, 3 cards). An additional 14 species may occur in the area based on the proximity of their distributions to the broader proposed mining area based on SABAP 2 and older SABAP 1 data (Harrison *et al.*, 2007). Hence, an approximate total of 70 species may occur, of which one species is considered endemic to South Africa, ten species are near-endemic, while five species are listed as nationally threatened.

The bird assemblage recorded within the Project site is fairly typical of the Succulent and Nama-Karoo Biomes. During the field survey a total of 41 bird species were recorded. 20 species were recorded at the sandy plains, and 22 species at the quartz foothills. Slightly more species were recorded along transects at the quartz foothills than the sandy plains. Both the number of detections and total number of individuals recorded along transects were higher at the quartz foothills (Table 1 and 2). However, there was also greater variation in the number of individuals recorded along transects at this site, which

was primarily due to the large numbers of Lark-like Bunting *Emberiza impetuani* and Namaqua Sandgrouse *Pterocles namaqua* attracted to artificial water sources (mostly leaking water pipes).

The quartz foothills supported a number of species typical of course gravel environments, such as Karoo Long-billed Lark *Certhilauda subcoronata*, Sabota Lark *Calendulauda sabota*, and Cape Bunting *Emberiza capensis* (Table 4.9). In addition to the birds recorded during transect surveys, other species of importance that were noted include Cinnamon-breasted Warbler *Euryptila subcinnamomea* (restricted mostly to rocky ridges) and Verreaux's Eagle *Aquila verreauxii*. Species which were only recorded at the sandy plains in fair numbers include Ant-eating Chat *Myrmecocichla formicivora* and Chat Flycatcher *Bradornis infuscatus*.

Summary of transect results for sandy plains and quartz foothills on the Project site during the field survey are described in Table 4.8.

Table 4.8 Summary of Transect results for Sandy Plains and Quartz Foothills

Transect	Sandy plains			Quartz foothills		
	No. of species	No. of detections	No. of individuals	No. of species	No. of detections	No. of individuals
1	9	15	30	14	20	66
2	8	17	42	6	13	101
3	5	8	35	8	21	104
4	7	13	46	8	14	33
5	10	14	26	14	18	28
Average	7.8	13.4	35.8	10.0	17.2	66.4
Std. deviation	1.9	3.4	8.3	3.7	3.6	36.1

Summary of species recorded along line transects at the sandy plains and quartz foothills during the field survey of the Project site with respect to the number of detections per species, the total number of birds detected per species is described in Table 4.9.

Table 4.9 Summary of species recorded along line transects

Species	Sandy plains		Quartz foothills	
	No. of detections	No. of birds	No. of detections	No. of birds
Barbet, Acacia Pied	1	2	3	3
Bokmakierie	4	6	2	2
Bunting, Cape	-	-	4	4
Bunting, Lark-like	15	48	25	144
Canary, White-throated	1	1	5	11
Chat, Ant-eating	4	8	-	-
Chat, Familiar	-	-	1	1
Chat, Karoo	1	1	-	-
Cisticola, Grey-backed	2	3	3	3
Crombec, Long-billed	1	1	1	1
Eremomela, Yellow-bellied	1	1	-	-
Finch, Scaly-feathered	2	16	1	2
Fiscal, Southern	2	3	2	2
Flycatcher, Chat	2	3	-	-
Lark, Grey-backed Sparrow-	7	40	3	5
Lark, Karoo Long-billed	-	-	5	7
Lark, Sabota	-	-	4	4
Prinia, Black-chested	-	-	1	1
Robin, Karoo Scrub	-	-	1	1
Sandgrouse, Namaqua	1	2	8	65
Sparrow, Cape	1	2	-	-
Starling, Pale-winged	10	27	1	2
Sunbird, Dusky	1	1	1	1
Tit, Grey	1	1	1	2
Tit-Babbler, Layard's	-	-	1	1
Warbler, Rufous-eared	1	2	-	-
Weaver, Sociable	-	-	8	62
Wheatear, Mountain	9	11	5	8
Totals	67.0	179.0	86	332.0

A number of endemic (1) and near-endemic species (10) are known to occur in the broader Project area, and may occur at the Project site. The following species are known from the region, the endemic Red Lark *Calendulauda burra* (also red-listed as Vulnerable), the near-endemic Sclater's Lark *Spizocorys sclateri* (listed as Near-threatened), Black-headed Canary *Serinus alario*, Black-eared Sparrowlark *Eremopterix australis*, Karoo Thrush *Turdus smithi*, Grey Tit *Melaniparus afer*, Layard's Tit-babbler *Sylvia layardi*, Jackal Buzzard *Buteo rufofuscus*, Southern Double-collared Sunbird *Cinnyris chalybeus*, Fairy Flycatcher *Stenostira scita* and Cinnamon-breasted Warbler. Of these species, only Red Lark and Sclater's Lark are red-listed, have limited geographical distributions and specific habitat requirements (Hockey *et al.*, 2005). These species were not detected during the field survey, most likely due to the absence of locally suitable habitat. Although Red Lark favours sandy plains with good grass coverage (Hockey *et al.*, 2005), they are almost exclusively recorded in the Aggeneys area where there are red sand dunes. They are a highly conspicuous species and should have been readily detected if present at the sandy plains site. Sclater's Lark prefers sparsely vegetated stony plains and open areas of quartz gravel with extensive bare patches (Hockey *et al.*, 2005), which were absent from the Project site.

A number of red-listed species are likely to occur in the Project area, and include Martial Eagle *Polemaetus bellicosus* (Endangered), the endemic Red Lark (Vulnerable), Verreaux's Eagle (Vulnerable), Lanner Falcon *Falco biarmicus* (Vulnerable), Secretarybird *Sagittarius serpentarius* (Vulnerable), and the near-endemic Sclater's Lark (Near-threatened). Besides Red Lark and Sclater's Lark, Verreaux's Eagle and Lanner Falcon have a high probability of occurring, whereas Secretarybird has a low probability of occurrence, based on SABAP2 reporting. A pair of Verreaux's Eagle were seen in the broader Project area during the field survey, and likely breed in the area, while Lanner Falcon is occasionally detected throughout the region. These species, including Secretarybird, have large home ranges and are thus unlikely to be affected by the proposed mining and stockpiling activities.

The Project site lies within the Haramoep and Black Mountain Important Bird Area (IBA), which is one of the few sites offering protection to the globally threatened Red Lark (Marnewick *et al.*, 2015). Although much of the land within this IBA is natural, vast areas have been impacted by overgrazing and degradation, while facing new threats from renewable energy developments, mining and climate change. Although this biome contains 16 of the 23 Namib-Karoo biome-restricted species, only five (5) of these were recorded at the Project site, namely Layard's Tit-babbler (near-endemic), Pale-winged Starling *Onychognathus nabouroup*, Karoo Long-billed Lark, Karoo Chat *Cercomela schlegelii* and Cinnamon-breasted Warbler (near-endemic). All of these species, except for Karoo Chat, are common throughout the region and mostly restricted to rocky and mountainous areas, and are thus unlikely to be threatened by the proposed mining activities. Karoo Chat is considered marginal to the sandy plains of the region, and occurs more commonly southwards throughout the Nama Karoo. With respect to red-listed species, no Red Lark *Calendulauda burra* (Vulnerable, endemic) or Sclater's Lark *Spizocorys sclateri* (Near-threatened, near-endemic) were recorded at the sites, while the habitats represented are also not the preferred habitat types for these species.

The IBA is important for nomadic larks that occur seasonally (Marnewick *et al.*, 2015). A limitation of the study is that the area was surveyed when conditions would have not been favourable for many nomadic species due to the prevailing dry conditions. However, many of these species occur over vast areas, such as Black-eared Sparrowlark, Grey-backed Sparrowlark, and Black-headed Canary.

Faunal Habitats

Sandy Plains

The majority of the WRD B consists of sandy plains dominated by various *Stipagrostis* species including *S.brevifolia*, *S.ciliata* and *S.obtusa*, with various shrubs present including *Sisyndite spartea*, *Rhigozum trichotomum* and *Parkinsonia africana*. This is a widespread habitat both within the site and more broadly within the wider Aggeneys area. In general, the fauna species associated with this habitat are common, widespread species. It is not considered to be highly sensitive, as it is common and it is also not associated with any species of particular conservation concern. The loss of habitat within the plains habitat is not seen as being highly significant as this habitat is widely available and there are few endemic or specialised species associated with this habitat.

Gravel Plains

The majority of the Project site consists of gravel plains and lower slopes (Figure). Common species include *Ruschia* sp. *Euphorbia gregaria*, *Sarcostemma viminale*, *Aloe dichotoma*, *Searsia burchelli* and *Boscia foetida* subsp. *foetida*. Apart from the greater vegetation diversity, this area also has greater faunal diversity and abundance. This is related to the greater variety of habitats present, which includes some rocky outcrops which provide shelter for reptiles, drainage lines which attract mammals and greater vegetation structural diversity which attracts birds. The gravel plains are considered more sensitive than the sandy plains. This is also a much more restricted habitat than the sandy plains and as such is considered more vulnerable to cumulative impacts. The gravel plains of the site are considered moderate sensitivity for fauna and are of above average significance for reptiles in particular, but are also important for birds and mammals.

Figure 4.25 Photo of Gravel Plains Habitat



Rocky Hills

The rocky outcrops and mountains flanking the Project site are considered sensitive from a faunal perspective as these areas are home to a variety of species not found elsewhere. There are numerous mammals, reptiles and birds that are associated with the rocky hills and which are not commonly found on the adjacent plains. This includes mammals such as Klipspringer, Red Rock Rabbit and numerous small mammals, reptiles including several locally endemic geckos and other species which seek shelter among the rocks and a variety of bird species and in particular raptors such as Verreaux's Eagles and Lanner Falcon. In general, these species also use the adjacent lower slopes and gravel plains to varying degrees and as such are also likely to impacted to some degree by habitat loss within the adjacent gravel plains areas. Although there is some extent of this habitat within Project site, the overall potential loss of habitat within the rocky hills due to the development is low. The rocky hills of the site are considered sensitive for fauna as they are home to a high diversity of species, many of which are not found within the other habitats of the broader Project area.

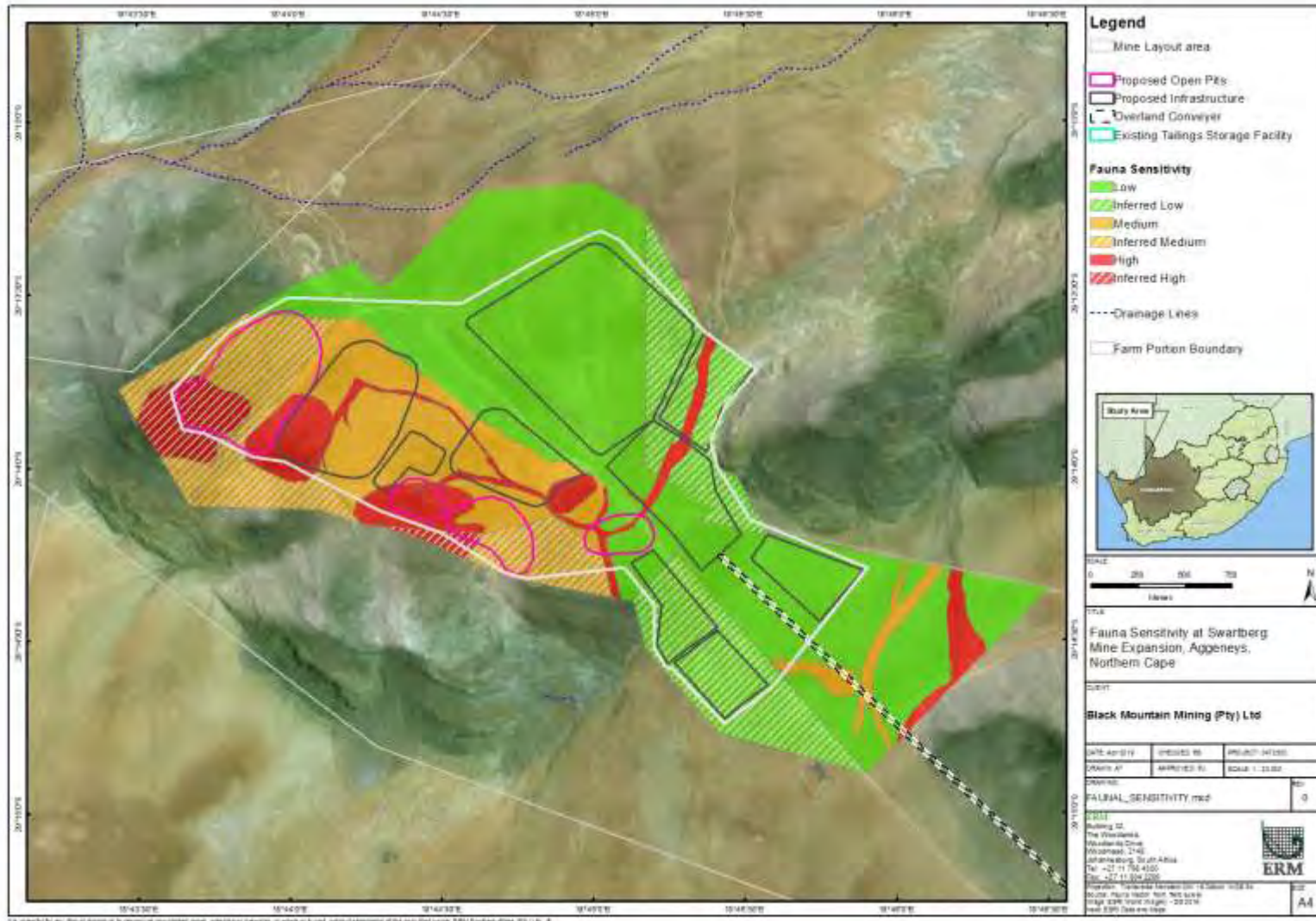
Figure 4.26 Photo of Rocky Hills Habitat



Site Sensitivity Assessment

The faunal sensitivity map for the Project area is illustrated below. The plains of the Project site are considered low sensitivity. The gravel plains and some of the smaller rocky outcrops are considered Medium sensitivity on account of their higher faunal value and diversity. The drainage lines of the site are considered to be High sensitivity due to their high value as faunal habitat and the more general hydrological function they perform. The larger rocky outcrops and steep hills of the site are considered to be High sensitivity.

Figure 4.27 Faunal Sensitivity Map for the Project Area



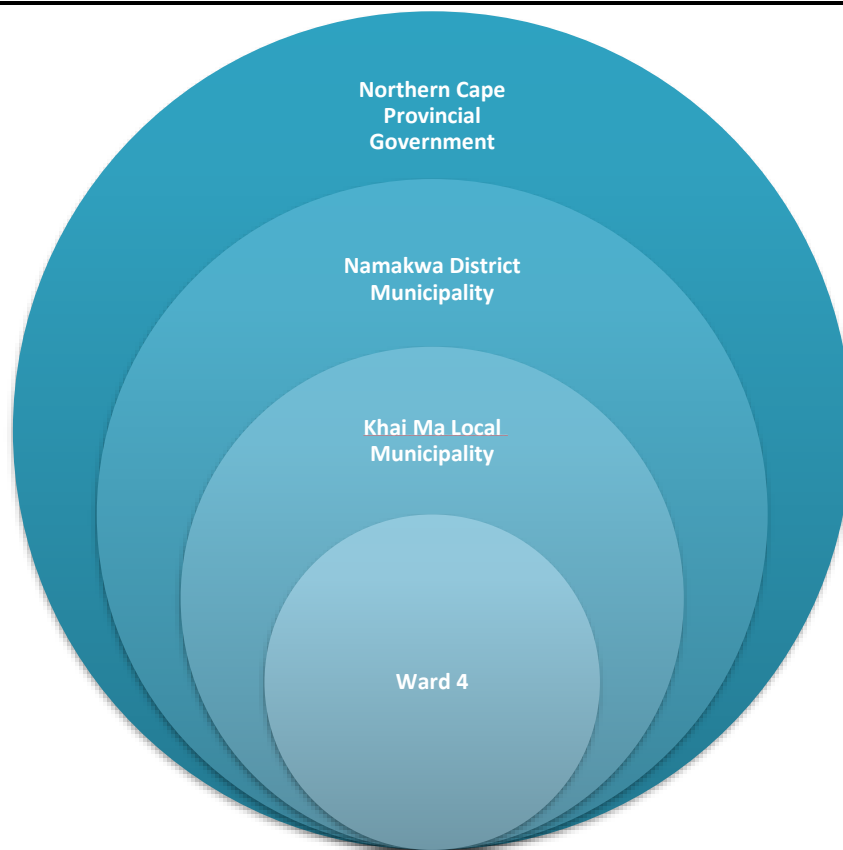
4.3 Socio-economic Baseline

The socio-economic baseline provides a demographic, cultural and economic overview of the Project area and also describes the physical infrastructure and services available in the surrounding communities. The purpose of collecting this information is to provide a basis upon which the impact assessment can be conducted, and to enable the monitoring and measurement of changes over time. Information was gathered for this section by gathering secondary data on socioeconomic characteristics at the national, state and local level. It is important to note that information used to draft this chapter was taken from government official documents. It is assumed that these documents were drafted using statistical information from the most recent census which was conducted in 2011.

4.3.1 Administrative Structure

The Project area is situated in the Northern Cape Province, approximately 11 km west of Aggeneys town. Other towns closest to this project site include Pofadder (approximately 65 km west of the project site) and Springbok (approximately 108 km south east of the project site) along the N14. The Project is located in Ward 4 of the Khai Ma Local Municipality, which falls within the Namakwa District Municipality. This administrative structure is illustrated in *Figure 4.28*.

Figure 4.28 Administrative Structure



Source: IDP (2012-2017)

Northern Cape Province

The Northern Cape Province is the largest province of South Africa, occupying a total area of 372 889 km² which amounts to 30% of the country's total land area (Provincial Spatial Development Framework (PSDF), 2017). The Northern Cape has five District Municipalities comprising Pixley Ka Seme, Frances Baard, Namakwa, Siyanda and Kgalagadi. These five District Municipalities are made up of twenty-six local municipalities. The major towns in these District Municipalities are De Aar, Kimberley, Upington, Springbok, and Kuruman. The executive authority of the Northern Cape rests with the Premier. The Northern Cape Provincial Growth and Development Strategy (NCPGDS) provide the framework for development in the Province.

Namakwa District Municipality

The Namakwa District Municipality is the largest District Municipality in South Africa. The Namakwa District Municipality comprises six local municipalities, which include Nama Khoi, Khai-Ma (in which the Mine is located), Richtersveld, Kamiesberg, Hantam and Karoo Hoogland. Prior to the 2011 municipal elections large portions of the Namakwa District Municipality were managed as District Management Areas¹. The Namakwa District Management Area has been subsumed by five of the six local municipalities since the local government elections in 2011. Only the Richtersveld Local Municipality was not affected by changes to its municipal boundaries². The executive authority of the Namakwa District Municipality rests with the Executive Mayor.

The regional centre of the Namakwa District Municipality is Springbok. Strategic development within the Namakwa District Municipality is aligned with the Northern Cape Provincial Growth and Development Strategy and other national development initiatives. Despite this, the District suffers from a lack of resources and a backlog of service delivery. The developmental focus of the Namakwa District Municipality has shifted from the provision of infrastructure and basic services to socio-economic development and the spatial identification of areas with development potential.³

Local Municipalities

Khai Ma local Municipality

The Swartberg Mine falls into the Khai-Ma Local Municipality. Khai-Ma Local Municipality is a low capacity municipality, which shares its executive and legislative authority with the Namakwa District Municipality. It is divided into four wards, of which the Project falls within ward 4. This LM comprises five towns, namely: Pofadder, Aggeneys, Pella, Witbank and Onsepkans. The main town in the Khai-Ma Local Municipality is Pofadder, which is both an economic hub and the seat of local government.

The role of the Local Municipality is to monitor and manage service delivery to settlements within its jurisdiction, implement plans and policies of the Namakwa District Municipality and to carry out the development objectives outlined within the Local Economic Development.

Khai-Ma Local Municipality is represented in the communities by seven ward councillors. The number of councillors per area has increased to two since the local government elections in 2011. The exception is Aggeneys which only has one councillor. These councillors represent local government in the various towns and work closely with local government departments. The role of the councillors is to monitor and maintain existing service delivery such as water, sanitation and refuse removal and to initiate new projects within the communities.

¹ DMA are defined by the Municipal Systems Act (1998), as areas that forms part of a District Municipality and is governed by a District Municipality alone. DMA are areas of special interest such as state protected areas or special economic areas.

² Ministry of Cooperative Governance and Traditional Affairs, 2011, 'Circular to Provinces and Municipalities on Transitional Arrangements for Pre and Post 18 May 2011 Local Government Elections' (www.cogta.gov.za -accessed 8 August 2012).

³ Namakwa District Municipality, IDP 2006-2011(third revision).

Settlements in the Project's Area of Influence

Table 4.10 below lists all the settlements within the Project's Aol as well as their distance from the Project Mine boundary.

Table 4.10 List of Settlements in the Project Aol

Settlement	Proximity from the Project Site
Aggeneys	11km
Pella	53km
Pofadder	65km
Onseepkans	112km
Springbok	108km

Aggeneys

Aggeneys is situated 11 km from the project location. It originated as a mining town owned by BMM, to house employees working at BMMs mining operation. The town has recently been incorporated as an official town within the Khai Ma Local Municipality. Aggeneys has the largest concentration of people in close proximity to the project location with an estimated population of 2053 people (Khai-ma Municipality IDP, 2012/2017). The key livelihood activity is employment at the mine; however, Aggeneys boasts a small commercial centre which supplies services to the community of Aggeneys. These services include plumbing, electrical, postal and banking services as well as convenience stores amongst others. BMM supplies the town with the majority of infrastructure and services required including water and electricity, which it procures directly from Eskom for its mining operations (Gamsberg ESIA, 2013).

Pella

Pella is 53 km from the Project site and 13 km from the N14 national road. Pella was originally a mission station providing refuge for Khoisan people driven out of Namibia. Pella has a population of 1425 people with an estimated 355 households (Khai-Ma Municipality IDP, 2012/2017). The key livelihood activities in Pella are in the agricultural sector. People engage in subsistence farming on the banks of the Orange River. Services and infrastructure are underdeveloped in Pella. The water supply in Pella is drawn directly from the Orange River. This supply is managed by the Pella water board which is in turn managed predominantly by BMM representatives.

Pofadder

Pofadder is the administrative seat of the Khai Ma Local Municipality and has developed as an agricultural service centre for the surrounding farming community. It is approximately 65 km from the Project site on the N14. It has an estimated population of 2919 people and 733 households (Khai-Ma Municipality IDP, 2012/2017). The key economic activity in Pofadder entails services to the farming community. A number of people are employed as casual workers on surrounding farms and work only when there is demand. The town is fairly developed with the exception of electricity reticulation. This has been identified as one of the basic service delivery priorities in the area because the system is old and needs to be expanded and upgraded (Khai Ma IDP, 2010-2011).

Onseepkans

Onseepkans is a small border post settlement situated 1125 km from the mine, en-route to Namibia. Onseepkans has three settlements namely Melkbosrand, Viljoensdraai and Sending. Onseepkans has an estimated population of 912 people with 204 households (Khai-Ma Municipality IDP, 2012/2017). The key livelihood activity is farming which is reliant on the Orange River for irrigation. The agricultural crop Hoodia has recently been introduced in the area.

Springbok

Springbok is the major economic centre of the region and is the seat of the Namakwa DM. It is situated approximately 108 km from the site. Springbok forms part of one of four development/transport corridors in the Northern Cape Province identified in the Provincial Government Development Strategy. Springbok has been identified as an emerging growth centre and the Local Development focus is currently placed on diversifying the local economy and supporting SMMEs. Springbok provides services to the surrounding mining and farming sectors and it serves as the tourism gateway to Namaqualand. A key issue is to sustain growth in the face of the downscaling of mining in the Springbok area. Services and infrastructure in Springbok are well developed, although there is growing pressure on services due to increasing population. The main district hospital is found in Springbok and due to the dispersed nature of settlements people come from great distances to visit the sick in hospital (Gamsberg ESIA, 2013).

4.3.2 Demographic Profile

Northern Cape Province

The Northern Cape has a population of 1,145,861 people (Stats SA, 2012). Despite having the largest surface area of South Africa's nine provinces, the population of the Northern Cape represents only 2.2 % of the national population. According to the census 2011 data, the Northern Cape experienced out-migration of 69,527 and in-migration of 62,792 resulting in a net loss of 6,735. People mostly migrated to the Western Cape, Gauteng, and Limpopo Provinces in search of employment opportunities. By means of comparison, migration to the Eastern Cape Province increased significantly between 2006 and 2011 (Stats SA, 2012).

Despite the large area covered by the Namakwa District Municipality (126,747 km²), it has a small and dispersed population. The total population is estimated at over 115,842 with a population density of 0.91 people/km (Stats SA, 2012). The population distribution for the Namakwa District Municipality is shown in *Table 4.11*.

Table 4.11 Namakwa District Population Distribution between 1996 and 2011

Municipality	1996 Population	2001 Population	2011 Population
Richtersveld Local Municipality	12 819	10 125	11 982
Karoo Hoogland Local Municipality	12 387	10 512	12 588
Kamiesberg Local Municipality	11 064	10 754	10 187
Khai Ma Local Municipality	9 550	11 469	12 465
Hantam Local Municipality	19 942	20 351	21 578
Nama Khoi Local Municipality	43 841	44 900	47 041
Namakwa District Municipality	109 603	108 111	115 842

Source: Stats SA, 2012

Khai-Ma Municipality

The estimated population for Khai-Ma Local Municipality is 12 465 people. This number has increased by 996 people since the 2001 census (Stats SA, 2012). It is sparsely populated, with +/- one person per square kilometre. A majority of the Khai-Ma Local Municipality population is found in the Khai-Ma rural area, followed by Pofadder and Aggeneys. The population distribution is illustrated in *Table 4.12*.

Table 4.12 Population and Household Figures per Town

Towns	Population Number	Current Households
Aggeneys	2053	666
Khai-Ma rural	4035	1404
Onseepkans	912	204
Pella	1425	355
Pofadder	2919	733
TOTALS	11344	3362

Source: IDP, 2012/2017

The majority of the population in this Local Municipality fall within the 15 to 34 year old age group with 2208 males and 1844 females. The number of senior citizens (over 65) is relatively low with only 254 males and 333 females (IDP, 2012/2017).

4.3.3 Economic Profile

Given the scale of the project, the economic context includes information on the Northern Cape, the Namakwa District, the Khai-Ma Local Municipal areas as well as, where available, the key local areas within the local municipality.

Economic Output, Growth and Development Trends

The contribution of the Northern Cape economy to the national GDP has remained constant at between 2 and 2.2 %, throughout the period 1996 to 2011. This indicates that the province has kept pace with economic growth in general but has not experienced accelerated economic development.

The mining sector contributed the most towards the province's Gross Domestic Product (GDP) with 27% in the year 2011. To illustrate the national importance of the Northern Cape mining sector, in 1998 the Province produced around 37 % of South Africa's diamond output, 44 % of its zinc, 70 % of its silver, 84 % of its iron-ore, 93 % of its lead and 99 % of its manganese (Gamsberg ESIA, 2013). The Namakwa District Municipality's regional gross domestic product (GDP) amounted to R3.77 billion in 2007. The Khai-Ma Local Municipality was responsible for roughly 10.3 % of this GDP with mining operations in Aggeneys making the most significant contribution (Gamsberg ESIA, 2013).

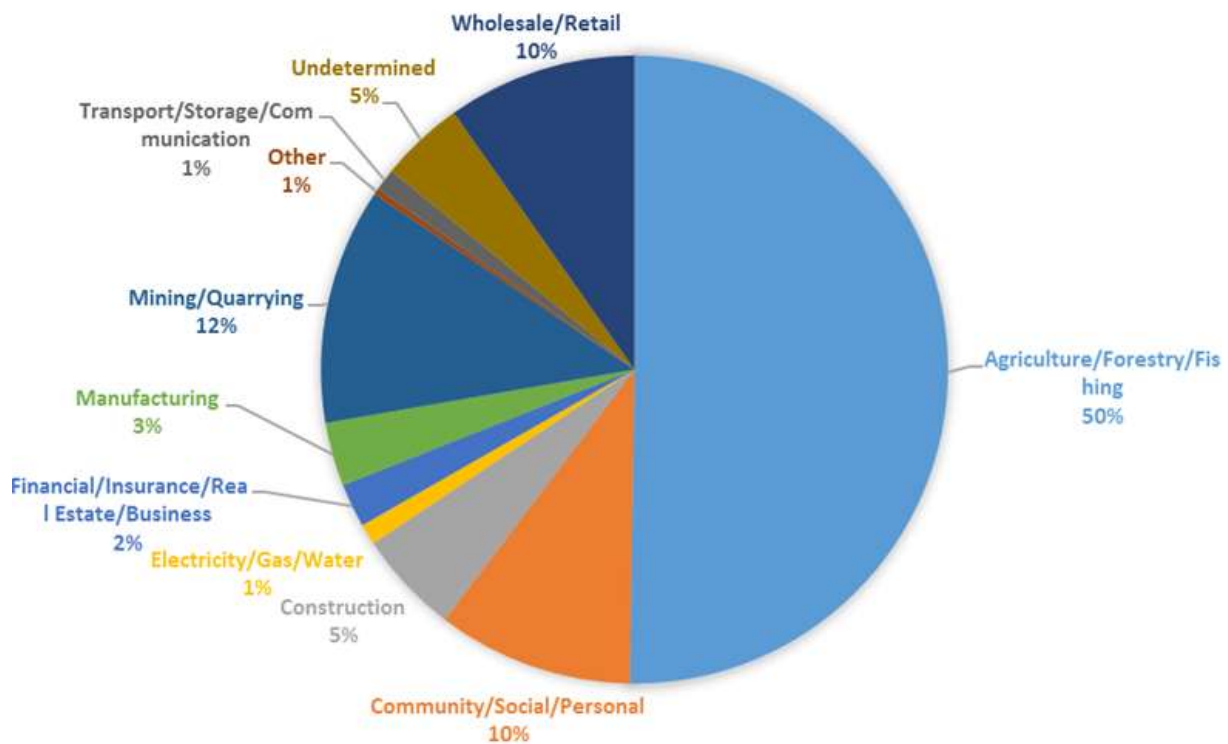
The existing Black Mountain Mine adjacent to Aggeneys is the dominant mine in the area although there are also other minor quarries and diggings.

Employment

The unemployment rate in the Northern Cape decreased to approximately 27.4% in 2011 compared to 35.6% in 2001. With regard to the sectoral division of employment opportunities, for the Namakwa District as a whole, the dominant sector in terms of employment is mining which provided 21% of all employment opportunities in 2007 followed by agriculture and fishing which provided 18% of all jobs (Gamsberg ESIA, 2013).

The Khai-Ma population is predominantly employed in the agriculture/forestry/fishing industry with a total of 1870 people employed in those industries. The mining/quarrying industry employs 453 people in the Khai-Ma population (IDP, 2012/2017). *Figure 4.29* below summarises the employment distribution in the Khai-Ma Local Municipality.

Figure 4.29 Employment Distribution in the Khai-Ma Local Municipality



Source: IDP, 2012/2017

4.3.4 Education

Northern Cape Province

The average number of adults with schooling in the Northern Cape is lower than that found in the whole of South Africa. The Northern Cape has approximately 19.7% of the adult population without schooling compared to the 18.1% in the whole of South Africa. The increased access to higher education in the province since 2001 was owed to the awarding of the Premier’s bursary fund which increased from R5.6 million in 2006 to R16.9 million in 2007 (PSDF, 2012). Due to the lack of education in the Northern Cape province, it has led to the province producing the smallest number of highly skilled professionals in South Africa with only 11.1% (PSDF, 2012).

Khai-Ma Municipality

The education levels in the Khai-Ma Local Municipality have been summarised in Table 4.13.

Table 4.13 Education Level in the Khai-Ma Local Municipality

Education Level	Percentage (%) of Population
None	15.57%
Some primary	27.27%
Complete primary	8.75%
Some secondary	28.05%
Grade 12	9.15%
Higher	2.20%

Source: IDP, 2012/2017

A list of schools in Pella, Aggeneys, Onseepkans and Springbok is provided in *Table 4.14*. Pella and Onseepkans do not have secondary schools; most of the children living in these settlements attend secondary school in Pofadder and Aggeneys with few attending secondary school in Springbok.

Table 4.14 The Number of Schools in the Areas of Influence

Settlement	Pre-primary School	Primary School	Secondary/High School
Direct Area of Influence			
Pella	1	1	0
Pofadder	0	2	1
Aggeneys	2	2	1
Indirect Area of Influence			
Onseepkans	1	2	0
Springbok	Not known	11	4

Source: Black Mountain Mining, 2010, Gamsberg Final Baseline Socio-economic Report. Report no.: 396036/5.

4.3.5 Health

HIV/AIDS

Out of a total of approximately 5.4 million people in South Africa, nearly 48 million were recorded to be HIV positive in the middle of 2006. This was a total of 11% of the South African population infected with HIV. The Northern Cape Province was recorded to have the lowest number of HIV positive people residing in one province. It was estimated that one in ten people in the province were HIV positive in the year 2008 – this made up about 7% of the Northern Cape population at the time (Khai Ma SDF, 2010). Records show that the number of HIV positive pregnant women has decreased substantially from the year 2007 (from 7.3% to 2.2%) in the Namakwa District (Khai Ma SDF, 2010). The Khai ma Local Municipality also experiences health challenges such as tuberculosis and substance abuse. Although the Local Municipality is aware of the potential mining related health challenges which may be prominent in the area, these are still under investigation and thus statistics are not available at this time (Khai Ma SDF, 2010).

Health Facilities

In the Northern Cape Province, the provincial hospitals are located in Springbok and Upington. Most settlements in the Local Municipality have primary healthcare clinics or mobile clinics which regularly visit communities.

In Aggeneys, Pella, Pofadder and Springbok the primary healthcare clinics are functional. Where the doctor is unable to assist patients, they are referred to Springbok Hospital. According to women previously interviewed in Aggeneys, Pella and Pofadder, the health care service provided is inadequate where concerns included:

- Generally poor quality of service and infrastructure and a lack of appropriate equipment;
- Slow referral system leading to further deterioration of health;
- Long waiting periods, it is not uncommon for a visit to the clinic to take an entire day waiting in cramped and unhygienic conditions; and
- Shortage of medicine and qualified personnel.

Pofadder Health Care Services and Facilities

Pofadder has a 12-bed Community Health Centre with a maximum capacity of 18 beds which is in the process of being renovated. A doctor is permanently present at the Community Health Centre. The maternity ward has two beds. The mobile clinic provides health care services to the surrounding farms. There are currently two nurses and one doctor that services Pofadder. The doctor visits the clinic once a week.

The Community Health Centre in Pofadder has ambulances, which collect patients from Pella, Aggeneys, Witbank and Onseepkans. Due to the high demand, the ambulance transports multiple patients simultaneously. Once patients have received the necessary medical care at the Springbok Hospital, they have to find their own transport to get back home (Gamsberg ESIA, 2013).

Aggeneys Medical Services and Facilities

Aggeneys has one state clinic and one private clinic. The state clinic does not charge patients a consultation fee nor does it charge for medication, while the private clinic charges patients for consultations (Gamsberg ESIA, 2013). The state owned clinic in Aggeneys does not receive adequate government support. Due to limited government support, the clinic is currently receiving assistance from BMM and the private clinic in Aggeneys (Gamsberg ESIA, 2013).

Pella Medical Services and Facilities

The clinic has trained nurses who are paid by the Department of Health. All healthcare services are free of charge including the provision of medicine. The clinic at Pella is open from 08:00 to 16:00 and closed during the weekends and public holidays. After hours patients either phone the nurse on call or go to Pofadder Community Health Centre. Pella clinic does not have a maternity ward and women resident in Pella give birth at the Pofadder Community Health Centre (Gamsberg ESIA, 2013).

Onseepkans Medical Services and Facilities

The clinic at Onseepkans operates in the same fashion as the clinic at Pella. Similarly, women from Onseepkans do not have access to a maternity facility locally and have to give birth at the Pofadder Community Health Centre. For any emergencies the community of Onseepkans have to go to Pofadder to seek medical assistance, which is approximately 50 km away via a gravel road (Gamsberg ESIA, 2013).

Summary of Health Challenges

The health challenges highlighted in the Khai-Ma Local Municipality include the following (IDP, 2012/2017):

- HIV/AIDS increase & TB increase;
- High rate of teenage pregnancies;
- Lack of sufficient and qualified staff – limited skills amongst current nurses and nursing sisters;
- Lack of sufficient facilities to render a proper health service to all communities;
- Irregular and insufficient service rendered by mobile clinic at Witbank; and
- Lack of necessary health equipment and medication at clinics.

4.3.6 Land Use

The current land use for the Project is mining and it is zoned as such. The surrounding area is used as grazing land (cattle, sheep and goats) for the nearby farmers in the surrounding communities.

4.3.7 General Infrastructure and Services

The bulk services and infrastructure in the Khai Ma Local Municipality is generally in poor condition. A number of services require upgrading such as the bulk sewerage system, the electricity reticulation system, access to water, as well as the waste management services. Upgrades to these services remain a priority for the Namakwa District Municipality as well as Khai Ma Local Municipality. A number of infrastructure needs have been identified as reported in the Namakwa District Municipality IDP:

- Efficient and effective maintenance of existing infrastructure;
- Minimise existing infrastructure backlogs;
- The development of additional or alternative water sources;
- Increased maintenance investment for roads in order to maximise economic benefits eg tourism and agriculture;
- Achieve and maintain developmental balance between infrastructure and social economic development;
- Eradication of the bucket system; and
- Unblock housing projects and address existing housing backlog.

Water

Of the households in the Khai-Ma Local Municipality area 92 % have access to piped water inside their dwelling or yard. All households in Pella, Pofadder and Aggeneys are serviced by the Pelladrift Water treatment works, which was established in 1974. The Pelladrift Water Treatment Works is currently being managed by Sedibeng Water and maintained by BMM, which is the largest consumer of water in the area... The Pelladrift Water Board has a water use license to abstract 16,060,000 m³ from the Orange River, which translates into approximately 44 million litres per day. Pelladrift Water Treatment Works is responsible for water purification and distribution to its key clients including, BMM, Khai Ma Local Municipality, and individual farmers. The Khai Ma Local Municipality supplies water to the towns of Pofadder and Pella.

BMM consumes 94% of the water supplied to the area for both mining activities as well as to supply the town of Aggeneys with potable water. All households in Aggeneys are supplied with free water by BMM and have piped water inside their dwellings. In Pofadder, 99 % of households have access to piped water within their residence or yard. In addition, 92 % of households have access to clean piped water inside their residence or yard, while seven % have access to a municipal tank (Gamsberg ESIA, 2013).

Access to basic services such as water and sanitation and the removal of waste have been detailed in *Table 4.15*. Further to this, housing and access to electricity in the Khai-Ma Local Municipality has also been summarised.

Table 4.15 Number of people with Access to Water in the Project Area

Type	Aggeneys	Onseepkans	Pella	Pofadder	Rural	Total	% of Total
Piped water inside dwelling	733	7	92	365	195	1305	38
Piped water inside yard	3	151	247	336	944	1681	50
Piped water on community stand: distance less than 200 m from dwelling	2	2	1	17	43	65	2
Piped water on community stand: distance greater than 200 m from dwelling	15	1	2	13	56	87	3
Borehole	0	0	0	1	36	37	1

Type	Aggeneys	Onseepkans	Pella	Pofadder	Rural	Total	% of Total
Spring	0	0	0	0	2	2	0
Rain-water tank	0	0	0	0	32	32	1
Dam/pool/stagnant water	0	1	0	0	16	17	1
River/stream	0	33	3	0	51	87	3
Water vendor	0	1	0	0	9	10	0
Other	0	8	9	1	20	38	1
Not applicable (homeless)	0	0	0	0	0	0	0

Source: IDP, 2012/2017

Housing

A community survey done in 2007 revealed that the Northern Cape Province had 264 653 households and 1 058 060 people. Approximately 85.5% of the Namakwa District Municipality households were formal dwellings whereas 5.1% were informal dwellings. The survey further reveal a housing backlog of approximately 51 570 houses in the Northern Cape (PSDF, 2012).

It is estimated that the Local Municipality consists of 3,796 households. Of these 77.3% of households reside in formal dwelling structures, 3.5 % of these households reside in informal dwellings and 8.9% in traditional huts. The number of informal dwellings has increased in the municipality from 40 in 2001 to 131 in 2011, which is a threefold increase (Gamsberg ESIA, 2013).

Table 4.16 illustrates service deliver per household.

Table 4.16 Service Delivery in the Project Area

Community	No of Households	Water	Electricity	Sanitation	Bucket	Refuse	Housing
Pofadder	808	48	230	-	-	-	205
Pella	685	48	-	166	166	-	463
Onseepkans	345	40	53	-	-	-	196
Witbank	77	17	77	-	-	77	86
Aggeneys	556	-	-	-	-	-	-
Total Households	2471	1053	360	213	166	77	950

Source: IDP, 2012/2017

Policing and Crime

The major safety and crime related challenges encountered in the Khai-Ma Local Municipality include the following according to the IDP (2012/2017):

- Lack of accommodation for police officials;
- Increase in crime, e.g. family abuse and robberies, rape and related to alcohol and drug abuse;
- Lack of office space for police duties;
- No fire / Disaster Management Centre, facilities, station or personnel available in Pofadder or surrounding areas;
- No permanent traffic police office in the area to reduce accidents; and
- Satellite Station need in Blyvooruitsig due to distance.

4.3.8 Paleontological, Agricultural and Heritage Resources

The environment in question is arid, comprising relatively flat drainage plains with inselbergs such as the Aggeneys Mountains, Black Mountain and Gamsberg rising above the plains in the wider landscape. In the immediate vicinity hills feature prominently. The landscape is sparsely vegetated, making any surface archaeological traces highly visible. The area investigated includes generally deflated lower slopes of the Swartberg hills, strewn with scree gravitating down-slope, and parts of adjacent dune fields and sandy plains.

The description of heritage features in the region are described through three eras:

- Colonial Frontier;
- Later Stone Age; and
- Pleistocene: Middle and Earlier Stone Age.

Colonial Frontier

The eighteenth- and nineteenth-century records for this region (Penn 2005) include the travelogues of George Thompson (1827) and E.J. Dunn (1931, Robinson 1978), who visited the area in 1824 and 1872 respectively. Place names were becoming fixed in this colonial frontier period (in a cadastral sense, on maps and in farm names), many such names having Khoe-San origins encapsulating vestiges of precolonial/indigenous social geography. A much more prominent appreciation is now emerging concerning the history of genocide against the Bushmen in this area (Anthing 1863), with certain mountainous areas (like Gamsberg and Namiesberg near Aggeneys) being likely massacre sites, referred to by Dunn in 1872 (Robinson 1978) and, more obliquely, by Anthing (1863; de Prada-Samper 2011). Actual massacre sites may ultimately be impossible to identify.

Later Stone Age

Late Holocene Later Stone Age (LSA) sites are the predominant archaeological trace noted in past surveys in the Aggeneys-Pofadder region (Morris 1999a-b, 2000a-c, 2001, 2010, 2011, 2013). Beaumont *et al.* (1995) have shown, with reference to the LSA, that “virtually all the Bushmanland sites so far located appear to be ephemeral occupations by small groups in the hinterland on both sides of the [Orange] river” (1995:263). This was in sharp contrast to the substantial herder encampments along the Orange River floodplain itself (Morris & Beaumont 1990), which reflected the “much higher productivity and carrying capacity of these bottom lands.” “Given choice, the optimal exploitation zone for foragers would have been the Orange River.” The appearance of herders in the Orange River Basin, Beaumont *et al.* argue, led to competition over resources and ultimately to marginalisation of hunter-gatherers, some of whom then occupied Bushmanland, probably mainly in the last millennium, and focused their hunting and gathering activities around the limited number of water sources in the region. Surveys have located signs of human occupation mainly in the shelter of granite inselbergs, on red dunes which provided clean sand for sleeping, or around the seasonal pans (Beaumont *et al.* 1995:264). Possibly following good rains, herders moved into the Orange River hinterland, as attested archaeologically at sites with ample pottery near Aggeneys and, east of Pofadder, at Schuitdrift South – Morris 1999a). However, Thompson (1824) refers to herder groups settled at the stronger springs such as Pella dispersing during periods of drought to smaller springs in the region, which could equally well account for the traces referred to here. At such times competition between groups over resources and stress within already marginalised hunter-gatherer society, must have intensified.

Grinding grooves have been found on rock outcrops in the Aggeneys/Gamsberg area (Morris 2011) and rock paintings are known from a boulder site alongside the Aggeneys/Black Mountain aggregate quarry (Morris 2011). Important engraved cupule sites have been identified at two sites on Black Mountain Mining mine, Aggeneys, and near the south western foot of the Swartberg on Zuurwater 62 (Morris 2013).

Pleistocene: Middle and Earlier Stone Age

Beaumont *et al.* (1995:240-1) note a widespread low density stone artefact scatter of Pleistocene age across areas of Bushmanland to the south where raw materials, mainly quartzite cobbles, were derived from the Dwyka till. Systematic collections of this material made at Olyvenkolk, south west of Kenhardt and Maans Pannen, and east of Gamoep, could be separated out by abrasion state into a fresh component of Middle Stone Age (MSA) with prepared cores, blades and points, and a large aggregate of moderately to heavily weathered Earlier Stone Age (ESA).

Beaumont *et al.* have shown that “substantial MSA sites are uncommon in Bushmanland” (1995:241): and those that have been documented thus far have generally yielded only small samples (Morris & Beaumont 1991; Smith 1995).

The ESA included Victoria West cores on dolerite, long blades, and a very low incidence of handaxes and cleavers. The Middle (and perhaps in some instances Lower) Pleistocene occupation of the region that these artefacts reflect must have occurred at times when the environment was more hospitable than today. This is suggested by the known greater reliance of people in Acheulean times on quite restricted ecological ranges, with proximity to water being a recurrent factor in the distribution of sites (Morris 2018).

No substantial sites have been found previously in the survey area. Only very sparse localized scatters of stone tools have been seen in places, with limited traces in the hills (e.g. an MSA site at the top of Gamsberg) or at the bases of hills. ESA including a Victoria West core on quartzite and isolated handaxes at various locales has been noted within the Gamsberg basin (Morris 2010) and on surrounding plains (e.g. Morris 2011, 2012, 2016).

Site Observations

Table 4.17 and Figure 4.31 illustrate the observations and importance of findings on the Project site.

Table 4.17 Plotted Artefact Scatters and Observations made

	Observation	Importance
1	Small flat area at south end of hill with small scatter of LSA quartz flakes	LOW
2	OES (LSA) on western talus of hill	LOW
3	OES (LSA) – near 20 th century prospecting evaporation pond	LOW
4	Possible MSA quartz flakes	LOW
5	Quartz flakes	LOW
6	LSA flakes, quartz and OES, exotic to the immediate vicinity at top of a low rocky hill.	LOW
7	Large flaked quartz proximal end of handaxe	LOW
8	Handaxe	LOW
9	Large number of OES pieces scattered in a small area – perhaps one disintegrated eggshell.	LOW
10	Low density of flaked quartz on hilltop	LOW
11	[This site is outside the area of expected impact] Engraved cupule site in non-perennial waterfall; 3 lower grindstones nearby; fragments of pottery and jaspilite stone tools about 30 m away. The presence of the portable lower grindstones provides an association not noted at other cupule sites in the area.	HIGH
12	[This site is outside the area of expected impact] Colonial era stone walled dwelling structures. LSA stone artefacts in the vicinity are made on river-derived (rolled) raw material, along with OES.	MEDIUM
13	OES with a few LSA stone artefacts	LOW
14	Large ESA flakes occurring in relatively high density	MEDIUM
15	Isolated quartz biface, possibly Fauresmith – in palaeodune	LOW

	Observation	Importance
16	Quartz and CCS flakes LSA, MSA in palaeodune	LOW
17	LSA flakes	LOW

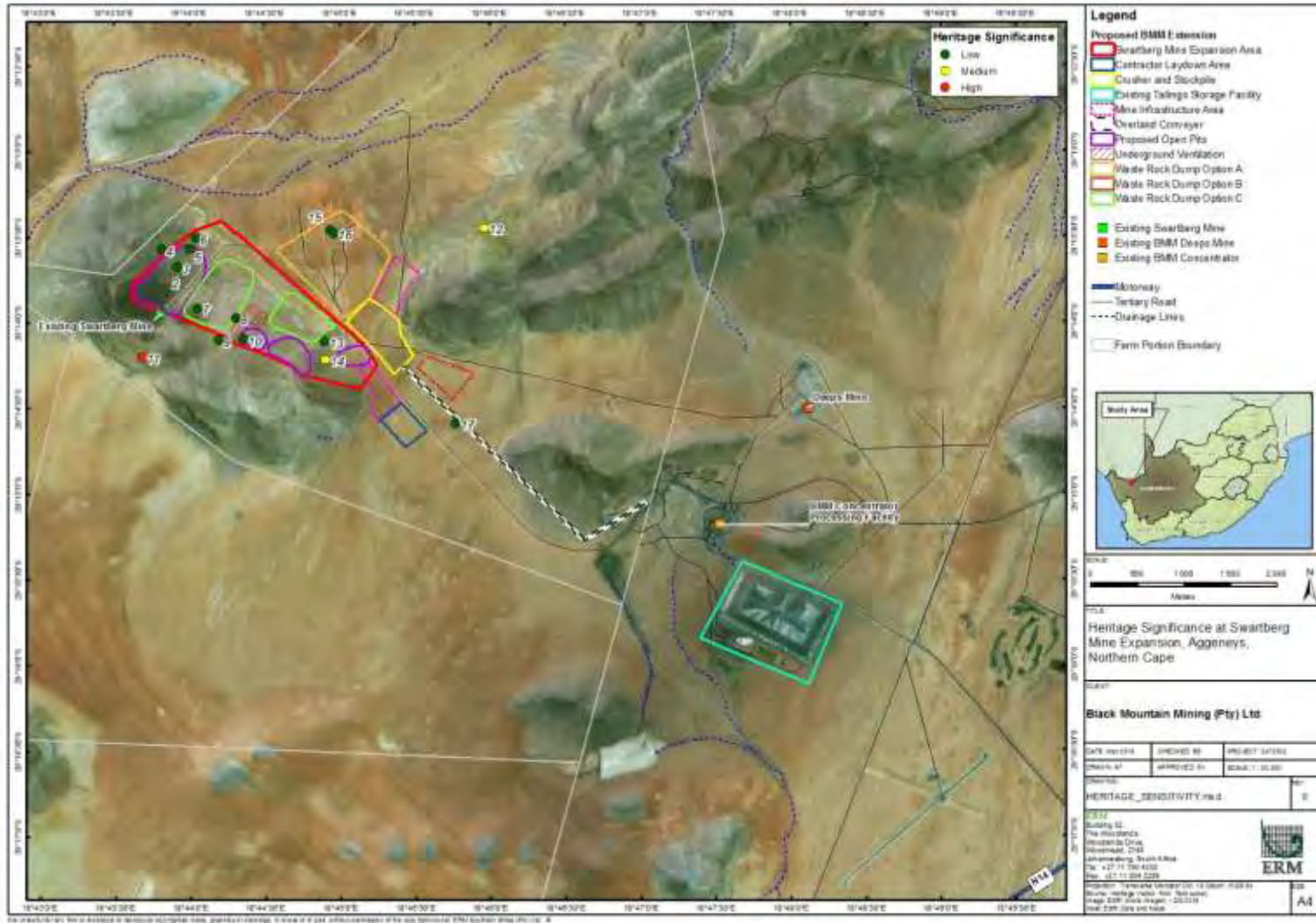
A low density of late Holocene Later Stone Age and Pleistocene Middle and Earlier Stone Age material was found in the Project area. All occurrences were in isolated locales across the Project area. In one instance a relatively higher density than usual of ESA material was found upslope from the Project site. None of the occurrences noted (other than observations 11 and 12) are regarded as being of more than Low Archaeological Importance.

Figure 4.30 illustrates onsite findings.

Figure 4.30 Archaeological Findings in the Project Area



Figure 4.31 Archaeological Observations



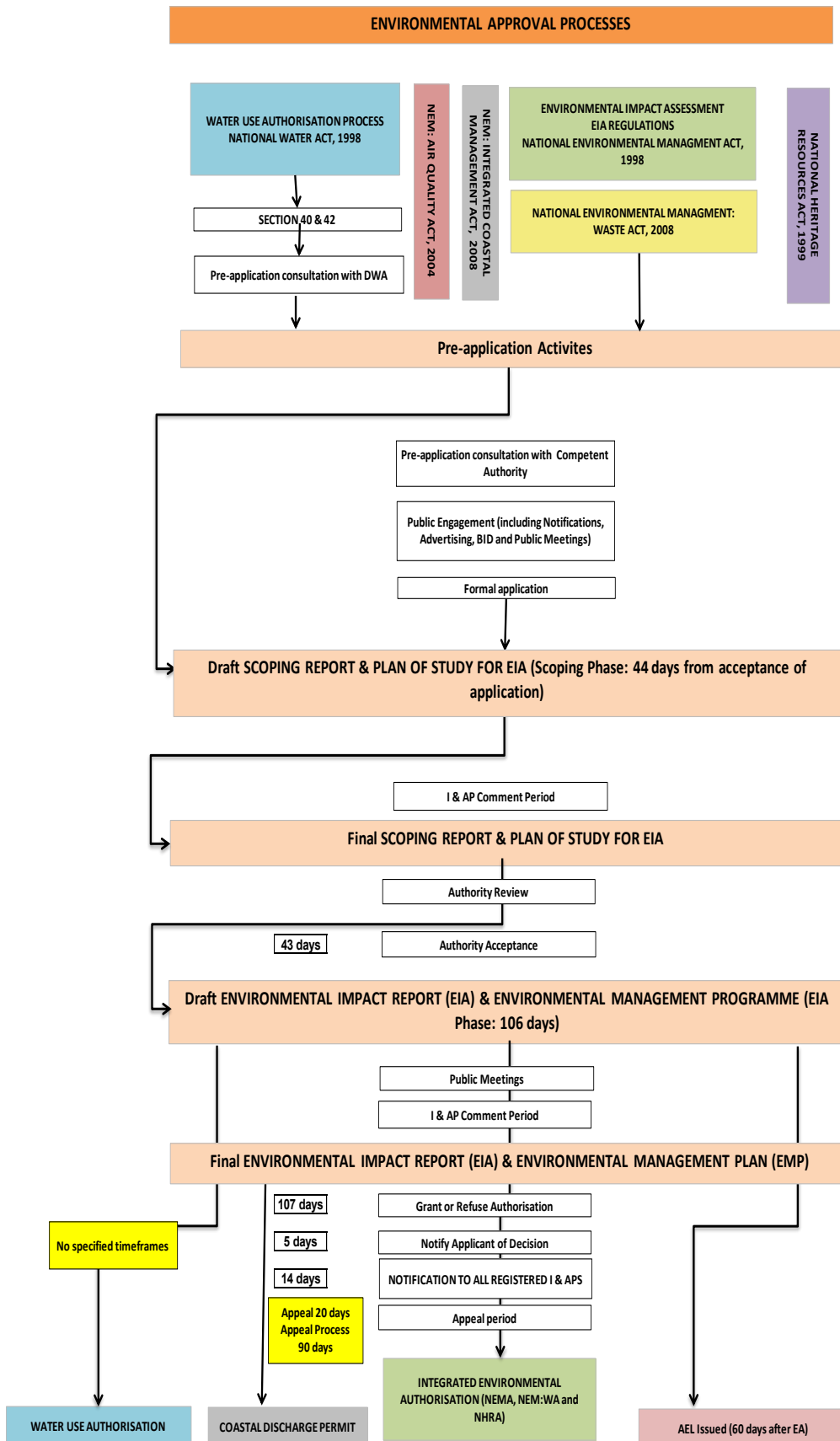
5. EIA PROCESS

5.1 Introduction

EIA is a systematic process that identifies and evaluates the potential impacts a proposed Project may have on the physical, biological, and social environment and develops mitigation measures that will be incorporated in order to eliminate, minimise or reduce these impacts.

As described in *Chapter 3*, the process in South Africa is regulated by the NEMA and associated Environmental Regulations. The overall Scoping and EIA process is illustrated in *Figure 5.1*. This EIA process that is being undertaken for the project is aligned with the requirements of the EIA Regulations (2017).

Figure 5.1 Integrated Environmental Impact Assessment Process



5.2 Approach to the EIA Process

The EIA process is initiated through a pre-assessment Public Participation Process (PPP). The pre-assessment process is not a mandatory requirement in terms of the EIA regulations (2017) but a beneficial option for the client and EAP in order to identify key stakeholders and Interested and Affected Parties (I&APs) as well as to identify any fatal flaws at the onset of a project.

This phase is followed by the scoping phase, as shown in *Figure 5.1*. During the scoping phase the Terms of Reference for the full EIA is formulated, and requirements from the authorities clarified and any potential issues and concerns identified via consultation.

After completion of the scoping phase, detailed specialist studies have been undertaken to address issues identified during the scoping phase. Specialists have provided baseline information in their particular field of expertise for the Project area, and identified which project actions will result in significant impacts. Consultants have also suggested ways in which these negative impacts could be mitigated, to reduce their severity.

This Draft EIA Report has been submitted for public review, during which time ERM present the key findings to all Interested and Affected Parties (I&APs). All comments made by I&APs are captured in a Comments and Response Report, and in this report responses to all issues and concerns raised during the public review period are provided.

All recommendations cited in the EIA report must be detailed in an Environmental Management Programme report (EMPr), which defines the mitigation actions to be implemented. EMPs are recognised as important tools for the sound environmental management of projects.

5.3 Scoping Phase

A principal objective of the scoping phase is to identify the key environmental, social and health issues and those Project activities with the potential to contribute to, or cause, impacts to the environmental and social receptors.

At the scoping stage, the key issues were identified (together with input from key stakeholders) and understood to a level which allowed the definition of the Plan of Study for the EIA. Issues that are not relevant were scoped out. This allowed the resources for the EIA to be focused on collecting required information and identifying significant impacts while carrying out specialist studies and stakeholder engagement activities in an effective and efficient manner.

Specifically, the objectives of the scoping phase are to:

- Understand the legislative context and establish a description of baseline conditions;
- Identify project alternatives and preferred options for the proposed development;
- Identify stakeholders, and plan or initiate communication with these stakeholders so as to gather issues of concern;
- Identify potential significant impacts; and
- Develop the Plan of Study for the EIA which sets out the proposed approach to the EIA, potential impacts to be evaluated and methodology to be used.

The following steps have been undertaken as part of the scoping phase:

- Desktop review;
- Site visit;
- Public participation (see further detail in Section 5.6);

- Preparation of the Draft Scoping Report;
- Submission of application form;
- Release of Draft Scoping Report for public comment;
- Finalisation of Scoping Report; and
- Submission of the Final Scoping Report to DMR.

5.3.1 Desktop Review

An initial review of available information was conducted. The desktop review included the following tasks:

- Initial review of relevant legislative and guidance documents;
- Identification and review of available secondary data;
- Development of an outline description of the planned Project activities; and
- Development of a plan for stakeholder engagement.

5.3.2 Public Participation

Details of the public participation process are provided in *Section 5.6*.

5.3.3 Scoping Report

In accordance with the regulatory requirements stipulated in GNR 326 of the EIA Regulations (2017), the Scoping Report (including Plan of Study), was compiled as part of the EIA process.

The draft Scoping Report was made available to stakeholders through the Project website, selected libraries, and hard copies provided on request for a period of 37 days (8 November 2018 - 14 December 2018).

After the public comment period a Comments and Responses Report (CRR) was compiled incorporating all comments received during the stipulated comment period. The final Scoping Report (including Plan of Study) was then submitted to the Department of Mineral Resources (DMR) on 18 January 2019 for their consideration. The approval of the Final Scoping Report was on the 11 March 2019 and was received by ERM on the 2 of April 2019.

5.3.4 Submission of Application Form

The EIA application form was submitted to the competent authority and the DMR reference is NCS 30/5/1/2/2/(517) DMR. In terms of the 2017 EIA Regulations, the final Scoping Report is to be submitted to the Competent Authority within 43 days of receipt of the acknowledgement letter. As such, the acknowledgement letter was received by ERM on 13 November 2018, and the final Scoping Report submitted to the DMR on 18 January 2019.

5.4 Specialist Study Phase

A number of specialist studies were identified to assess various potential impacts. The findings of these studies have been incorporated into this draft EIA (and attached as *Annex D*) which will close out the Integration and Assessment Phase. The findings of the specialist studies have been used to substantiate the baseline study in Chapter 4. Additionally, the specialist study findings have been further detailed in the Impact Assessment chapter (Chapter 7).

5.5 Integration and Assessment Phase

The final phase of the EIA is the Integration and Assessment Phase. The assessment of impacts proceeds through an iterative process considering three key elements:

- Prediction of the significance of impacts that are the consequence of the proposed development on the natural and social environment.
- Development of mitigation measures to avoid, reduce or manage the impacts.
- Assessment of residual significant impacts after the application of mitigation measures.

The Draft EIA has been made available to I&APs for a 30-day public comment period between the 8th of April 2019 and the 13th of May 2019. Registered I&APs have been notified of the release of the Draft EIA and where the report can be reviewed. A public meeting will be held in Aggeneys where the findings of the specialist studies and outcomes of the integration and assessment phase will be presented and discussed. In addition, meetings will be held with surrounding farmers (who are registered as I&APs) and key biodiversity stakeholders.

Comments received on the Draft EIA will be assimilated and the EIA project team will provide appropriate responses to all comments. A Comments and Responses Report will be appended to the Final EIA, which will be submitted to DMR for decision-making.

All registered I&APs will be notified when an EA has been issued by DMR. A 90-day (maximum time should an appeal be submitted) appeal period will follow the issuing of the Environmental Authorisation.

5.5.1 Proposed Timeframes for the EIA

The estimated process schedule for the EIA is presented in *Table 5.1*.

Table 5.1 EIA Schedule

Task	Timing
Stakeholder Comment on Draft Scoping Report and Plan of Study for EIA	8 November -14 December 2018
Finalise Scoping Report and Plan of Study for EIA and submit to DMR	18 January 2019
Acceptance of Scoping Report received from DMR	03 March 2019
Specialist studies	12 November 2018 - 20 March 2019
Prepare Draft EIA and EMP	March 2019
Stakeholder Comment on Draft EIA and EMP	8 April - 13 May 2019
Finalise and submit EIA and EMP to DMR	June 2019

5.6 Public Participation

5.6.1 Public Participation Objectives

Public consultation is an inclusive and culturally appropriate process which involves sharing information and knowledge, seeking to understand the concerns of others and building relationships based on collaboration. It allows stakeholders to understand the risks, impacts and opportunities of the Project in order to achieve positive outcomes.

The public participation process is designed to provide information to, and receive feedback from, interested and affected parties (I&AP) for use throughout the EIA process; thus providing organisations and individuals with an opportunity to raise concerns and make comments and suggestions regarding

the proposed project. By being part of the assessment process, stakeholders have the opportunity to influence the project layout and design, input into mitigation measures and technical solutions.

The main objectives of public are:

- To ensure that adequate and timely information is provided to those potentially affected by the Project;
- To provide these groups with sufficient opportunity to voice their opinions and concerns; and
- To ensure that comments are received in a timely manner so that they can be taken into account in project decisions.

5.6.2 Legislative Context

Public participation with regard to EIAs in South Africa is determined by the principles of the National Environmental Management Act (NEMA) (Act 107 of 1998, as amended) and elaborated upon in the Public Participation guideline (2017) in terms of the NEMA EIA Regulations, which states that: “Public participation process means a process in which potential interested and affected parties (I&APs) are given an opportunity to comment on, or raise issues relevant to, the application.”

Public participation is required for an environmental authorisation process in terms of the EIA Regulations GN R.326 (December 2017).

5.6.3 Public Participation Activities

Table 5.2 details the public participation tasks that have been undertaken and the planned activities as part of the EIA phase.

Table 5.2 Public Participation Tasks

Activity	Description and Purpose
Pre-Application Phase	
Preparation of a preliminary stakeholder database	A preliminary database has been compiled of authorities (local and provincial), Non-Governmental Organisations, neighbouring landowners and other key stakeholders (refer to <i>Annex B</i>). This database of registered I&APs will be maintained and updated during the ongoing EIA process.
Preparation and Distribution of a Background Information Document (BID)	BIDs were distributed via email and post to all registered I&APs. See <i>Annex B</i> . The BID provides an introduction to the Project and the EIA process.
Pre Application Meeting with the DMR	A pre-application meeting was held with Deidre Karsten (of the DMR) on the 10 th of October 2018. The purpose of the meeting was to notify the DMR of the Project and garner feedback on the Project to be included in the EIA process. Meeting minutes were included in <i>Annex B</i> of this Report.
Scoping Phase	
Erection of Site Notices	Site notices were placed at the following locations: <ul style="list-style-type: none"> ■ Pofadder Community Centre; ■ Public notice board next to the OK Supermarket in Aggeneys; and ■ At the entrance to the Project site. Proof of site notices are included in <i>Annex B</i> .
Project Website	A website was created for the Project where key contact information as well as the Draft Scoping Report were made available: https://www.erm.com/bmm-swartberg-mine-expansion-eia

Activity	Description and Purpose
Release of draft Scoping Report for Public Comment	<p>The draft Scoping Report was released for public comment between 8 November and 14 December 2018. Notifications were sent to all stakeholders on the database and the report was made available online (https://www.erm.com/bmm-swartberg-mine-expansion-eia) and in the Pofadder Public Library, Aggeneys Public Library, and the Black Mountain Office in Aggeneys (See <i>Annex B</i> for Proof of DSR availability in the Public Libraries).</p> <p>Acknowledgement of submission of the Draft Scoping Report to the DMR are included in <i>Annex B</i>.</p>
Public Meetings	<p>I&APs were invited to attend a public meeting at the Aggeneys North Recreation Club on 15 November 2018 in order for ERM to present the proposed Project and solicit input from stakeholders into the scoping process. Stakeholders were notified of this meeting on 1 November 2018.</p> <p>At the request of the Khai Mai Municipal Council, further public meetings were held at the Onseepkans Community Hall, Pofadder Community Hall and the Pella Community Hall on 11 December 2018. Stakeholders were notified of meetings by means of a notification letter (sent on 4 December 2018), public notices placed in Pofadder community centre and through verbal invitations from the Municipal Council. The notification of the additional public meeting included a reminder of the public comment period.</p> <p>Attendance registers for the meeting are included in Annex B of this Report and a summary of discussions held are included in the section below.</p>
Development of a Comments and Response Report	<p>All comments received during the Scoping consultation period were recorded into the Comment and Response Report (<i>Annex B</i>) of this Report.</p>
Newspaper Adverts	<p>An advertisement, advertising the commencement of the commenting period was placed in Die Namakwalander (Afrikaans) and in Die Burger (English) on the 7th of November 2018 (<i>Annex B</i>).</p>
Key Stakeholder Meetings	<p>Individual meetings with key stakeholders were also undertaken. These included surrounding farm owners Hester Maasdorp and Deon Maasdorp on the 15th of November 2018 at Zuur Water Farm, Jasper Mostert on the 17 of November 2018, and the Khai Mai Municipal Council on the 13th of November 2018. Attendance registers of the key stakeholder meetings were included in <i>Annex B</i> of the final Scoping Report.</p>
EIA Phase	
Release of draft EIA and EMPr for Public Comment	<p>The draft EIA and EMPr document is available for a 30-day comment period to stakeholders and the relevant authorities. The 30 day comment period is from 4 April to 13 May 2019. A notification letter was sent on 8 April to all registered I&APs on the project database. This letter serves to invite I&APs to comment on the draft EIA. Newspaper adverts have been placed in local newspapers notifying stakeholders of the availability of the Draft EIA report for review and inviting them to public meetings. All comments received will be included in the final EIA .</p>
Availability of draft EIR	<p>The Report is available on the project website: https://www.erm.com/bmm-swartberg-mine-expansion-eia, on request from ERM, and at the following public locations:</p> <ul style="list-style-type: none"> • Aggeneys Public Library • Poffadder Public Library • Black Mountain Mining Office, Penge Road, Aggeneys • Department of Mineral Resources, Springbok
Public Meetings	<p>A further public meeting will be held during the EIA phase to gather comments on the draft EIA as its development progresses. This public meeting will be held in Aggeneys on 16 April 2019.</p>

Activity	Description and Purpose
Focus Group Discussions	Key Stakeholders will be engaged in order to facilitate discussion and feedback on important potential impacts.
Notification of Decision	I&APs will be notified of the decision with regards to the EA and the statutory appeal period. An advertisement will be placed to advertise the EA.

5.6.4 Summary of Scoping Engagement

Public Meetings

Public meetings held at the Aggeneys North Recreation Club (15 November 2018) and Onseepkans Community Hall (11 December 2018) did not attract any stakeholders. ERM considers that the lack of involvement from Aggeneys stakeholders is due to the fact that the Swartberg project is very well known to all the inhabitants of the town, which is dependent on the existence of the mine. Onseepkans is approximately 100 km from Aggeneys and the interest in the Project was very low. ERM did, however, use the opportunity to meet with the principal of the Onseepkans primary school and municipal staff to explain the Project to them. Approximately fifty BID documents were provided to the school and municipal office to distribute amongst community members.

The Pofadder public meeting was attended by two stakeholders representing the Wilderness Foundation Africa. Their main concerns related to the impact on Bushmanland Inselberg Shrubland vegetation types, specifically the dwarf succulent flora, and consideration by ERM of the National Protected Area Expansion Strategy and Northern Cape Critical Biodiversity Areas (2017) database during the undertaking of the assessment.

At the Pella public meeting four stakeholders arrived to discuss issues related to an existing water pipeline located to the west of town. No comments on questions were raised regarding the proposed Project.

Summary of Meetings with Surrounding Farmers

Discussions held with surrounding farm owners raised the issue of the Project impact on their water resources and an increase in dust levels on the properties immediately adjacent to the mine. Both these concerns relate to the impact of the Project on their livelihoods as sheep farmers. The very low carrying capacity of the veld and severe drought has placed a strain on sheep farming practises and the availability of vegetation for food. Increased dust from open pit mines may impact on the suitability of the grassland vegetation type which sheep use for grazing. In addition, the availability of water is crucial to both the farmers and their livestock. Mr. Deon Maasdorp water supply is augmented by the mine via a pipeline to his property.

Summary of Meeting with Municipal Council

A meeting with the Khai Mai Municipality was undertaken on the 13th of November 2018 at the Khai Mai Municipal offices in Pofadder. The Project was explained to the Council and the Project BIDs were handed out. Comments focussed on the following:

- Involvement of Onseepkans, Pofadder, and Pella. The Council requested that engagement with these three communities take place as they are indirectly affected by the Project. As result of this request, public meetings in Pella, Pofadder, and Onseepkans were arranged (described above).
- Employment: Council members wanted to understand how the Project would affect employment in the broader area. It was explained that as the Project is ultimately seen as 'replacement' for the current operations at Deeps mine, there would be temporary increase in employment during construction and potentially a small increase during operations.

- Communication of the Project: Consultants should continue to communicate Project activities with the council members.

Summary of Comments Received from Stakeholders

Two sets of comments were received on the Draft Scoping Report; one from the DEA: Biodiversity Conservation, and one from the Wilderness Foundation Africa. The Directorate Biodiversity Conservation recommended that a Terrestrial Ecological Impact Assessment Report be compiled, and that a Wetland Delineation be undertaken. They also advised that any species listed in terms of TOPs and Red Data list must not be disturbed or removed without a permit from relevant authorities.

The Wilderness Foundation Africa suggested that the National Protected Area Expansion Strategy for public comment as well as the Northern Cape Critical Biodiversity Areas (2017) database be taken into consideration.

6. IMPACT ASSESSMENT METHODOLOGY

An EIA process methodology should minimise subjectivity as far as possible and accurately assess the Project impacts. In order to achieve this ERM has followed the methodology defined below.

6.1 Assumptions and Limitations

Impact Assessment is a process that aims to identify and anticipate possible impacts based on past and present baseline information. As the EIA deals with the future there is, inevitably, some uncertainty about what will actually happen in reality. Impact predictions have been made based on field surveys and with the best data, methods and scientific knowledge available at this time. However, some uncertainties could not be entirely resolved. Where significant uncertainty remains in the impact assessment, this is acknowledged and the level of uncertainty is provided.

In line with best practice, this EIA has adopted a precautionary approach to the identification and assessment of impacts. Where it has not been possible to make direct predictions of the likely level of impact, limits on the maximum likely impact have been reported and the design and implementation of the project (including the use of appropriate mitigation measures) will ensure that these are not exceeded. Where the magnitude of impacts cannot be predicted with certainty, the team of specialists has used professional experience to judge whether a significant impact is likely to occur or not. Throughout the assessment, this conservative approach has been adopted to the allocation of significance.

6.2 Impact Identification and Characterisation

An 'impact' is any change to a resource or receptor caused by the presence of a Project component or by a Project-related activity. Impacts can be negative or positive. Impacts are described in terms of their characteristics, including the impact's type and the impact's spatial and temporal features (namely extent, duration, scale and frequency). Terms used in this EIA process are described in *Table 6.1*.

Table 6.1 Impact Characteristics

Characteristic	Definition	Terms
Type	A descriptor indicating the relationship of the impact to the Project (in terms of cause and effect).	<p>Direct - Impacts that result from a direct interaction between a planned Project activity and the receiving environment/receptors (ie, between occupation of a site and the pre-existing habitats or between an effluent discharge and receiving water quality).</p> <p>Indirect - Impacts that result from other activities that are encouraged to happen as a consequence of the Project (ie, in-migration for employment placing a demand on resources).</p> <p>Induced - Impacts that result from other activities (which are not part of the Project) that happen as a consequence of the Project.</p> <p>Cumulative - Impacts that act together with other impacts (including those from concurrent or planned future third party activities) to affect the same resources and/or receptors as the Project.</p>
Duration	The time period over which a resource / receptor is affected.	<p>Temporary - (period of less than 3 years -negligible/ pre-construction/ other).</p> <p>Short term - (period of less than 5 years ie, production ramp up period).</p> <p>Long term -impacts that will continue for the life of the Project, but ceases when the Project stops operating.</p> <p>Permanent - (a period that exceeds the life of plant – ie, irreversible.).</p>
Extent	The reach of the impact (ie, physical distance an impact will extend to)	<p>On-site - impacts that are limited to the Project site.</p> <p>Local - impacts that are limited to the Project site and adjacent properties.</p> <p>Regional - impacts that are experienced at a regional scale.</p> <p>National - impacts that are experienced at a national scale.</p> <p>Trans-boundary/International - impacts that are experienced outside of South Africa.</p>
Scale	Quantitative measure of the impact ie, the size of the area damaged or impacted, the fraction of a resource that is lost or affected, etc.).	Quantitative measures as applicable for the feature or resources affects. No fixed designations as it is intended to be a numerical value.
Frequency	Measure of the constancy or periodicity of the impact.	No fixed designations; intended to be a numerical value or a qualitative description.

6.3 Determining Magnitude

Once impacts are characterised they are assigned a 'magnitude'. Magnitude is a function of some combination (depending on the resource/ receptor in question) of the following impact characteristics:

- Extent;
- Duration;
- Scale; and
- Frequency.

Magnitude (from small to large) is a continuum. Evaluation along the continuum requires professional judgement and experience. Each impact is evaluated on a case-by-case basis and the rationale for each determination is described. Magnitude designations for negative effects are: Negligible, Small, Medium and Large.

The magnitude designations themselves are universally consistent, but the definition for the designations varies by issue. In the case of a positive impact, no magnitude designation has been assigned as it is considered sufficient for the purpose of the impact assessment to indicate that the Project is expected to result in a Positive impact.

Some impacts will result in changes to the environment that may be immeasurable, undetectable or within the range of normal natural variation. Such changes are regarded as having no impact, and characterised as having a Negligible Magnitude.

Determining Magnitude for Biophysical Impacts

For biophysical impacts, the semi-quantitative definitions for the spatial and temporal dimension of the magnitude of impacts used in this assessment are provided below.

- **Large Magnitude Impact** affects an entire area, system (physical), aspect, population or species (biological) and at sufficient magnitude to cause a significant measurable numerical increase in measured concentrations or levels (to be compared with legislated or international limits and standards specific to the receptors) (physical) or a decline in abundance and/ or change in distribution beyond which natural recruitment (reproduction, immigration from unaffected areas) would not return that population or species, or any population or species dependent upon it, to its former level within several generations (physical and biological). A High Magnitude impact may also adversely affect the integrity of a site, habitat or ecosystem.
- **Medium Magnitude Impact** affects a portion of an area, system, aspect (physical), population or species (biological) and at sufficient magnitude to cause a measurable numerical increase in measured concentrations or levels (to be compared with legislated or international limits and standards specific to the receptors) (physical) and may bring about a change in abundance and/or distribution over one or more plant/animal generations, but does not threaten the integrity of that population or any population dependent on it (physical and biological). A moderate magnitude impact may also affect the ecological functioning of a site, habitat or ecosystem but without adversely affecting its overall integrity. The area affected may be local or regional.
- **Small Magnitude Impact** affects a specific area, system, aspect (physical), group of localised individuals within a population (biological) and at sufficient magnitude to result in a small increase in measured concentrations or levels (to be compared with legislated or international limits and standards specific to the receptors) (physical) over a short time period (one plant/animal generation or less, but does not affect other trophic levels or the population itself), and localised area.

Determining Magnitude for Socio-Economic Impacts

For socio-economic impacts, the magnitude considers the perspective of those affected by taking into account the likely perceived importance of the impact, the ability of people to manage and adapt to change and the extent to which a human receptor gains or loses access to, or control over socio-economic resources resulting in a positive or negative effect on their well-being. The quantitative elements are included into the assessment through the designation and consideration of scale and extent of the impact.

6.3.1 Determining Receptor Sensitivity

In addition to characterising the magnitude of impact, the other principal step necessary to assign significance for a given impact is to define the sensitivity of the receptor. There are a range of factors to be taken into account when defining the sensitivity of the receptor, which may be physical, biological,

cultural or human. Where the receptor is physical (for example, a water body) its current quality, sensitivity to change, and importance (on a local, national and international scale) are considered.

Where the receptor is biological or cultural, its importance (local, regional, national or international) and sensitivity to the specific type of impact are considered. Where the receptor is human, the vulnerability of the individual, community or wider societal group is considered. As in the case of magnitude, the sensitivity designations themselves are universally consistent, but the definitions for these designations will vary on a resource/receptor basis. The universal sensitivity of receptor is Low, Medium and High.

For ecological impacts, sensitivity is assigned as Low, Medium or High based on the conservation importance of habitats and species. For the sensitivity of individual species, *Table 6.2* presents the criteria for deciding on the value or sensitivity of individual species.

For socio-economic impacts, the degree of sensitivity of a receptor is defined as the level of resilience (or capacity to cope) with sudden social and economic changes (*Table 6.3*).

Table 6.2 Biological and Species Value/Sensitivity Criteria¹

Value / Sensitivity	Low	Medium	High
Criteria	Not protected or listed as common / abundant; or not critical to other ecosystem functions i.e., key prey species to other species).	Not protected or listed but may be a species common globally but rare in South Africa with little resilience to ecosystem changes, important to ecosystem functions, or one under threat or population decline.	Specifically protected under South African legislation and/or international conventions e.g. CITIES Listed as rare, threatened or endangered e.g. IUCN

Table 6.3 Socio-Economic Sensitivity Criteria

Sensitivity	Low	Medium	High
Criteria	Those affected are able to adapt with relative ease and maintain pre-impact status.	Able to adapt with some difficulty and maintain pre-impact status but only with a degree of support.	Those affected will not be able to adapt to changes and continue to maintain-pre impact status.

6.3.2 Assessing Significance

Once magnitude of impact and sensitivity of a receptor have been characterised, the significance can be determined for each impact. The impact significance rating will be determined, using the matrix provided in *Figure 6.1*.

¹Note: The criteria are applied with a degree of caution. Seasonal variations and species lifecycle stage will be taken into account when considering species sensitivity. For example, a population might be deemed as more sensitive during the breeding/spawning and nursery periods. This table uses listing of species ie, IUCN) or protection as an indication of the level of threat that this species experiences within the broader ecosystem (global, regional, local). This is used to provide a judgement of the importance of affecting this species in the context of Project-level changes.

Figure 6.1 Impact Significance

		Sensitivity/Vulnerability/Importance of Resource/Receptor		
		Low	Medium	High
Magnitude of Impact	Negligible	Negligible	Negligible	Negligible
	Small	Negligible	Minor	Moderate
	Medium	Minor	Moderate	Major
	Large	Moderate	Major	Major

The matrix applies universally to all resources/ receptors, and all impacts to these resources/ receptors, as the resource/ receptor-specific considerations are factored into the assignment of magnitude and sensitivity/ vulnerability/ importance designations that enter into the matrix. *Box 6.1* provides a context for what the various impact significance ratings signify.

Box 6.1 Context of Impact Significances

An impact of **Negligible** significance is one where a resource/receptor (including people) will essentially not be affected in any way by a particular activity or the predicted effect is deemed to be 'imperceptible' or is indistinguishable from natural background variations.

An impact of **Minor** significance is one where a resource/receptor will experience a noticeable effect, but the impact magnitude is sufficiently small and/or the resource/receptor is of low sensitivity/ vulnerability/ importance. In either case, the magnitude should be well within applicable standards.

An impact of **Moderate** significance has an impact magnitude that is within applicable standards, but falls somewhere in the range from a threshold below which the impact is minor, up to a level that might be just short of breaching a legal limit. Clearly, to design an activity so that its effects only just avoid breaking a law and/or cause a major impact is not best practice. The emphasis for moderate impacts is therefore on demonstrating that the impact has been reduced to a level that is as low as reasonably practicable (ALARP). This does not necessarily mean that impacts of moderate significance have to be reduced to minor, but that moderate impacts are being managed effectively and efficiently.

An impact of **Major** significance is one where an accepted limit or standard may be exceeded, or large magnitude impacts occur to highly valued/sensitive resource/receptors. An aim of IA is to get to a position where the Project does not have any major residual impacts, certainly not ones that would endure into the long-term or extend over a large area. However, for some aspects there may be major residual impacts after all practicable mitigation options have been exhausted (ie, ALARP has been applied). An example might be the visual impact of a facility. It is then the function of regulators and stakeholders to weigh such negative factors against the positive ones, such as employment, in coming to a decision on the Project.

Positive impacts provide resources or receptors, most often people, with positive benefits. It is noted that concepts of equity need to be considered in assessing the overall positive nature of some impacts such as economic benefits, or opportunities for employment.

6.4 Mitigation Potential and Residual Impacts

A key objective of an EIA process is to identify and define socially, environmentally and technically acceptable and cost effective measures to manage and mitigate potential impacts. Mitigation measures

are developed to avoid, reduce, remedy or compensate for potential negative impacts, and to enhance potential environmental and social benefits.

The approach taken to defining mitigation measures is based on a typical hierarchy of decisions and measures, as described in *Box 6.2*.

The priority is to first apply mitigation measures to the source of the impact (ie, to avoid or reduce the magnitude of the impact from the associated Project activity), and then to address the resultant effect to the resource/receptor via abatement or compensatory measures or offsets (ie, to reduce the significance of the effect once all reasonably practicable mitigations have been applied to reduce the impact magnitude).

Once mitigation measures are declared, the next step in the impact assessment process is to assign residual impact significance. This is essentially a repeat of the impact assessment steps discussed above, considering the assumed implementation of the additional declared mitigation measures. The approach taken to defining mitigation measures is based on a typical hierarchy of decisions and measures, as described in *Box 6.2*.

Box 6.2 Mitigation Hierarchy

Avoid at Source; Reduce at Source: avoiding or reducing at source through the design of the Project ie, avoiding by siting or re-routing activity away from sensitive areas or reducing by restricting the working area or changing the time of the activity).

Abate on Site: add something to the design to abate the impact ie, pollution control equipment).

Abate at Receptor: if an impact cannot be abated on-site then control measures can be implemented off-site ie, traffic measures).

Repair or Remedy: some impacts involve unavoidable damage to a resource ie, material storage areas) and these impacts require repair, restoration and reinstatement measures.

Compensate in Kind; Compensate Through Other Means where other mitigation approaches are not possible or fully effective, then compensation for loss, damage and disturbance might be appropriate ie, financial compensation for degrading agricultural land and impacting crop yields).

6.4.1 Residual Impact Assessment

Once mitigation measures are declared, the next step in the impact assessment process is to assign residual impact significance. This is essentially a repeat of the impact assessment steps discussed above, considering the assumed implementation of the additional declared mitigation measures.

6.4.2 Cumulative Impacts

A cumulative impact is one that arises from a result of an impact from the Project interacting with an impact from another activity to create an additional impact.

How the impacts and effects are assessed is strongly influenced by the status of the other activities (ie, already in existence, approved or proposed) and how much data is available to characterise the magnitude of their impacts.

The approach to assessing cumulative impacts is to screen potential interactions with other projects on the basis of:

- Projects that are already in existence and are operating;
- Projects that are approved but not as yet built or operating; and
- Projects that are a realistic proposition but are not yet built.

6.5 Assessing Significance of Risks for Accidental Events

The methodology used to assess the significance of the risks associated with accidental events differs from the impact assessment methodology. Risk significance for accidental events is based on a combination of the likelihood (or frequency) of incident occurrence and the consequences of the incident should it occur. The assessment of likelihood and consequence of the event also includes the existing control and mitigation measures for this project.

The assessment of likelihood takes a qualitative approach based on professional judgement, experience from similar projects and interaction with the technical team.

The assessment of consequence is based on specialists' input and their professional experience gained from similar projects.

Definitions used in the assessment for likelihood and consequence are set out in *Box 6.3*.

Box 6.3 Risk Significance Criteria for Accidental Events

Likelihood

Likelihood describes the probability of an event or incident actually occurring or taking place. It is considered in terms of the following variables:

- **Low:** the event or incident is reported in the telecommunication industry, but rarely occurs;
- **Medium:** the event or incident does occur but is not common; and/or
- **High:** the event or incident is likely to occur several times during the project's lifetime.

Consequence

The potential consequence of an impact occurring is a combination of those factors that determine the magnitude of the unplanned impact (in terms of the extent, duration and intensity of the impact). Consequence in accidental events is similar to significance (magnitude x sensitivity) of planned events and is classified as either a:

- **Minor consequence:** impacts of Low intensity to receptors/resources across a local extent, that can readily recover in the short term with little or no recovery/remediation measures required;
 - **Moderate consequence:** impacts of Low to Medium intensity across a local to regional extent, to receptors/resources that can recover in the short term to medium term with the intervention of recovery/remediation measures; or
 - **Major consequence:** exceeds acceptable limits and standards, is of Medium to High intensity affecting receptors/resources across a regional to international extent that will recover in the long term only with the implementation of significant/remediation measures.
-

Once a rating is determined for likelihood and consequence, the risk matrix in *Table 6.4* is used to determine the risk significance for accidental events. The prediction takes into account the mitigation and/or risk control measures that are already an integral part of the project design, and the management plans to be implemented by the project.

Table 6.4 Accidental Events Risk Significance

Risk Significance Rating				
Likelihood		Low	Medium	High
Consequence	Minor	Minor	Minor	Moderate
	Moderate	Minor	Moderate	Major
	Major	Moderate	Major	Major

It is not possible to completely eliminate the risk of accidental events occurring. However, the mitigation strategy to minimise the risk of the occurrence of accidental events is outlined in *Box 6.4*.

Box 6.4 Mitigation Strategy for Accidental Events

Control: aims to prevent or reduce the risk of an incident happening or reduce the magnitude of the potential consequence to As Low as Reasonably Possible (ALARP) through:

- Reducing the likelihood of the event ie, preventative maintenance measures, emergency response procedures and training);
- Reducing the consequence;
- A combination of both of the above;
- Recovery/ remediation: includes contingency plans and response;
- Emergency Response Plans; and
- Tactical Response Plans.

7. IMPACT ASSESSMENT

7.1 Introduction

This *Chapter* presents each of the impacts identified and includes an overview of the impact description and assessment. Activities during the construction of the mine and associated facilities, and operational and decommissioning phases of the Project are considered in the following sections.

7.1.1 Project and Associated Activities

The following activities are associated with the construction, operation and decommissioning phases of the Project:

Construction Phase

- Site clearing and topsoil stockpiling;
- Construction of site access roads;
- Earthworks, excavation and preparation of the mine;
- Upgrading of processing plant;
- Waste generation, collection, transport and disposal;
- Wastewater generation, transport, treatment and disposal;
- Transport of materials, people and equipment to site;
- Water uptake/diversion/abstraction;
- Handling of hazardous materials;
- Use of lighting during construction;
- Establishment of construction camp/workshop; and
- Employment and procurement of goods and services.

Operational Phase

- Operation and maintenance of processing plant;
- Operation of the open pits;
- Operation of underground mine;
- Operation of waste rock dump and stock piles;
- Operation of TSF and PCD's;
- Solid waste generation, collection, transport and disposal;
- Wastewater generation, transport, treatment and disposal;
- Transport of materials, people and equipment to site;
- Transport of product from the site;
- Surface water abstraction;
- Handling of hazardous materials;
- Lighting during operations; and
- Employment and procurement of goods and services.

Decommissioning Phase

- Vehicular movements and traffic;
- Demolition of buildings and removal of infrastructure;
- Mine rehabilitation;
- Waste generation and disposal;
- Wastewater generation and disposal; and
- Loss of employment.

Potential Accidents and Unplanned Events

- Impacts to community health and safety;
- Impacts on worker health and safety;
- Accidental releases of equipment fuels and oils; and
- Traffic accidents.

7.1.2 Resources and Receptors

For this project, the following main resources and receptors are considered relevant:

- *Physical Environment*: ambient air quality, global climate, noise, vibration, groundwater quality, surface water quality, hydrology, geohydrology, soil, topography, landscape and visual, use of natural resources.
- *Biological Environment*: terrestrial habitats, terrestrial flora, terrestrial fauna.
- *Human Environment*: community health, safety and security; local community; road traffic and transportation; cultural heritage; aesthetics; tourism/recreation; employment and income; economy; public utilities.

7.2 Air Quality

The key impact on air quality resources within the Project area is the decrease in local ambient air quality due to dust emissions generated by construction, operations, and decommissioning activities.

7.2.1 Construction, Operations, and Decommissioning Phases: Decreased Local Ambient Air Quality due to Dust Emissions

Impact Description

Dust emissions may result from the Project site during construction, operations, and decommissioning due to:

- Earth moving activities and ground preparation;
- Traffic, and movement of vehicles over open ground and on unpaved roads;
- Overburden stockpiles from Project activities;
- Waste rock dump operations;
- Resource extraction, transport, and conveying to the processing plant; and
- Decommissioning of infrastructure and rehabilitation.

Dust emissions are likely to result in increased dust soiling and increases in ambient concentrations of PM₁₀ at nearby sensitive receptors. In addition, emissions of NO₂ and PM₁₀ will increase due to increased traffic during the establishment and operations of the Project, in particular if access routes are unpaved. Dust generation from roads will primarily be from Heavy Goods Vehicles (HGVs) associated with transportation of materials and equipment. Blasting and drilling during operations will also result in dust emissions.

Impact Assessment

The United States Environmental Protection Agency (USEPA) ⁽¹⁾ states, in relation to dust emissions:

“... [dust particles 10-30µm in diameter] are likely to settle within a few hundred feet [30-90m]... from the edge of the road or other point of emission.”

Ameliorating weather conditions such as rainfall and wind speed should also be considered, as dust emissions are negligible during wet and calm periods. The USEPA also state that precipitation of greater than 0.2mm/hr will effectively attenuate dust; and wind speeds of >5.3m/s are typically required to lift dust from open surfaces. This will be lower for dust generated by mechanical means (i.e. during excavation and due to the movement of vehicles over unpaved surfaces), at around 3m/s.

On this basis:

- At all but the most extreme wind speeds, dust will typically travel a maximum of 200m from source before falling from the air column;
- At the highest wind speeds, dust is unlikely to travel more than 500m from source; and
- With rainfall of >0.2mm/hour dust emissions are likely to be effectively attenuated.

The assessment of the potential for a worsening local ambient air quality due to dust emissions is undertaken with due consideration of these weather factors, the proximity of receptors to dust sources, and the duration of dust generation activities. Based on these factors, an assessment methodology for air quality impacts on receptors during construction and operations is presented in *Table 7.1*.

(1) United States Environmental Protection Agency (1995) AP-42 Section 13.2 Fugitive dust sources:
<http://www.epa.gov/ttn/chief/ap42/ch13/final/c13s02.pdf>

Table 7.1 Dust Risk Matrix

Likely Magnitude of Impacts	Conditions
High: Likely major significant impact	<ul style="list-style-type: none"> ■ Receptor within 200m of dust source ■ Dust generating activities for >12 months ■ Downwind for >10% of the year where wind and rainfall conditions promote dust generation
Medium: Likely moderate significant impact	<ul style="list-style-type: none"> ■ Receptor within 200m of dust source ■ Dust generating activities for <12 months ■ Downwind for >10% of the year where wind and rainfall conditions promote dust generation
Low: Likely minor significant impact	<ul style="list-style-type: none"> ■ Receptor within 200m of dust source ■ Dust generating activities for <12 months ■ Downwind for 2-5% of the year where wind and rainfall conditions promote dust generation
	<ul style="list-style-type: none"> ■ Receptor within 500m of dust source ■ Dust generating activities for >12 months ■ Downwind for 2-5% of the year where wind and rainfall conditions promote dust generation
Low: Insignificant impact	<ul style="list-style-type: none"> ■ Receptor > 500m of dust source ■ Receptor 200m - 500m from dust source ■ Downwind for <12 months of the year where wind and rainfall conditions promote dust generation

The construction phase of the Project will take approximately 24 months and the dry conditions in the Project area are conducive to dust generation (high temperatures and low rainfall). The average wind speed over the July 2016 to January 2017 period was 4.7 m/s and with winds greater than 5 m/s occurring 29.8% of the time. The available data indicates frequent winds from a northerly and north-north-westerly direction. Daytime airflow varies with predominantly north-north-westerly, south-westerly and east-south-easterly winds. At night, winds are mostly from the north-northwest. Aggeneys Town is approximately 8.5 kilometres from the Project site in an easterly direction (i.e. not in the prevailing wind direction).

Using *Table 7.1* above, construction activities will occur for longer than 12 months and prevailing conditions promote dust generation. Therefore, high magnitude impacts are likely to occur within 200m of the Project site. There are no sensitive socio-economic receptors within this area as it falls within the current BMM mining area. Dust fall impacts on flora are covered in section 7.5.

Table 7.2 describes the assessment of the impact on air quality.

Table 7.2 Impact Assessment: Decreased Local Ambient Air Quality due to Dust Emissions from Construction, Operations, and Decommissioning Activities

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities and the receiving environment.
Extent	Local	The impacts are limited to the Project site and adjacent properties.
Duration	Long Term	Impacts may occur during the construction phase and continue into the operational and decommissioning phases.
Scale	Local	200m radius around Project site.
Frequency	Constant	Project activities will occur regularly through Project phases
Impact Magnitude: High		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Low		
Reversibility- Medium		
Significance Rating Before Mitigation: Moderate within 200 m of activities and within the BMM mining area		

Mitigation and Management Measures

The control and mitigation of dust can be achieved through the following measures:

- Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the EO.
- As far as practically possible, blasting should only be done under low- or no-wind conditions.
- Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas;
- Vehicles must be kept clean to avoid tracking dirt around and off the site.
- Vehicles transporting friable materials must be covered.
- Where feasible, surface binding agents must be used on exposed open earthworks and roads.
- Vegetation clearance must be phased to minimise the area of exposed soil.
- Topsoil stockpiles must be planted to bind the soil and minimise dust.
- The design of stockpiles should be optimised to retain a low profile with no sharp changes in shape.
- Drop heights of material must be minimised where possible.
- Where possible, wind breaks should be erected around high- dust generating activities.
- For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust.

Residual Impacts

With the implementation of the above-mentioned mitigation measures, the residual impact will be minor for all receptors within 200 m of the Project site (

Table 7.3).

Table 7.3 Pre- and Post- Mitigation Significance for Air Quality

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Reduction in Local Ambient Air Quality due to Dust Emissions	Construction, Operation, and Decommissioning	MODERATE (for receptors within 200m of the Project site)	MINOR (for receptors within 200m of the Project site)

7.3 Ambient Noise and Vibration

Key impacts from noise emissions as a result of the Project are identified as follows:

- Noise impacts from construction activities and associated traffic; and
- Operational noise impacts from resource extraction (open pit mining), transport, crushing and conveying to the processing plant.

7.3.1 Construction, Operational, and Decommissioning Phase: Increase in the Ambient Noise Levels

Impact Description

During the construction phase, the main potential impacts on the acoustic environment are related to the noise emissions from construction machinery and construction vehicles being used for the following:

- *Site preparation*: this includes significant noise-producing activities such as vegetation clearance, topsoil removal and earthworks. These activities will require heavy construction vehicles and equipment (excavators, dozers, rollers, dump trucks).
- *Civil works and establishment of the mine*: this includes significant noise-producing activities such as excavation (through mechanical means and blasting).
- *Traffic*: the movement of vehicles for transport of materials and personnel on local roads and/or new access roads will generate noise emissions.

During the operations phase, noise will be generated by the following activities:

- *Drilling and Blasting*: Daily blasting at the open pits throughout construction and operations.
- *Traffic*: the movement of vehicles for transport of materials to and from the open pits and personnel on local roads will generate some noise.
- *Operational equipment*: Additional noise will be generated by the crusher, conveyor system and processing plant and other new machinery in addition to the existing noise from the existing processing equipment.

During decommissioning phase noise will be generated through dismantling of infrastructure and rehabilitation.

All of the activities mentioned above have the potential to result in an increase in the background noise level and thus impact receptors located in the proximity of the Project.

Impact Assessment

Table 7.4 describes the impact assessment of Project activities resulting in an increase in ambient noise levels.

Table 7.4 Impact Assessment: Construction, Operation and Decommissioning: Increased Ambient Noise Levels

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a direct result of primary project activities on the receiving environment.
Extent	Local	The impacts are limited to the Project site and adjacent properties.
Duration	Long term	Impacts will occur through construction and daily during operations.
Scale	Project area	Noise impacts are unlikely to extend beyond 5km.
Frequency	Continuous	Impacts will occur through construction and daily during operations.
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Low		
Reversibility- Medium		
Significance Rating Before Mitigation: MINOR		

Mitigation and Management Measures

The control and mitigation of noise emissions during the construction and operational phases will be achieved by implementing the following measures:

- Business Partners must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only.
- All diesel-powered construction and earth moving equipment must be well maintained. This must include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance.
- Vendors must be required to guarantee optimised equipment design noise levels.
- A mechanism to monitor noise levels, record and respond to complaints and mitigate impacts should be developed and implemented.
- Use of quieter powered mechanical equipment (PME) should be considered, where possible.
- Use of noise barriers/enclosures should be considered, where possible.
- Vibrating equipment such as crushers must be installed on vibration isolation mountings.
- Individual vehicle engine, transmission and body noise/vibration should be minimised through the implementation of an equipment maintenance program.
- Maintain road surfaces regularly to avoid corrugations, potholes etc.
- Avoid unnecessary idling times.
- Minimise the need for trucks/equipment reversing. This will reduce the frequency at which reverse warnings occur.
- Any complaints received by Business Partners regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers.

Residual Impact

With the implementation of the above-mentioned mitigation measures, the residual impact will remain minor, largely due to the distance from sensitive receptors (*Table 1.5*).

Table 7.5 Pre- and Post- Mitigation Significance for Noise

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Noise Emissions from Establishment Activities	Construction and Operations	MINOR	MINOR

7.4 Soils and Geology

The key impact on soils as a result of the Project is the loss of soil resources as a result of site clearance and construction activities.

7.4.1 Construction Phase: Loss of Soil Resources as a result of Site Clearance and Construction Activities

Impact Description

The construction of the mine expansion will take up to 24 months to complete and includes earthworks and site clearance. These activities would result in the following impacts:

- Soil compaction;
- Topsoil loss due to clearing, water and wind erosion (and sediment release to land and water); and
- Alteration of natural drainage patterns.

Approximately 136 ha of land is required for the Project. These areas will be cleared of vegetation to ground level with preliminary excavation of the Project Site taking place. Stripped topsoil within the Project Site will be stockpiled for future use in rehabilitation and re-vegetation. The Project Site will be graded and levelled, and cut and fill operations will be managed such that there will be minimal excess spoil. Compaction and increased erosion from increased exposure to wind and water are likely to cause changes in the soil structure and degradation of soil quality. Vegetation cover is the most important physical factor protecting soil from erosion by water and wind.

However, erosion may occur when surface water flow comes into contact with areas of bare soil, especially on sloped terrain or running down inefficiently sloped stockpiles. The impact of erosion through water run-off could potentially increase the sediment load of nearby surface water bodies.

In addition, the compaction of the subsoils through site grading and levelling, and the presence of heavy vehicles and machinery during establishment, will result in lower permeability of the soil and therefore decrease infiltration and increase run-off, altering the natural drainage characteristics of the soil. Without appropriate measures, run-off from hard standing areas (roads and the Project Site in addition to exposure to wind and rainfall) may increase erosion. Land capability and productivity may also be reduced within the Project site.

Impact Assessment

Table 7.6 describes the impact assessment of Project activities on soils and geology.

Table 7.6 Impact Assessment: Construction: Loss of Soil Resources as a result of Site Clearance and Mine Construction

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local	Impacts will be restricted to the Project area
Duration	Permanent	Impacts will occur during the construction phase and will be permanent
Scale	± 136 ha	The impacts will be limited to the Project site
Frequency	Once off	Topsoil clearing will be done during the construction phase
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- Low		
Significance Rating Before Mitigation: MODERATE		

Mitigation and Management Measures

Many of the impacts to soil and land capability cannot be mitigated further, because they result from the physical land-take footprint of the development. However, measures can be implemented to help minimise impacts, including the following:

- Develop and implement a Soil Erosion, Control and Reinstatement Plan.
- Restrict extent of disturbance within the Project Site to the extent practicable.
- Minimise the period of exposure of the soil surface, including stockpiles, by revegetating temporary-use areas as soon as practicable after construction activities.
- Stockpiled soil must not to be compacted.
- Stockpiles are to be protected from erosion by keeping the stockpiles as low as possible with gentle gradients, and by planting as soon as possible.
- Topsoil stockpiles must not exceed 2 m in height.

Residual Impact

With the implementation of the above- mentioned mitigation measures, the impact significance is likely to be reduced to minor (*Table 7.7*).

Table 7.7 Pre- and Post- Mitigation Significance for Loss of Soil Resources

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of soils from Site Clearance and Construction Activities	Construction	MODERATE	MINOR

7.5 Terrestrial Flora

Potential impacts concerning terrestrial flora within the Project area are as follows:

- Loss of Habitats of Medium and High Sensitivity and Associated Species;
- Loss of Habitats of Medium to Low Sensitivity and Associated Species;
- Loss of Plant Species of Conservation Concern;
- Reduced Ecological Function and Degradation due to Altered Soil Surfaces;
- Increase in Alien Invasive Vegetation.

7.5.1 Construction and Operation Phase: Loss of Medium and High Sensitivity Habitats and Associated Species

Impact Description

The footprint of the proposed mine expansion includes the open pits, waste rock pad and road infrastructure. Whilst at the time of the study no exact layout of new mining infrastructure was provided, it is anticipated that the open pits will, to a large extent, affect habitats of medium-high, high and very high sensitivity. A small area of such habitats will also be affected by the waste rock pad Alternative 1. These sensitive/conservation significant areas include following habitats:

- Aggeneys Gravel Vygieveld (High sensitivity);
- Bushmanland Inselberg Shrubland (High sensitivity), including the Northern Koppies;
- Largely intact Mountain Aprons (Medium - High sensitivity); and
- Washes and Slightly Disturbed Mountain Aprons (Medium - High sensitivity).

Impact Assessment

Table 7.8 describes the impact assessment of Project activities on the Loss of Medium-High, High and High Sensitivity habitats and species.

Table 7.8 Impact Assessment: Construction: Loss of Medium-High, High Sensitivity Habitats and Associated Species

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment.
Extent	Regional	Through direct, indirect, induced and cumulative impacts, the availability of unique habitats, and habitats suitable to species with a narrow distribution (narrow endemics) will be reduced and/or negatively affected.
Duration	Permanent	The unique habitats cannot be restored through rehabilitation efforts. It is also not certain if the Opencast Pit or Rock Dumps will eventually be obliterated, but affected areas are likely to result in permanently modify habitats
Scale	± 136 ha	The impacts will be limited to the mine footprint area, approximately 125 ha of irreplaceable habitat will be lost to the mine footprint.
Frequency	Continuous	Once the original habitat is significantly modified, its configuration cannot be re-created or ever fully restored.
Impact Magnitude: Large		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: High		
Reversibility- <u>Low</u> The infrastructure footprint extends over some highly sensitive and irreplaceable habitats, and the loss of such habitats will be permanent.		
Significance Rating Before Mitigation: MAJOR		

Mitigation and Management Measures

- All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods.
- Where possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road.
- Minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating.
- Avoid any direct activities on any surrounding or adjacent areas with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species).
- Where clearing for access purposes is essential, the maximum width to be cleared within the servitude must be in accordance to distance as agreed between the land owner and the EA holder.
- Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area.
- Avoid placing the waste rock pad within natural habitats.
- Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural areas.
- No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas.
- Avoid and/or minimise the loss of species of conservation concern by conducting a thorough pre-construction survey.

- Only a registered pest control operator may apply herbicides on a commercial basis and commercial application must be carried out under the supervision of a registered pest control operator, supervision of a registered pest control operator or is appropriately trained.
- A daily register must be kept of all relevant details of herbicide usage.
- No herbicides must be used in estuaries.
- The pre-construction survey must be followed by implementing the necessary Search and Rescue actions prior to any groundworks taking place, whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern.
- Development and implement a detailed Plant Search- and Rescue, and Monitoring Plan in areas where infrastructure development impact on vegetation before any groundworks taking place.
- Delineate all permissible areas so that all movement of vehicles and heavy machinery can be restricted to permissible areas, these being designated access roads, maintenance roads, turning points and parking areas. No off-road driving beyond designated areas will be allowed.
- Design and create berms to stop runoff from the mining areas and waste-rock dump during/after periodic/ extreme rainfall events from entering directly into existing washes.
- Keep the clearing of natural vegetation to a minimum.
- Cleared indigenous shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas.
- Ensure topsoils, where available, are first removed and correctly stored for rehabilitation purposes.
- Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close together as possible (but avoiding the blockage of or increased impact on sensitive habitats), e.g. by using waste rock pad Alternative 2, which is closer to the planned open pits, thus also reducing transport requirements.
- Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer (with the necessary storm water control) if oil and fuel spillages are likely to occur.
- Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas.
- Install adequate drainage structures to ensure that water flows are never concentrated or blocked.
- If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing of fill materials.
- Areas of high conservation significance in close proximity but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or Business partners.
- - Alien invasive vegetation must be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) and disposed of at a recognised waste disposal facility.
- Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances. This will also reduce fragmentation due to mining operations.

- Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible. This will be according to a Rehabilitation Plan that needs to be compiled by a suitably qualified specialist and complement the current Biodiversity Management Plan (BMP). It will include the following:
 - Installation of erosion control structures.
 - Re-vegetation measures of disturbed/modified areas using indigenous shrubs and grasses only.
 - Special attention will be paid to ensuring that critical topography is reconstructed as far as practical. into existing washes.

Residual impacts

Habitat loss will occur as a residual impact but could be reduced with effective mitigation and management as discussed above. Based on the estimated areas of loss (Section 5.3), approximately 125 ha of irreplaceable habitat will be lost to the mine footprint. Even with mitigation, mining will result in the permanent and irreversible loss of habitat, the impact significance is likely to remain Major (Table 7.9).

Table 7.9 Pre- and Post- Mitigation Significance for Loss of Medium-High, High Sensitivity Habitats and Associated Species

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Loss of Habitat and Associated Species from Site Clearance	Construction and Operations	MAJOR	MAJOR

7.5.2 Construction and Operation Phase: Loss of Medium and Low Sensitivity Habitats and Associated Species

Impact Description

The footprint of the proposed mine expansion includes the open pits, waste rock pad and road infrastructure. Whilst at the time of the study detailed the layout of new mining infrastructure was not available, it is anticipated that the open pits will affect a small portion of medium and low sensitive habitats, whilst the waste rock pad Alternative 1 will affect larger areas of habitats of medium-low sensitivity. Waste rock pad Alternative 2 will be on largely modified habitat with low sensitivity. Although the use of waste rock pad Alternative 2, preferred from an ecological perspective, will be a mitigation measure in itself, the use of either will have impacts and will need mitigation measures to be in place, hence both are evaluated in this section. These habitats include the following:

- Bushmanland Arid Grassland (Medium - Low Sensitivity) ;
- Low Outcrops, Modified Dunes (Low Sensitivity);
- Disturbed or Modified Mountain Aprons (Medium - Low Sensitivity); and
- Entirely Modified Areas (Low Sensitivity).

Impact Assessment

Table 7.10 describes the impact assessment of Project activities on the loss of medium-low to low sensitivity habitats and associated species.

Table 7.10 Impact Assessment: Construction: Loss of Medium and Low Sensitivity Habitats and Associated Species

Rating of Impacts Pre-Mitigation			
Characteristic	Designation Portions of Open Pit and Waste Pad Alternative 1	Designation Portions of Open Pit and Waste Pad Alternative 2	Summary of Reasoning
Nature	Direct Negative	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Regional	Local	Through direct, indirect, induced and cumulative impacts, the availability and functionality of natural habitats, adjacent and downstream areas may be negatively affected.
Duration	Permanent	Permanent	The functioning of restricted and/or natural habitats cannot be fully restored through rehabilitation efforts, adjacent and downstream habitats may also be negatively affected.
Scale	± 129 ha Medium-Low Sensitivity habitat (Using Waste Rock Pad Alternative 1)	± 144 Ha Low Sensitivity habitat (Using Waste Rock Pad Alternative 2)	Between 129ha and 144ha depending on the alternative selected.
Frequency	Permanent and continuous	Permanent and continuous	Once the original habitat is significantly modified, its configuration cannot be re-created or ever fully restored.
Impact Magnitude if Waste Rock Pad Alternative 1 is used: Medium			
Impact Magnitude if Waste Rock Pad Alternative 2 is used: Medium			
Sensitivity/Vulnerability/Importance of the Resource/Receptor -Waste Pad Alternative 1: Medium to Low Sensitivity			
Sensitivity/Vulnerability/Importance of the Resource/Receptor - Waste Pad Alternative 2: Low Sensitivity			
<u>Reversibility:</u> The infrastructure footprint extends over natural habitats, whilst also being in very close proximity to highly sensitive and irreplaceable habitats, which will be negatively affected.			
Significance Rating Pre-Mitigation - Waste Pad Alternative 1: MODERATE TO MINOR			
Significance Rating Pre-Mitigation - Waste Pad Alternative 2: MINOR			

Mitigation and Management Measures

- Minimise clearing and operations in natural habitats. For the location of waste rock pads, clearing of natural vegetation within at least 50 m of adjacent habitats with high sensitivity should be avoided.
- Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species).
- Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area.
- Avoid placing the waste rock pad within natural habitats.
- Use existing gravel roads and already disturbed areas to access mining operations as far as possible.

- No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas.
- Conducting a thorough pre-construction survey to avoid and/or minimise the loss of species of conservation concern.
- The pre-construction survey must be followed by implementing necessary Search and Rescue actions prior to any groundworks taking place, whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern.
- Delineate all permissible areas so that all movement of vehicles and heavy machinery can be restricted to permissible areas, these being designated access roads, maintenance roads, turning points and parking areas. No off-road driving beyond designated areas will be allowed.
- Design and create berms to stop runoff from the mining and waste-rock dump during/after periodic extreme rainfall events from entering directly into existing washes.
- Keep the clearing of natural vegetation to a minimum.
- Cleared indigenous shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas.
- Ensure topsoils, where available, are first removed and retained for rehabilitation purposes. Topsoils should not be stored in heaps higher than 1 m, may never be compacted and the growth of natural vegetation on such piles during storage should be encouraged.
- Wheels of large machinery should be checked prior to entering topsoil storage sites and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds) to reduce the introduction and spread of alien invasive plants. All such plant material removed must be burnt.
- Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close as possible together (but avoiding the blockage of or increased impact on sensitive habitats).
- Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer (with the necessary storm water control) if oil and fuel spillages are highly likely to occur.
- Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas.
- Install adequate drainage structures to ensure that water flows are never concentrated or blocked in any way.
- If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing of fill materials.
- Areas of high conservation significance in close proximity but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or Business partners.
- Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances.
- Compilation of a Rehabilitation Plan by a suitably qualified specialist to complement the Biodiversity Management Plan (BMP). It will include the following:

- Installation of erosion control structures.
- Re-vegetation of disturbed/modified areas using indigenous shrubs and grasses only.
- Special attention will be paid to ensuring that critical topography is reconstructed as far as practical.

Residual Impacts

With the implementation of the above mitigation measures, the impact significance is likely to be reduced to minor (*Table 7.11*).

Table 7.11 Pre- and Post-Mitigation Significance for Loss of Medium and Low Sensitivity Habitats and Associated Species

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Loss of Medium-Low to Low Sensitivity Habitats	Construction and Operations	MODERATE	MINOR

7.5.3 Construction and Operation Phase: Loss of Plant Species of Conservation Concern

Impact Description

Throughout the study area, numerous occurrences of species of conservation concern have been observed. These range from very slow-growing trees to tiny succulents with very specific and restricted habitat requirements.

Several of these species are unique to the Bushmanland Inselberg Centre of Endemism. It is important that the species of higher conservation importance be either avoided or relocated so they can continue to persist and reproduce. This is especially necessary as in the prevailing arid habitat, suitable recruitment and establishment events (i.e. at least 3 consecutive years of average to above-average rainfall) are very scarce.

Impact Assessment

Table 7.12 describes the impact assessment of Project activities on the loss of plant species of conservation concern.

Table 7.12 Impact Rating: Loss of Plant Species of Conservation Concern Pre-Mitigation

Rating of Impacts Pre-Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment.
Extent	Regional	Through direct, indirect, induced and cumulative impacts, the availability of unique habitats, and habitats suitable to species with a narrow distribution (narrow endemics) will be reduced and/or negatively affected. The regional viability of restricted plant populations may be affected.
Duration	Permanent	The unique habitats cannot be restored through rehabilitation efforts.
Scale	At least 18 species of high to moderate conservation concern will be directly affected.	

	± 302 ha natural habitats will be directly impacted. A much larger area may be indirectly impacted due to dust-particles and/or altered runoff patterns, which could not be determined or evaluated during the present study.	
Frequency	Permanent and continuous	Once the original habitat is significantly modified, its configuration cannot be re-created or ever fully restored.
Impact Magnitude: Large		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Very High to Medium		
<u>Reversibility:</u> The infrastructure footprint extends over some highly sensitive and irreplaceable habitats and species associated with them, and the loss of such habitats will be permanent. Further, loss of slow-growing species that have a restricted range and a low population growth rate will be affected.		
Significance Rating Pre-Mitigation: MAJOR		

Uncertainties:

- Re-establishment rates of relocated succulents that are restricted to specific habitats, e.g. rock crevices, are not known.
- It is uncertain how all species of conservation concern are best relocated, especially if they grow in localities from which they are difficult to extract (e.g. rocky outcrops and Koppies).
- It is currently not known if and where there will be suitable habitat for relocating such species.

Mitigation and Management Measures

- If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. In general, minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating.
- Avoid and/or minimise the loss of species of conservation concern by conducting a thorough pre-construction survey.
- The pre-construction survey must be followed by implementing the necessary Search and Rescue actions prior to any groundworks taking place whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern.
- The following activities will be prohibited for staff and Business Partners or any other person that may be present within or have access to the BMM mining concession area:
- Purchase or transport of any wildlife/indigenous plant products from local communities or passing traders who cannot prove that they have valid permits for having such plants in their possession.
- Collection of any plants or plant- products for trade, consumption, medicinal use or cultivation, unless such person has the permission of the mine management as well as a valid permit from the responsible authorities.
- Plants of conservation concern that will be directly affected by planned mining operations could be used for research purposes, if this will not critically reduce the viability of natural populations, and only with the necessary permits and permissions from the responsible authorities and BMM management.
- Any unauthorised driving to areas not directly affected by the mine, but which may contain species of conservation concern and/or natural habitat within the BMM mining concession, will not be allowed.
- Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and continue progressively during all phases of mining.
- Where possible, rescued plants can be used as part of the rehabilitation efforts.

Residual impacts

Habitat and potential species loss – or loss of rescued plants - will still occur as a residual impact but could be reduced with effective mitigation. Based on the estimated areas of loss, up to 300 ha of natural and partially irreplaceable habitat will be lost to the mine footprint. Even with mitigation, mining will result in a permanent and irreversible loss of habitat that would be suitable for the re-establishment of such species.

However, with the implementation of the above mitigation measures, the impact significance is likely to remain Major (*Table 7.13*).

Table 7.13 Pre- and Post- Mitigation Significance for Loss of Plant Species of Conservation Concern

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Loss of Plant Species of Conservation Concern	Construction and Operations	MAJOR	MAJOR

7.5.4 Construction and Operation Phase: Reduced Ecological Function and Degradation due to Altered Soil Surfaces

Impact Description

Soil surfaces will be altered significantly in a direct manner by the mining operations, changing not only topography, but all soil surface roughness, soil surface texture and most likely also soil surface chemistry. Indirectly, soil surfaces inside and outside the physical mine footprint will be impacted at least by some degree by dust generated from blasting practices, as well as other activities related to the excavation and movement of materials. Although the scale and possible severity of these impacts cannot be determined at this stage, it will still be necessary to evaluate this impact as it may affect biodiversity adjacent and downstream of the mining footprint. This is due to altered moisture infiltration, altered micro-habitats, possible altered soil chemistry and altered soil moisture regimes that will influence plant growth, persistence and regeneration potential.

Impact Assessment

Table 7.14 describes the impact assessment of Project activities on the reduced ecological function and degradation due to altered soil surfaces.

Table 7.14 Impact Rating: Reduced Ecological Function and Degradation due to Altered Soil Surfaces Pre-Mitigation

Rating of Impacts Pre-Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment.
Extent	Regional	Through direct, indirect, induced and cumulative impacts, the availability of unique habitats, and habitats suitable to species with a narrow distribution (narrow endemics) will be reduced and/or negatively affected.
Duration	Permanent	Habitat configuration cannot be restored through rehabilitation efforts
Scale	medium	At least ± 300 ha, much larger area expected after more data is available on footprint layout.

Frequency	Permanent continuous	and	Once the original habitat is significantly modified, its configuration cannot be re-created or ever fully restored.
Impact Magnitude: Large			
Sensitivity/Vulnerability/Importance of the Resource/Receptor: High			
<u>Reversibility:</u> The infrastructure footprint extends over some highly sensitive and irreplaceable habitats, and the loss of such habitats will be permanent.			
Significance Rating Pre-Mitigation: MAJOR			

Mitigation and Management Measures

- If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating.
- Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species).
- Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area.
- Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural areas.
- Keep the clearing of natural vegetation to a minimum.
- Indigenous cleared shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas.
- Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas.
- Install adequate drainage structures to ensure that water flows are never concentrated or blocked in any way.
- Dust levels from blasting and haulage must be controlled and minimised at all times.
 - As far as practically possible, blasting should only be done under low- or no-wind conditions.
 - Once the extent of possible dust deposition has been modelled and is known, it will be advisable to search the area affected for plant species of conservation concern. In areas with a high(er) concentration of such species, dust monitoring programmes, coinciding with monitoring programmes of the plants affected should be implemented to advise management if any immediate remedial action will be required, or if possible offset or relocation measures will need to be implemented if affected species start dying off at increased rates due to dust deposition.
 - Strict speed limits must be set and adhered to in order to reduce dust fall out.
- Prior to rehabilitation, landscaping of disturbed areas needs to be undertaken in a way that ensures sufficient surface roughness, but also blends in with natural runoff and drainage patterns, whilst still preventing the start of rill- or gully erosion.
- As part of rehabilitation, all compacted soils need to be ripped to a depth of at least 30 cm to prevent soil-surface crusting.
- All signs of accelerated erosion after a large rainfall event must be mitigated as soon as possible.
- Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible.

Residual impacts

Habitat modification, dust deposition and associated modification of the soil surface characteristics will still occur as a residual impact, but could be reduced with effective mitigation. With the implementation of the above mitigation measures, the impact significance is likely to remain Major (*Table 7.15*).

Table 7.15 Pre- and Post- Mitigation Significance for Reduced Ecological Function and Degradation due to Altered Soil Surfaces

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Reduced Ecological Function and Degradation due to Altered Soil Surfaces	Construction and Operations	MAJOR	MAJOR

7.5.5 Construction and Operation Phase: Increase in Alien Invasive Vegetation

Impact Description

Disturbance of the natural environment presents a window of opportunity for the establishment of alien invasive species, especially if regenerative material of such species is already present in close proximity or along major transport routes. Introduction of such species is almost always accidental, and will require an ongoing program to control such plants to prevent a build-up of large seedbanks and populations that become large enough to start negatively affecting rehabilitation efforts as well as remaining natural habitats. Current threats are relatively low, but should be minimised or obliterated as far as possible.

Impact Assessment

Table 7.16 describes the impact assessment of Project activities on increased alien invasive vegetation.

Table 7.16 Impact Rating: Increased Alien Invasive Vegetation Pre-Mitigation

Rating of Impacts Pre-Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local	From the study undertaken, it would appear that the current distribution of alien invasive species is limited and at a level where it can be controlled.
Duration	Long-Term Permanent	to It is expected that where such species occur, soil seed banks have already built up and will facilitate ongoing re-establishment that may worsen the infestation if not addressed
Scale	Full assessment of alien distribution was not part of the study, and needs to be done as part of an alien species control plan	
Frequency	Continuous	If not addressed alien plant infestations could occur on a continuous basis.
Impact Magnitude: Small		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: High due to the high sensitivity of the flora within the area.		
Reversibility: Alien invasive species infestations are reversible if stringent programmes are put in place		
Significance Rating Pre-Mitigation: MODERATE		

Mitigation and Management Measures

- Wheels of large machinery should be checked prior to entering the site and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds). All such plant material removed must be burnt.
- If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing fill materials.
- Conduct a detailed Alien Invasive Survey within the BMM concession area, and if possible also along approximately 20 -50 km of all major access routes leading to the mine. From this:
 - Create and implement a suitable (alien) Invasive Plant Management Plan (following DEA standards for an Alien Management Control Plan).
 - Destruction of regenerative material of cleared alien species by burning in a protected area is encouraged.
 - Be aware of alien species that may be newly introduced to the area and act immediately to eradicate once detected.

Rehabilitate:

- Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and progressively during all phases of the mine. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). It will include the following:
- Re-vegetation measures of disturbed/modified areas using indigenous shrubs and grasses only. The selection of species used for rehabilitation may not include any species that are not suitable to the receiving environment (i.e. must occur there naturally), and also no species that are indicative of habitat degradation..

Residual Impact

Any physical disturbance and movement of man and machinery always present opportunities for alien invasive plants to become established. Currently this can be controlled, but will require a permanent ongoing effort to ensure that alien invasive species do not become a major problem to manage.

With the implementation of the above mitigation measures, the impact significance is likely to be reduced to minor (*Table 7.17*)

Table 7.17 Pre- and Post- Mitigation Significance for Increased Alien Invasive Vegetation

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Increased Alien Invasive Vegetation	Construction and Operation	MODERATE	MINOR

7.6 Fauna

Potential impacts concerning terrestrial flora within the Project area are as follows:

- Loss of Habitats of Medium, High and Very High Sensitivity;
- Loss of Individuals of Faunal Species of Conservation Concern; and
- Cumulative Impact of Habitat Fragmentation and Reduced Landscape Connectivity for Fauna.

7.6.1 Construction and Operation Phase: Faunal Habitat Loss of Medium, High and Very High Sensitivity areas

Impact Description

The footprint of the proposed mine expansion includes the Opencast Pit, Waste Rock Pad and possible increased road infrastructure. Within the expanded mine area in particular, there are numerous high value faunal habitats such as drainage lines, rocky outcrops and steep mountain slopes.

Impact Assessment

Table 7.18 describes the impact assessment of the Loss of High, High and Very High Sensitivity Habitats as a result of Project activities.

Table 7.18 Pre- Mitigation Impact Rating: Faunal Habitat Loss within Medium, High and Very High Sensitivity Habitats and Associated Species

Rating of Impacts Pre-Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct	The impact is a result of primary project activities and the receiving environment
Extent	Regional	Through direct, indirect, induced and cumulative impacts, the availability of unique habitats, and habitats suitable to species with a narrow distribution (narrow endemics) will be reduced and/or negatively affected. <i>With adequate mitigation measures this could be reduced to a Local Extent.</i>
Duration	Permanent	The high value faunal habitats cannot be easily restored through rehabilitation and should be considered more or less permanent. Furthermore, in the long-term it is uncertain whether the waste rock dump and mine voids would be restored at all and it is highly likely that the activities would result in permanent habitat loss or a significant decrease in faunal habitat value across the affected areas.
Scale	± 200 ha	The size of the Project site (including different WRD options)
Frequency	Permanent and continuous	Once the original habitat is significantly modified, its configuration cannot be re-created or ever fully restored
Impact Magnitude: Large		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility: Low The infrastructure footprint extends over some highly sensitive and irreplaceable habitats, and the loss of such habitats will be permanent.		
Significance Rating Pre-Mitigation: MODERATE		

Proposed Mitigation Measures

- As far as possible, minimize disturbance and habitat loss within the high and very high sensitivity areas such as drainage lines.
- The final design mine footprint areas should be clearly demarcated and all mining activities restricted to these areas. In the event that the final design differs from that presented in this EIA, an additional walkover of the area to confirm conditions.
- Any exploration trenches, pits or boreholes that pose a danger to fauna should be filled-in or covered to prevent fauna from falling and becoming trapped.
- Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural habitats.
- No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas.
- There should be waste bins with lids distributed at strategic points across the site to ensure that litter is well-managed. No food waste or other waste that might attract fauna should be left exposed.
- There should be a preconstruction search and rescue for fauna prior to vegetation clearing within areas where there are identified fauna resident and which might be killed by construction activities.

- Design and create berms to stop runoff from the mining and waste-rock dump during/after periodic extreme rainfall events from entering directly into existing washes.
- If the site must be lit at night for security purposes, this should be done with downward-directed low-UV type lights (such as most LEDs), which do not attract insects.
- Keep the clearing of natural vegetation to a minimum.
- Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close together as possible (but avoiding the blockage of or increased impact on sensitive habitats).
- Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer.
- Areas of high faunal significance in close proximity to, but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or contractors.
- Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances. This will also reduce fragmentation due to mining operations.
- Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and progressively during all phases of the mine. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP).
- No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or relocated without appropriate authorisations/permits.
- No poaching must be tolerated under any circumstances.
- No deliberate or intentional killing of fauna is allowed.

Residual impacts

Habitat loss for fauna cannot be comprehensively mitigated and will still occur to some degree regardless of the mitigation applied. Even with rehabilitation and other mitigation, mining will result in some permanent and irreversible loss and degradation of habitat within the mine footprint.

Table 7.19 Pre- and Post-Mitigation Impact Rating: Loss of Medium, High and Very High Sensitivity Faunal Habitats and Associated Species

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Loss of Faunal Habitats of Medium, High and Very High Sensitivity	All Phases	MODERATE	MODERATE

7.6.2 Construction and Operation Phase: Loss of Individuals of Fauna due to mining activities.

Impact Description

The proposed mine expansion will involve vegetation clearing, earth moving and blasting for mining and site establishment. This is likely to result in the direct loss of individuals of fauna that are too slow or

unable to move away from the construction activities. Some larger fauna, may be able to move away from the site but unable to find suitable habitat elsewhere. Furthermore, the large number of personnel present at the site would pose a risk to some fauna through poaching.

Impact Assessment

Table 7.20 describes the impact assessment of the Loss of individuals of fauna as a result of Project activities.

Table 7.20 Pre- Mitigation Impact Rating: Loss of Individuals of Fauna due to Mining Activities.

Rating of Impacts Pre-Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct	The impact is a result of primary project activities
Extent	Local	Through direct, indirect and induced impacts, individuals of susceptible fauna will be lost or killed.
Duration	Long-term	An impact on fauna due the mining activities would be highest at site establishment, but would be on-going at a lower level for the duration of the project.
Scale	± 200 ha	Local
Frequency	On-Going	The impact is likely to continue to some degree for the lifetime of the project.
Impact Magnitude: Moderate		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility: <u>Moderate</u> There would some permanent habitat loss and degradation for fauna, but direct impact would largely cease at the end of the project and the impact would no longer occur to a significant degree, although there could be some residual impact due to mining voids that have not been backfilled etc.		
Significance Rating Pre-Mitigation: MODERATE		

Proposed Mitigation Measures

- Waste bins with lids should be distributed at strategic points across the site to ensure that litter is well-managed. No food waste should be left exposed.
- A preconstruction search and rescue for fauna prior to vegetation clearing must be undertaken within areas where there are identified fauna resident which might be affected by construction activities.
- All fauna threatened by mining activities should be removed to safety by an appropriately trained person.
- All mine staff and contractors should receive an induction highlighting the need to respect the environment, no littering, no persecution of fauna, no illegal hunting, poaching or harvesting of natural products from the environment.
- All construction vehicles should adhere to a low speed limit (30kph for heavy vehicles and 40kph for light vehicles) to avoid collisions with susceptible species such as snakes and tortoises.
- All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner.

- All open water sources such as reservoirs, waste water, evaporation dams etc should be covered with shade cloth, fine mesh or similar to prevent fauna accessing these areas and from falling into the reservoirs and drowning.
- Provide signage to indicate the right of way of fauna such as tortoises. Any roadkill should be recorded and all areas where repeated events occur should be inspected to see if additional mitigation can be applied

Residual impacts

Direct impacts on fauna can be mitigated to some degree although some low-level mortality of susceptible species is likely unavoidable. However, in the long-term this impact can be reduced to a low level through mitigation and avoidance.

Table 7.21 Pre- and Post-Mitigation Impact Rating: Direct Impact on Fauna Species

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Direct impact on fauna	All Phases	Moderate	Minor

7.7 Groundwater

Potential impacts on groundwater as a result of Project activities within the Project area are as follows:

- Impact of Contaminants on the Groundwater Resource;
- Impact of Water Quality on Groundwater Users;
- Impact of Drawdown or Dewatering on the Groundwater Resource; and
- Impact of Drawdown or Dewatering on Groundwater Users.

7.7.1 Operation Phase: Impact of Contaminants on the Groundwater Resource

Impact Description

Contaminants of Concern (CoCs) related to the mining operation have been identified from the existing groundwater quality data and include salts such as sodium (Na), calcium (Ca), magnesium (Mg), potassium (K), chloride (Cl), sulphate (SO₄), manganese (Mn), zinc (Zn), lead (Pb) and nitrates (NO₃, surface blasting in opencast pits). No geochemical assessments were performed on the waste rock and fines and it is recommended that these studies be performed to indicate the contamination potential of the waste material and chemical parameters that may be problematic. Further, due to blasting activities in-pit it is expected that large amounts of NO₃ will be released, and possibly diesel, depending on the type of explosives used.

Total Dissolved Solids (TDS) in groundwater emanating from the WRDs was quantified using numerical solute transport modelling. TDS is a conservative tracer, providing an indication of conservative contaminant extent.

End of mining modelled TDS plumes at concentrations exceeding the Quality of Domestic Water Supplies (DWA&F, Second Edition 1998) of 2,400 mg/L are mainly confined to within the immediate area and footprint of the contaminant sources. The plumes are expected to impact an area of 1.77 km² (WRDs) and do not extend off-site.

WRDs (Option 1 and Option 2) are located immediately adjacent to the open pits and contaminated seepage from the WRDs is expected to partly flow into the pits. It is unlikely that water will be visible in the pit except following heavy rain events. Due to the high evaporation rate, salts and other contaminants are expected to accumulate in the pit and can be dissolved and mobilised during rain events. Pumped water from the pit following rain events could therefore be heavily contaminated. Further, toe seepage is expected to occur at the base of the WRDs following heavy rain events. This seepage is expected to be contaminated.

The TDS leaching from the WRD is predicted to steadily increase in concentration to an average maximum of about 5,500 – 6,500 mg/L on closure (based on the historical groundwater quality data of Deeps / Broken Hill WRD - It is recommended that geochemical assessments/ modelling be performed on the discard rock material of the proposed WRDs). This is significantly higher than TDS concentrations measured in groundwater sampled from hydrocensus boreholes to the east of Swartberg which has a range from 1,260 mg/L. However, water quality impacts are expected to be limited to the immediate area down-gradient of groundwater flow and the footprints of the planned WRDs. Leaching of contaminated water from WRDs will severely alter the groundwater quality within the footprint of these facilities.

The groundwater is considered as an important resource (due to the overall dry climatic conditions and limited surface water in the region) even though natural groundwater quality does not currently meet drinking water or stock watering standards.

Impact Assessment

Table 7.22 describes the impact assessment of Project activities on groundwater quality affecting the groundwater resource during operations.

Table 7.22 Impact Assessment: Operations: Contaminants on the Groundwater Resource

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local/on site	The extent of the impact is confined to the footprint of the WRDs and the immediate area down gradient of groundwater flow. Therefore the impact is rated as on-site and local.
Duration	Permanent	The expected impact will be permanent (ie irreversible).
Scale	>1.77 km ²	Project activities will severely alter the groundwater quality within the footprint and in the immediate area down-gradient of groundwater flow of the WRDs.
Frequency	Continuous	It is expected that the frequency of the impact will be continuous.
Impact Magnitude: Medium (Impact of Swartberg U/G dewatering cone and planned open pits)		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- Low		
Significance Rating Before Mitigation: MODERATE		

Mitigation Measures

In keeping with the mitigation hierarchy, the priority in mitigation is to apply mitigation measures to the source of the impact, the main sources being the planned enlarged footprint and the planned WRDs (Option 1 and Option 2).

No geochemical modelling has been undertaken but existing groundwater data indicates that the WRDs will generate acid rock drainage (ARD), which is expected to seep into groundwater. Detailed geotechnical and geophysical investigations will be undertaken prior to construction to refine and confirm assumptions made in respect to the current studies around the integrity of the subsurface beneath the planned areas of the WRDs. Mitigation measures required to reduce the impact on groundwater quality include:

- Toe seepage from the WRD's is expected to be contaminated and suitable management measures should be in place to prevent the release of this contaminated water into the environment. It is recommended that as much water as possible should be recycled and re-used.
- The numerical groundwater flow and transport model should be updated/validated as additional information becomes available (ie SEEP/W model results, geophysics results and hydraulic conductivity of WRDs material) prior to construction to ensure assumptions made during the development of the model remain valid.

Pumped water from the pit following heavy rain events is expected to be contaminated and will need to be contained or treated to applicable standards if it is to be released into the environment, in accordance with the Water Use Licence (WUL) requirements. The current numerical groundwater flow and transport model is based on a number of conservative assumptions and should be updated/validated as additional information becomes available (ie SEEP/W model results, geophysics results and hydraulic conductivity of WRDs material) prior to construction to ensure assumptions made during the development of the model remain valid.

Pumped water from the pit following heavy rain events is expected to be contaminated and will need to be contained or treated to applicable standards if it is to be released into the environment, in accordance with the Water Use Licence (WUL) requirements.

It is further recommended that these mitigation measures be complemented with groundwater quality monitoring in the vicinity of contamination sources and in radially increasing distance from them. Monitoring should be carried out on a regular basis throughout the construction and operational phases. The monitoring data should be stored in an appropriate data management tool/database. Currently a monitoring network exist for BMM. It is recommended that additional groundwater monitoring boreholes be constructed for the planned WRDs.

Targeted monitoring allows the assumptions in predictive models to be reduced and thus the reliance of such models improves. Groundwater models should therefore be validated and updated using the monitoring data such that transport model predictions can be updated (ie plume extent, modelled concentrations). This will lead to models with a higher confidence level that can be used as management tools throughout the operational phase as well as for planning of the post-closure phase of the Project to ensure appropriate provisions are made.

Residual Impacts

With the implementation of the above mitigation measures, the impact significance is likely to be reduced to minor (*Table 7.23*).

Table 7.23 Pre- and Post- Mitigation Significance for Contaminants on the Groundwater Resource during the Operation Phase

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of Groundwater Quality on the Groundwater Resource	Operations	MODERATE	MINOR

7.7.2 Decommissioning Phase: Impact on Groundwater Quality on the Groundwater Resource

Impact Description

The seepage from WRDs are controlled by increased recharge from rainfall due to the disruption of natural material, increase in hydraulic conductivity and the higher porosity of the dumps reducing the amount of surface runoff and increasing the amount of infiltration. Therefore, the seepage from WRDs is not expected to stop after mine closure and is expected to expand further towards the proposed pit areas.

Modelled areal extent of TDS plumes 100 years after mine closure are 3.72 km² for the WRDs. The maximum travel distance of 0.75 km is observed from the WRDs in a westerly south-westerly direction.

Impact Assessment

Table 7.24 describes the impact assessment of Project activities on groundwater quality affecting the groundwater resource during and post decommissioning.

Table 7.24 Impact Assessment: Decommissioning: Contaminants on the Groundwater Resource during the Post Closure Phase before Mitigation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local/on site	The extent of the impact is confined to the footprint of the WRDs and the immediate area down gradient of groundwater flow. Therefore the impact is rated as on-site and local.
Duration	Permanent	The expected impact will be permanent (ie irreversible).
Scale	>3.72 km ²	The resource/ receptor will remain unaltered except within the Mine footprint and in the immediate area down-gradient of groundwater flow of the WRDs.
Frequency	Continuous	It is expected that the frequency of the impact will be continuous.
Impact Magnitude: Medium (Impact of Swartberg U/G dewatering cone and planned open pits)		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- Low		
Significance Rating Before Mitigation: MODERATE		

Mitigation and Management Measures

Operational mitigation measures have to be maintained post closure. Further, final profiling of the WRDs should be aimed at reducing erosion and minimising further water infiltration.

Higher confidence groundwater models (developed/updated using monitoring data collected throughout the construction and operational phases) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring. Usually DWS Water Use Licence requirements indicate that the mining site and regionally identified boreholes that are off-site of the project area should be monitored (groundwater levels and water quality) for at least 10 years after mine closure.

Residual Impacts

The implementation of the decommissioning phase mitigation measures are unlikely to reduce the significance rating, and it thus remains Moderate.

With the implementation of the above mitigation measures, the impact significance is likely to be reduced to minor (*Table 7.25*).

Table 7.25 Pre- and Post- Mitigation Significance for Contaminants on the Groundwater Resource Post Closure

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of Groundwater Quality on the Groundwater Resource	Decommissioning and Post closure	MODERATE	MINOR

7.7.3 Operation Phase: Impact of Contaminants on Groundwater Users

Impacts Description

TDS groundwater contamination emanating from WRDs was quantified using numerical solute transport modelling. TDS is a conservative tracer, providing an indication of conservative contaminant extent.

At the end of mining, modelled TDS plumes are usually at concentrations exceeding the Quality of Domestic Water Supplies (DWA&F, Second Edition 1998) of 2,400 mg/L. Plumes are mainly confined within the immediate footprint and the area immediately down-gradient of groundwater flow of the contaminant sources and are not expected to affect any private groundwater users (farm boreholes, Witputs BH, Koeris 54BH1 and Koeris 54BH2).

Impact Assessment

Table 7.26 describes the impact assessment of Project activities on groundwater quality affecting groundwater users during operations.

Table 7.26 Impact Assessment: Operations: Impacts of Contaminants on the Groundwater Users before Mitigation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local/on site	The extent of the impact is on-site / local.
Duration	Permanent	The expected impact will be permanent (i.e. irreversible).
Scale	The groundwater resource is expected to remain unaltered except for the footprint and the immediate area down-gradient of groundwater flow of WRDs.	
Frequency	Continuous	It is expected that the frequency of the impact will be continuous.
Impact Magnitude: Negligible		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- Low		
Significance Rating Before Mitigation: NEGLIGIBLE		

Mitigation and Management Measures

Groundwater quality should be monitored at the existing (known) private boreholes at regular intervals to confirm modelling results. Should monitoring data confirm an impact on private users, the client will compensate affected farmers for their loss, replacing the lost water supply source.

Residual Impacts

With the implementation of the above management measures, the impact significance will remain negligible (*Table 7.27* **Error! Reference source not found.**).

Table 7.27 Pre- and Post- Mitigation Significance for Impacts of Contaminants on the Groundwater Users during Operations

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of Groundwater Quality on the Groundwater Users	Operations	NEGLIGIBLE	NEGLIGIBLE

7.7.4 Decommissioning Phase: Impact of Contaminants on Groundwater Users

Impact Description

The seepage from WRDs is not expected to stop after mine closure and will continue to expand post-closure.

The modelled areal extent of TDS plumes 100 years after mine closure are 3.72 km² for the WRDs. The maximum travel distance of 0.75 km is observed from the WRDs in westerly direction. Private groundwater users are not expected to be impacted by groundwater contamination as plumes remain within farms owned by the client.

Impact Assessment

Table 7.28 describes the impact assessment of Project activities on groundwater quality affecting groundwater users post closure.

Table 7.28 Impact Assessment: Post Closure: Impact of Contaminants on the Groundwater Users Post Closure before Mitigation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local/on site	The extent of the impact is confined to the site / local.
Duration	Permanent	The expected impact will be permanent (ie irreversible).
Scale	>3.72 km ²	The groundwater resource is expected to remain unaltered except for the footprint and the immediate area down-gradient of groundwater flow of WRDs.
Frequency	Continuous	It is expected that the frequency of the impact will be continuous.
Impact Magnitude: Negligible		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- Low		
Significance Rating Before Mitigation: NEGLIGIBLE		

Mitigation and Management Measures

Groundwater quality should be monitored at the existing (known) private boreholes at regular intervals starting prior to or during construction to confirm modelling results. Should monitoring data confirm impact on private users, BMM will compensate affected farmers for their loss, replacing the lost water supply source.

The present numerical groundwater flow and transport model will be updated at regular intervals starting prior to construction as additional information becomes available to ensure assumptions made during the development of the model remain valid and that model predictions remain current. Usually the DWS Water Use Licence requirements indicate that the mining site and regionally identified boreholes that are off-site of the project area should be monitored (groundwater levels and water quality) for at least 10 years after mine closure.

Residual Impact

With the implementation of the above mitigation measures, the impact significance is likely to remain negligible (*Table 7.29* **Error! Reference source not found.**).

Table 7.29 Pre- and Post- Mitigation Significance for Impacts of Contaminants on the Groundwater Users Post Closure

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of Groundwater Quality on the Groundwater Users	Post Closure	NEGLIGIBLE	NEGLIGIBLE

7.7.5 Operation Phase: Impact of Drawdown or Dewatering on the Groundwater Resource

Impact Description

The planned open pit mining operation will contribute to the existing dewatering of the aquifer. The Swartberg U/G Workings and a drawdown cone will develop predominantly towards the north-east and to a lesser extent to the south. Increased recharge from the WRD Option 2 may prevent to some extent the drawdown cone propagation towards the east where WRD Option 1 may buffer the propagation of the dewatering cone to the south.

Groundwater modelling suggests that at the end of mining drawdowns or the dewatering cone can be expected to reach approximately 2.5 km to the north-east and 1.2 km to the south. The maximum drawdown in close proximity to the pit is approximately 720 - 760 mbgl.

Groundwater is used in the area and represents the sole source of water for a number of farmers despite groundwater quality in the study area being considered unsuitable for domestic use when compared with the South African Water Quality Guidelines (South African National Standards, SANS241-2015 and SANS241-2006). The boreholes to the east of Swartberg were found to be suitable for livestock watering (South African Water Quality Guidelines, Volume 5 - Agricultural Use: Livestock Watering). Farm boreholes closest to the planned project are located in between 4.5km (Koeris 54BH2) and 5.3 km (Witputs BH) away from the planned open pits and existing Swartberg U/G Workings and remain unaffected during operations as the drawdown cone will largely be confined to the project site.

Hydraulic head change is expected to be limited to the Project site and adjacent properties belonging to the BMM. Groundwater levels are not expected to recover after mine closure to the pre-mining state,

since the pits will continue to act as a sink to groundwater based on the elevated evaporation rate if not rehabilitated.

The dewatering cone will not fully recover even 100 years after the cessation of mining. The dewatering cone will, however, get smaller with time post closure.

The groundwater model is currently based on a number of conservative assumptions but was calibrated with available data. This implies that reliability of the model predictions is low to medium. However, the model confidence is deemed sufficient to assess conservative impacts and make appropriate mitigation recommendations at the EIA stage of the project.

Impact Assessment

Table 7.30 describes the impact assessment of drawdown or dewatering activities on the Drawdown or Dewatering on the Groundwater Resource during the operation phase.

Table 7.30 Impact Assessment: Operations: Drawdown or Dewatering on the Groundwater Resource before Mitigation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local	Groundwater modelling suggests that at the end of mining drawdowns or the dewatering cone can be expected to reach approximately 2.5 km to the north-east and 1.2 km to the south
Duration	Permanent	The expected impact will be permanent (ie irreversible, > 100 years, although the dewatering cone will decrease somewhat in size after closure the dewatering cone will remain.
Scale	2.5 km to the north-east and 1.2 km to the south	The dewatering cone can be expected to reach approximately 2.5 km to the north-east and 1.2 km to the south
Frequency	Continuous	It is expected that the frequency of the impact will be continuous.
Impact Magnitude: Medium (Impact of Swartberg U/G dewatering cone and planned open pits)		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- Irreversible - groundwater levels on-site may not recover to a pre-mining state even after 100 years.		
Significance Rating Before Mitigation: MODERATE		

Mitigation and Management Measures

Groundwater level change (drawdown) cannot be mitigated. It is therefore recommended that groundwater levels in the vicinity of the pits as well as in each of the known farm boreholes (Witputs BH, Koeris 54BH1 and Koeris 54BH2), are monitored on a regular basis throughout the operational phase. The monitoring data should be stored in an appropriate data management tool/database.

Targeted monitoring, to provide data on key areas of uncertainty, allows the assumptions in predictive models to be reduced and thus the reliance of such models improves. Groundwater models should therefore be validated and updated using the monitoring data such that drawdown predictions can be updated. This will lead to models with a higher confidence level that can be used as management tools throughout the operational phase (ie update predicted impacts in order to be proactive etc) and for planning of the post-closure phase of the project to ensure appropriate provisions are made.

Residual Impact

The larger factor controlling the dewatering cone is the Swartberg U/G Workings and as the workings fill-up with groundwater the dewatering cone will decrease over time after mine closure. However, the groundwater levels are not expected to recover fully after mine closure because the pits are likely to continue to act as a groundwater sink due to the high evaporation rates. As such, the impact significance is likely to remain moderate (Table 7.31).

Table 7.31 Pre- and Post- Mitigation Significance for Drawdown or Dewatering on the Groundwater Resource during Operations

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of drawdown or dewatering on the groundwater resource	Operations	MODERATE	MODERATE

7.7.6 Decommissioning/Post Closure Phase: Impact of Drawdown or Dewatering on the Groundwater Resource

Impact Description

The larger factor controlling the dewatering cone is the Swartberg U/G Workings and as the workings fill-up with groundwater the dewatering cone will decrease over time after mine closure. However, the groundwater levels are not expected to recover fully after mine closure as the pits may continue to act as a groundwater sink due to the high evaporation rates, resulting in a drawdown cone. The maximum drawdown in close proximity to the pit after 100 years is approximately 720 - 760 mbgl.

The three farm boreholes located between 4.5 and 6.2 km away from the planned open pits and existing Swartberg U/G Workings are not expected to experience drawdowns or be impacted by the dewatering cone. Groundwater level change is expected to be limited to the project site and adjacent properties.

Impact Assessment

Table 7.32 describes the impact assessment of drawdown or dewatering activities on the groundwater resource the post closure.

Table 7.32 Impact Assessment: Post Closure: Drawdown or Dewatering on the Groundwater Resource before Mitigation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local	Groundwater modelling suggests that at the end of mining drawdowns or the dewatering cone can be expected to reach approximately 2.5 km to the north-east and 1.2 km to the south
Duration	Permanent	The expected impact will be permanent (ie irreversible , > 100 years).
Scale	Drawdown in the pit after 100 years is approximately 720 - 760 mbgl	The impact of the pits will contribute to the existing dewatering cone of the Swartberg U/G Workings, which have severely altered the resource
Frequency	Continuous	It is expected that the frequency of the impact will be continuous.

Impact Magnitude: Medium (Impact of Swartberg U/G dewatering cone and planned open pits)
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium
Reversibility- Irreversible -groundwater levels on-site may not recover to a pre-mining state even after 100 years.
Significance Rating Before Mitigation: MODERATE

Mitigation and Management Measures

Higher confidence groundwater models (developed/updated using monitoring data collected throughout the operational phase) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring.

Residual Impacts

The impact cannot be mitigated and therefore the impact significance for operational and post-closure phases remains largely unchanged as the dewatering cone although smaller may remain after 100 years to some extent (Table 7.33).

Table 7.33 Pre- and Post- Mitigation Significance for Drawdown or Dewatering of the Groundwater Resource Post Closure

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of drawdown or dewatering of the groundwater resource	Post Closure	MODERATE	MODERATE

7.7.7 Operation Phase: Impact of Drawdown or Dewatering on Groundwater Users

Impact Description

Groundwater is used in the area and represents the sole source of water for a number of farmers. However, private groundwater users are not expected to be impacted during mining as the drawdown cone remains at a distance of more than 1.6 – 2.0 km from the closest existing (known) farm boreholes being (Witputs BH, Koeris 54BH1 and Koeris 54BH2).

Groundwater levels are expected to recover to some extent after mine closure, but it is not expected that the groundwater levels will recover to pre-mining state, since the pits will continue to act as a sink to groundwater.

Impact Assessment

Table 7.34 describes the impact assessment of drawdown or dewatering activities on the groundwater users during operations.

Table 7.34 Impact Assessment: Operations: Drawdown or Dewatering on the Groundwater Users before Mitigation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning

Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local	Groundwater modelling suggests that at the end of mining drawdowns or the dewatering cone can be expected to reach approximately 2.5 km to the north-east and 1.2 km to the south
Duration	Permanent	The expected impact will be permanent (ie irreversible , > 100 years, although the dewatering cone will decrease in size after closure).
Scale	1.6 – 2.0 km from the closest boreholes	The drawdown cone remains at a distance of more than 1.6 – 2.0 km from the closest existing (known) farm boreholes
Frequency	Continuous	It is expected that the frequency of the impact will be continuous.
Impact Magnitude: Negligible (due to distance of boreholes)		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- Irreversible - groundwater levels on-site may not recover to a pre-mining state even after 100 years.		
Significance Rating Before Mitigation: NEGLIGIBLE		

Mitigation and Management Measures

Groundwater level change (drawdown) cannot be mitigated. However, it is recommended that groundwater levels in each of the known farm boreholes are monitored on a regular basis throughout the construction and operation phases.

Should monitoring confirm that any of the private boreholes are affected by lowering the groundwater table, rendering boreholes unusable (ie loss of water supply source), the client will compensate affected farmers for their loss, replacing the lost water supply source. This can be achieved for example by drilling new boreholes for the affected farmers outside of the drawdown cone, by increasing the depth of the existing boreholes or by providing an alternative good quality water source.

Residual Impacts

As this impact cannot be mitigated the residual impacts remain negligible (*Table 7.35*).

Table 7.35 Pre- and Post- Mitigation Significance for Drawdown or Dewatering on the Groundwater Users

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of drawdown or dewatering on the groundwater users	Operations	NEGLIGIBLE	NEGLIGIBLE

7.7.8 Decommissioning/ Post Closure: Impact of Drawdown or Dewatering on Groundwater Users

Impact Description

Modelling results suggest that the three private boreholes located to the north and west of Swartberg Mine (Witputs BH, Koeris 54BH1 and Koeris 54BH2) will not experience drawdowns post closure as the drawdown cone or dewatering cone will decrease to some extent as the Swartberg U/G Workings start to fill-up.

Hydraulic head change is expected to extend off site but remains local in extent. Groundwater levels are not expected to recover fully to pre-mining state after mine closure, since the pits will continue to act as a sink to groundwater.

Impact Assessment

Table 7.36 describes the impact assessment of drawdown or dewatering activities on the groundwater users post closure.

Table 7.36 Impact Assessment: Post Closure: Drawdown or Dewatering on the Groundwater Users

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	The impact is a result of primary project activities on the receiving environment
Extent	Local	Groundwater modelling suggests that at the end of mining drawdowns or the dewatering cone can be expected to reach approximately 2.5 km to the north-east and 1.2 km to the south
Duration	Permanent	The expected impact will be permanent (ie irreversible , > 100 years, although the dewatering cone will decrease somewhat in size after closure).
Scale	1.6 – 2.0 km from the closest boreholes	The drawdown cone remains at a distance of more than 1.6 – 2.0 km from the closest existing (known) farm boreholes
Frequency	Continuous	The impact will be felt for >100 years but will very slowly reduce in extent.
Impact Magnitude: Negligible		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- Irreversible - groundwater levels on-site may not recover to a pre-mining state even after 100 years.		
Significance Rating Before Mitigation: NEGLIGIBLE		

Mitigation and Management Measures

Higher confidence groundwater models (developed/updated using monitoring data collected throughout the construction and operational phases) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring.

Should monitoring confirm that any private boreholes are affected by lowering the groundwater table, rendering boreholes unusable (ie loss of water supply source), the client will compensate affected farmers for their loss, replacing the lost water supply source. This can be achieved for example by drilling new boreholes for the affected farmers outside of the drawdown cone.

Residual Impact

With the implementation of the above mitigation measures, the impact significance remains negligible (Table 7.37).

Table 7.37 Pre- and Post- Mitigation Significance for Drawdown or Dewatering on the Groundwater Users

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of drawdown or dewatering on the groundwater users	Post Closure	NEGLIGIBLE	NEGLIGIBLE

7.8 Employment, Skills Enhancement and Local Business Opportunities

The Project is expected to generate positive impacts on the local economy and livelihoods in terms of:

- Employment and skills enhancement; and
- Local business opportunities through the procurement of goods and services.

Positive impacts will be associated with the construction and operations phase. However, there is likely to be a reduction in employment once the construction phase is complete, as the termination of construction contracts will occur once construction activities are completed.

Those who have worked on the Project will have an advantage when seeking alternative jobs on similar projects due to the experience and any training received through this Project.

Expansion of Swartberg Mine will also prevent the loss of employment of the current Deeps mining employees as the Deeps employees will be moved over to Swartberg.

7.8.1 Construction and Decommissioning: Employment, Skills Enhancement and Local Business Opportunities

Impact Description

The construction phase will span approximately 24 months and it is expected that approximately 300 direct employment opportunities will be available during the peak of construction. It is anticipated the workers who are currently working on the Gamsberg mine will be able to continue work on this Project. *Table 7.38* indicates the estimated labour positions that will be required during construction.

Table 7.38 Estimated Employment Positions Available During Construction

Employment Position	Number of Positions
Administration and Services	172
Engineers	6
Technicians	5
Skilled	523
Semi-skilled	96
Unskilled	34
Total	845

Construction phase on-site staff will be housed at the temporary housing facility in Aggeneys, which was established for the adjacent Gamsberg project. Other local businesses will benefit during the construction phase as there will be increased spending within the area by the wage labour who will have improved buying power while employed by the Project.

Indirect employment through the construction supply chain will occur as new infrastructure will be required for the Project. Project infrastructure will be procured within South Africa where possible. Local procurement will benefit the hospitality and service industries primarily, such as accommodation, catering, cleaning, transport and security services.

Those who are able to secure employment on the Project will have the opportunity to improve their skills and experience through on-the-job training, and will thereby improve their opportunities for future employment.

Employment numbers during decommissioning are not known at this stage, but it is expected that the make-up of the workforce will be similar to the construction phase.

Impact Assessment

Table 7.39 describes the impact assessment for employment, skills enhancement and local business opportunities during the construction and decommissioning phases.

Table 7.39 Impact Assessment: Construction and Decommissioning: Employment, Skills Enhancement and Local Business Opportunities

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct and Indirect Positive	The creation of local employment opportunities, skills enhancement and local business opportunities will be a direct, indirect and induced impact.
Extent	Regional	Employment will be created for South Africans at a local and regional level depending on skills and capacity availability; as such, the extent will be regional.
Duration	Short term	The duration will be short-term - for the duration of the construction phase - and work contracts will vary in length, based on the type of work performed.
Scale	Medium	For those who are able to secure employment on the Project the scale will be medium, as they secure an income for the duration of their contract.
Frequency	Constant	The frequency of the impact will be constant for the duration of the construction and decommissioning phases.
Impact Magnitude: Positive		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: High		
Reversibility- NA		
Significance Rating Before Mitigation: POSITIVE		

Enhancement

The objective of enhancement measures is to optimise opportunities for employment of local people, wherever possible, or alternatively that employment of South Africans is prioritised over foreigners.

The following measures will be implemented to ensure that employment of local people is maximised:

- The Mine will establish a Recruitment Policy which prioritises the employment of South African and local residents (originating from the Local Municipality) over foreigners. All contractors will be required to recruit in terms of the Project's Recruitment Policy, where practical.
- The Khâi-Ma Local Economic Development (LED) Forum should be consulted in the process of unlocking opportunities for local businesses.
- The Project will advertise job opportunities and criteria for skills and experience needed through local media, at least three months ahead of recruitment. This information should also be provided

to all relevant authorities, community representatives and organisations on the interested and affected party database.

- The Recruitment Policy and Procedure should promote the employment of women as a means of ensuring that gender equality is attained.

No employment will take place at the entrance to the site. Only formal channels for employment will be used.

Residual impacts

With the implementation of the above mitigation measures, the impact significance will remain positive (*Table 7.40* **Error! Reference source not found.**).

Table 7.40 Pre- and Post- Enhancement Significance for Employment, Skills Enhancement and Local Business Opportunities

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of employment, skills enhancement and local business opportunities	Construction & Decommissioning	POSITIVE	POSITIVE

7.8.2 Operations: Employment, Skills Enhancement and Local Business Opportunities

Impact Description

As the Project is ultimately a ‘replacement’ for the current operations at Deeps mine, there is likely to only be a small increase in employment numbers during operations.

BMM employs in excess of 1,600 persons across all of their operations, operating as the largest private employer in the Namakwa region and has been a stable employer for the last 30 years. Approximately 80% of the employees are local, with 62 % from Namakwa, Khai-Ma and Nama Khoi municipal areas. Should the proposed expansion not occur, approximately 837 permanent employees would be at risk of losing their jobs, with an additional 830 Business partners at risk. A number of these contractors also have active contracts with the BMM Gamsberg Mine, and should the proposed Swartberg Mine expansion not occur, a reduction in revenue might be experienced

During the Operational Phase, the mine will be operated on a continuous basis (7 days a week, 24 hours a day on a 12 hour shift system) using approximately 280 workers. The majority of these workers already work for BMM.

Similar to the construction phase, local workers are expected to be qualified to fill unskilled and semi-skilled positions at first, whilst a limited number of people may be sufficiently qualified for skilled positions. Over time, however, local workers will be able to fill more of the semi-skilled and skilled positions as training will be provided by the Project to the local workforce, which will improve skills levels relevant to the Project.

During the operation phase the contracts that were in place during the construction phase will be terminated and procurement opportunities will be centred around maintenance activities, and providing goods and services to the Project. For those companies that meet eligibility criteria, become approved suppliers and enter the supply chain, there will be long-lasting and sustained benefits to the businesses and their employees through increased experience, capacity and training. As such, during the operation phase there will be opportunity for local business growth and development

Impact Assessment

Table 7.41 describes the impact assessment for employment, skills enhancement and local business opportunities during the operations phase.

Table 7.41 Impact Assessment: Operations: Employment, Skills Enhancement and Local Business Opportunities

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct, Indirect and Induced	The creation of local employment opportunities, skills enhancement and local business opportunities will be a direct, indirect and induced impact
Extent	Local and Regional	Employment will be created for South Africans at a local and regional level depending on skills and capacity availability; as such, the extent will be regional
Duration	Long Term	Employment for the duration of the operational phase
Scale	Medium	For those who are able to secure employment on the Project the scale will be medium, as they secure an income for the duration of their contract
Frequency	Constant	The frequency of the impact will be constant for the duration of the operations phase.
Impact Magnitude: Positive		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: High		
Reversibility- NA		
Significance Rating Before Mitigation: POSITIVE		

Enhancement

The objective of enhancement measures is to optimise opportunities for employment of local people, wherever possible, or alternatively that employment of South Africans is prioritised over foreigners.

The following measures will be implemented to ensure that employment of local people is maximised:

- The Mine will establish a Recruitment Policy which prioritises the employment of South African and local residents (originating from the Local Municipality) over foreigners. All contractors will be required to recruit in terms of the Project's Recruitment Policy, where practical.
- The Khâi-Ma Local Economic Development (LED) Forum should be consulted in the process of unlocking opportunities for local businesses.
- The Project will advertise job opportunities and criteria for skills and experience needed through local media, at least three months ahead of recruitment. This information should also be provided to all relevant authorities, community representatives and organisations on the interested and affected party database.
- The Recruitment Policy and Procedure should promote the employment of women as a means of ensuring that gender equality is attained.
- No employment will take place at the entrance to the site. Only formal channels for employment will be used.

Residual impacts

With the implementation of the above enhancement measures, the impact significance will remain positive (*Table 7.42*).

Table 7.42 Pre- and Post- Mitigation Significance for Employment Creation, Skills Enhancement and Local Business Opportunities

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact on employment creation, skills enhancement and local business opportunities	Construction	POSITIVE	POSITIVE

7.8.3 Decommissioning: Loss of Employment and Contract Opportunities

Impact Description

At the end of the decommissioning phase, there will be a loss of jobs, as the quarry will be closed. Decommissioning will necessitate elimination of employment positions and subcontractors directly associated with the Project, as well as related economic activities in the region.

Positive impacts to employment and the economy during the operational phases will result in continued development and opportunities to the region. The decommissioning of the project will result in loss of employment and negative socioeconomic impacts.

The extent of impacts will be local and regional since that will be where the majority of the workforce will be sourced. Without initiatives to encourage development and economic diversification, the duration of impacts would be long term. The overall magnitude is considered to be medium and overall significance is

Impact Assessment

Table 7.45 describes the impact assessment for loss of employment, skills enhancement and local business opportunities during the operations phase.

Table 7.43 Impact Assessment: Decommissioning: Loss Employment, Skills Enhancement and Local Business Opportunities

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct, Indirect and Induced negative	The loss of local employment opportunities, skills enhancement and local business opportunities will be a direct, indirect and induced impact
Extent	Local and Regional	Loss of Employment will occur at a local and regional level
Duration	Short Term	Loss of employment will occur during decommissioning
Scale	Large	Loss will occur for a large proportion of operational staff
Frequency	One off	The frequency of the impact will be occur after decommissioning
Impact Magnitude: Large		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: High		
Reversibility- Medium		
Significance Rating Before Mitigation: MAJOR		

Mitigation Measures

The company should develop a Decommissioning Plan for the ultimate closure of the mine to ensure that all social aspects are considered, including human resource management, retrenchment packages, retraining and transferable skills.

Residual Impact

With the implementation of the above enhancement measures, the impact significance will remain positive (Table 7.44).

Table 7.44 Pre- and Post- Mitigation Significance for Loss of Employment Creation, Skills Enhancement and Local Business Opportunities

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Loss of employment creation, skills enhancement and local business opportunities	Decommissioning	Major	Moderate

7.9 Impacts on Community Health and Safety

The presence of the Project could affect the health, safety and security issues of the communities in the area due to a number of reasons including:

- Worker-community interactions;
- In-migration to the area;
- Increased income in the local community that may be used for drugs;
- Alcohol abuse and increase in prostitution;
- The risk of injury associated with construction and decommissioning activities; and

- Increased pressure on health care resources and changes to the environment.

Any community concerns or perceptions with regard to reduced health and physical safety and security by the community need to be addressed.

There are numerous ways in which the development of the Project could impact on community and individual levels of health. The term “health” is used broadly to include physical and mental health and well-being. The expected impacts on community health, safety and security as a result of construction, operation and decommissioning of the Project are:

- Impacts associated with the presence of the Project workforce;
- Impacts associated with an influx of jobseekers; and
- Impact on human health due to air emissions.

7.9.1 Construction, Operation and Decommissioning: Impacts Associated with the Presence of the Workforce and Jobseekers

Impact Description

An increase in disposable income within the Project area could result in a change in spending habits and behaviour resulting in an increase in alcohol and drug abuse, increased incidences of prostitution and casual sexual relations, which pose a threat to community health and safety. Anticipated impacts associated with the presence of the workforce are:

- Increased incidence of alcohol and drug use;
- Increase in the spread of HIV/ Aids and other STIs;
- Increased incidence of teenage or unplanned pregnancies;
- Increased crime levels; and
- Increase in prostitution.

It is estimated that approximately 300 people will be employed during the peak construction phase. The Project will seek to maximise the employment of local people, thereby reducing the size of the external workforce in the area, however, an external workforce will be required. The external workforce (largely comprised of semi-skilled and skilled workers) will be housed within the area (mainly Aggenys). An influx of people into an area typically brings about social change. These changes could cause an increase in vulnerability and increase peoples’ susceptibility to social pathologies such as those that are already in existence in the local community.

A further impact associated with an influx of jobseekers is the potential for social tension, and increased competition for employment. The distribution of employment opportunities between locals and migrants often leads to tension and conflict, especially when locals perceive the migrants to be taking their jobs.

In addition, increased disposable income within the local workforce may result in increased incidences of illegal activities or antisocial behaviours such as prostitution and casual sexual relations as well as increased levels of substance abuse. Abuse of alcohol and drugs often correlates with increased levels of criminal behaviour and violence while under the influence of the substance. Such behaviour increases the number of people indirectly affected by, or vulnerable to, alcohol and drug abuse; and casual sexual relations could lead to increased incidences of HIV/ AIDS.

Impact Assessment

Given that many of the possible social pathologies already exist, it is likely that these will be exacerbated further by Project activities. *Table 7.45* describes the impact assessment for the presence of the workforce and jobseekers during the construction, operations and decommissioning phases.

Table 7.45 Impact Assessment: Construction, Operation and Decommissioning: Presence of the Workforce and Jobseekers

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Indirect negative	An increased disposable income may adversely affect health, safety and security of the local community through a likely increase in illegal or antisocial behaviour.
Extent	Local	Within the Project area and surrounds
Duration	Long Term	While the workforce will be in the Project area for a limited time during the construction phase, jobseekers may stay in the area. However, those affected by antisocial behaviour, such as the victims of abuse, women with unwanted pregnancies and people living with HIV/ AIDS, the duration of the impact will be long-term.
Scale	Small	The scale of the impact will be large for those affected as it will lead to a fundamental change in their life, however, the number of people affected is unlikely to be large and thus the scale is small.
Frequency	Ad Hoc	Incidences are likely to occur on an ad hoc basis.
Impact Magnitude: Small		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: High		
Reversibility- Low		
Significance Rating Before Mitigation: MODERATE		

Mitigation and Management Measures

- BMM will ensure that their security personnel work in close collaboration with the police to monitor any illegal activity.
- BMM and its appointed business partners will conform on the current induction programme and Code of Conduct for all workers directly or indirectly employed by the Mine. The Code of Conduct should be available in all relevant languages and at a minimum, English, Afrikaans and Setswana. The Code of Conduct should address the following aspects:
 - Respect for all communities and traditions;
 - No unauthorised taking of natural resources;
 - Respect for the natural environment and no littering or illegal dumping;
 - Zero tolerance of illegal activities by Project related employees including: soliciting prostitutes; illegal sale and purchase of alcohol; sale, purchase or consumption drugs; illegal gambling or fighting; and engaging in sexual acts with minors;
 - Compliance with the traffic regulations on site and all road traffic regulations; and

- Description of disciplinary measures for infringement of the Code of Conduct and company rules.
- The Mine will follow the current grievance procedure that is easily accessible to the local community, through which complaints related to business partner or employee behaviour can be lodged and responded to. The Mine will respond in a serious manner to any such complaints.
- The BMM HIV/AIDS Policy and information document for all workers directly related to the Project will apply. The information document will address factual health issues as well as behaviour change issues around the transmission and infection of HIV/AIDS.

Residual impacts

With the implementation of the above mitigation measures, the impact significance is likely to be reduced to minor (*Table 7.46*).

Table 7.46 Pre- and Post- Mitigation Significance for Presence of the Workforce and Jobseekers

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impact of presence of the workforce and jobseekers	Construction, Operations and Decommissioning	MODERATE	MINOR

7.9.2 Construction, Operation and Decommissioning: Pressure on Social Infrastructure and Services

Impact Description

The Project is expected to stimulate in-migration as job-seekers enter the area with the intention of securing employment on the Project. In-migration of people will be further stimulated by the possibility of business opportunities linked to the provision of goods and services to the Project, and by real or perceived opportunities arising from the general increase in economic activity in the area.

It is likely that a number of people will continue to stay in the area irrespective of whether they are able to secure employment and these people may move their families to the area. The expected influx could have an impact on existing social infrastructure – particularly housing, education and health facilities.

Impact Assessment

Table 7.47 describes the assessment of the impact of pressure on social infrastructure and services during the construction, operations and decommissioning phases.

Table 7.47 Impact Assessment: Construction, Operation and Decommissioning: Pressure on Social Infrastructure and Services

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Indirect negative	The impacts will be negative as they will place pressure on infrastructure and services and the local government, who will have to provide the services.
Extent	Local	Within the Project area and surrounds
Duration	Short Term	The period of influx is largely limited to the construction phase
Scale	Small	The scale of the impact is likely to be small, Due to the Project site location and the probability workers from the Gamsberg Project being employed during the construction phase it is not expected to attract large numbers of job seekers. In addition,
Frequency	Continuous	Continuous throughout the construction phase but will slow after that
Impact Magnitude: Small		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- High - social infrastructure and services can be improved to address the impacts		
Significance Rating Before Mitigation: MINOR		

Mitigation and Management Measures

The Project will implement a grievance procedure that is easily accessible to the local community, through which complaints related to business partner or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. Key steps include:

- Development of an Employment Management Plan.
- Regular Engagement with Khai Ma Municipality to understand impact to the social infrastructure.
- Circulation of contact details of 'grievance officer' or other key Project contact.
- Awareness raising among the local community regarding the grievance procedure and how it works.
- Establishment of a grievance register to be updated and maintained by the Project.

Residual impacts

With the implementation of the above mitigation measures, the impact significance is likely to be reduced to negligible (*Table 7.48*).

Table 7.48 Pre- and Post- Mitigation Significance for Pressure on Social Infrastructure and Services

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Pressure on Social Infrastructure and Services	Construction, Operations and Decommissioning	MINOR	MINOR

7.9.3 Construction and Decommissioning Phase: Impact on Human Health due to Air Emissions and Dust Generation

Impact Description

Most construction and decommissioning activities generate dust, which settles on surrounding properties and land, and is often more of a nuisance than a health issue. The dust is generally coarse, but may include fine respirable particles (PM₁₀) and these are known to be a risk to human health. Exhaust emissions from construction vehicles and equipment typically include particulates (including PM₁₀), carbon monoxide (CO), nitrogen oxides (NO_x), sulphur dioxide (SO₂) and volatile organic compounds (VOCs) including benzene.

Impact Assessment

Table 7.49 describes the assessment of the impact on human health due to air emissions and dust generation during the construction and decommissioning phases.

Table 7.49 Impact Assessment: Construction and Decommissioning: Impacts on Human Health due to Air Emissions and Dust Generation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct negative	The impact is a result of primary project activities and the receiving environment
Extent	Local	Pollutants will be limited in dispersion and will occur onsite and around the main transport routes to and from the mine
Duration	Short Term	The period of impact will be limited to the construction and decommissioning phases.
Scale	Small	The scale of the impact is small and will be limited to the site and immediate surrounds.
Frequency	Continuous	Continuous throughout the construction and decommissioning phases
Impact Magnitude: Small		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Low (site is located in an area with no sensitive receptors located adjacent to the site)		
Reversibility- High		
Significance Rating Before Mitigation: NEGLIGIBLE		

Mitigation

The Project will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner.

Residual Impact

With the implementation of the above mitigation measures, the impact significance is likely to remain negligible Table 7.50.

Table 7.50 Pre- and Post- Mitigation Significance for Impacts on Human Health due to Air Emissions and Dust Generation

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Impacts on human health due to air emissions and dust generation	Construction and Decommissioning	NEGLIGIBLE	NEGLIGIBLE

7.9.4 Operations Phase: Impact on Human Health due to Air Emissions

Impact Description

The operation of the processing plant will result in emissions which could negatively affect air quality. Increased emissions of pollutants can result in negative implications for human health, including respiratory diseases and cardiovascular diseases. In order to protect human health, air quality standards have been established and emissions below these standards are considered to have a negligible impact on the health of communities.

The main sources of emission from BMM is, and will be, dust from mining activities and from access roads.

Impact Assessment

Table 7.51 describes the assessment of the impact on human health due to air emissions and dust generation during operations.

Table 7.51 Impact Assessment: Operations: Impacts on Human Health due to Air Emissions and Dust Generation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct negative	The generation of dust will directly affect any nearby receptors.
Extent	Local	Pollutants will be limited in dispersion and will occur onsite and around the main transport routes to and from the mine
Duration	Long Term	The period of impact will be for the duration of mining activities
Scale	Small	The scale of the impact is small and will be limited to the site and immediate surrounds.
Frequency	Continuous	Continuous throughout the operations phase, the plant will operate 24 hrs a day, 7 days a week
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Low (site is located in an area with no sensitive receptors located adjacent to the site)		
Reversibility- Medium		
Significance Rating Before Mitigation: MINOR		

Mitigation and Management Measures

The Project will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner.

Residual Impact

With the implementation of the above mitigation measures, the impact significance is likely to remain minor (*Table 7.52*).

Table 7.52 Pre- and Post- Mitigation Significance on Impact on Human Health due to Air Emissions

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Human health due to air emissions	Operations	MINOR	MINOR

7.10 Worker Health and Safety and Rights

Workers' rights including occupational health and safety need to be considered to avoid accidents and injuries, loss of man-hours, labour abuses and to ensure fair treatment, remuneration and working and living conditions.

These issues will be considered not only for workers who are directly employed by the Project, but also contractors and workers within the supply chain. The main risks in relation to worker's management and rights are associated with the use of contractors and subcontractors and the supply chain.

The Project is expected to create 300 direct employment opportunities during the peak of the construction period. The majority of workers will be engaged by the contractor and will consist of a semi-skilled to skilled workforce. The operations phase is planned for a lifespan of 19 years, with the option to extend this, and will involve around 845 permanent site employees including skilled and semi-skilled staff.

The expected impacts on worker rights and health and safety as a result of construction, operation and decommissioning activities are as follows:

- Risk to workers health and safety due to hazardous construction and decommissioning activities;
- Risk to workers health and safety due to hazardous operational activities; and
- Violation of workers' rights.

This impact assessment is based on the assumption that no specific Project health and safety policies, procedures and training provisions are in place for construction workers (both contractors and subcontractors) as limited information is available on this at the current Project stage.

7.10.1 Construction and Decommissioning Phase: Risk to Workers' Health and Safety due to Hazardous Construction Activities

Impact Description

Activities during the construction and decommissioning phases could affect worker health and safety. Such activities include the operation of heavy equipment and trucks, working at height, working in confined spaces, construction traffic, use of electric devices, handling of hazardous materials and other hazardous activities. Due to the nature of the activities being undertaken during construction and decommissioning, worker health and safety is a key risk with the potential for accidents that may result in injuries and fatalities as well as lost man-hours.

Within South Africa, mine worker health and safety falls under the ambit of the Department of Mineral Resources, and is primarily governed through the Mine Health and Safety Act (MHSA) (Act No. 29 of 1996). Employees working informally and those with limited or no awareness of their rights (for example,

migrant workers, or those newly entering the labour market) are likely to be most at risk of working in unsafe conditions.

Impact Assessment

Table 7.53 describes the assessment of the risk to workers' health and safety due to hazardous construction activities during construction and decommissioning.

Table 7.53 Impact Assessment: Construction and Decommissioning: Risk to Workers' Health and Safety due to Hazardous Activities

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct negative	The health and safety of workers is a direct impact.
Extent	Regional	Health and safety aspects affect those directly employed by the Project, as well as people employed in the supply chain.
Duration	Short Term	The period of impact will be for the construction and decommissioning phases only.
Scale	Large	The scale of the impact will be large for anyone adversely affected by a health and safety incident on the Project, as they may experience a temporary loss of work time, or in the worst-case scenario may be rendered permanently unable to work.
Frequency	Continuous	There is a continuous risk to workers health and safety if rules and regulations are not properly adhered to.
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium (There are laws in place in South Africa to protect worker rights. However, migrant workers, or those newly entering the labour market may not be aware of their rights, and people may be willing to compromise their rights to secure employment in light of high unemployment rates.)		
Reversibility- Medium incidences can be addressed through medical intervention where required and health and safety can be constantly improved to avoid future incidences.		
Significance Rating Before Mitigation: MODERATE		

Mitigation and Management Measures

- The Mine will implement a rigorous induction programme for all employees outlining health and safety risks.
- The Project will comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workman's compensation for loss of income resulting from an onsite incident.
- As part of the business partner and supplier selection process, the Project will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law and the Project's policies.
- The Mine will provide support to business partners and sub-business partners to ensure that labour and working conditions are in line with South African law through capacity building.
- Workers will be provided with primary health care and basic first aid at construction camps /worksites.

- Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place.
- In line with the worker code of conduct, employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment.
- The Project will provide of Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits.
- The Project will implement the current BMM Grievance Mechanism to address employee concerns related to the Project in a timely manner.

Residual Impact

With the implementation of the above mitigation measures, the impact significance is likely to be reduced to minor (*Table 7.54*).

Table 7.54 Pre- and Post- Mitigation Significance for Risk to Workers’ Health and Safety due to Hazardous Construction and Decommissioning Activities

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Risk to workers’ health and safety due to hazardous construction activities	Construction & Decommissioning	MODERATE	MINOR

7.10.2 Operation Phase: Risk to Workers’ Health and Safety due to Hazardous Operation Activities

Impact Description

Hazardous activities during the operation phase and regular maintenance activities will include, but are not limited to; the operation of heavy equipment and trucks, use of electrical devices including high voltage, working at height, maintenance of high pressure pipework and vessels and handling of hazardous materials. During these activities the workers will be at risk for accidents and injury.

Impact Assessment

The vulnerability of the workers to this impact is considered low, as there are laws in place in South Africa to protect worker rights and most employees will be highly skilled engineers and technicians, who have likely been educated around their rights and health and safety practices. The impact is therefore considered to be of minor significance.

Table 7.55 describes the assessment of risk to workers’ health and safety due to hazardous activities during operations.

Table 7.55 Impact Assessment: Operations: Risk to Workers' Health and Safety due to Hazardous Activities

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct negative	The health and safety of workers is a direct impact.
Extent	Regional	Will affect those directly employed by the Project, as well as people employed in the supply chain.
Duration	Long Term	The period of impact will be for the duration of mining operations
Scale	Large	The scale of the impact will be large for anyone adversely affected by a health and safety incident on the Project, as they may experience a temporary loss of work time, or in the worst-case scenario may be rendered permanently unable to work.
Frequency	Continuous	Continuous throughout the operations phase, the plant will operate 24 hrs a day, 7 days a week.
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium (There are laws in place in South Africa to protect worker rights. However, migrant workers, or those newly entering the labour market may not be aware of their rights, and people may be willing to compromise their rights to secure employment in light of high unemployment rates.)		
Reversibility- <u>Medium</u> incidences can be addressed through medical intervention where required and health and safety can be constantly improved to avoid future incidences.		
Significance Rating Before Mitigation: MODERATE		

Mitigation and Management Measures

- The Mine must comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workman's compensation for loss of income resulting from an onsite incident.
- As part of the contractor and supplier selection process the Mine will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law and the Project's policies.
- The Project will provide support to contractors and subcontractors to ensure that labour and working conditions are in line with South African law through capacity building.
- Workers will be provided with primary health care and basic first aid at construction camps /worksites.
- Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place.
- In line with the worker code of conduct employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment.
- The Mine will provide Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits.
- The Mine will develop and implement a Grievance Mechanism to address employee concerns in a timely manner.

Residual Impacts

With the implementation of the above mitigation measures, the impact significance is likely to be reduced to minor (*Table 7.56*).

Table 7.56 Pre- and Post- Mitigation Significance on Risk to Workers' Health and Safety due to Hazardous Operation Activities

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Risk to workers' health and safety due to hazardous operation activities	Operations	MODERATE	MINOR

7.11 Traffic Volumes

7.11.1 Construction and Operation: Increase in Traffic Volumes

Impact Assessment

The primary access route to the Project site is the N14 national road that connects the Project site to the major economic centres of Springbok to the West and Upington to the East. The N14 links to the N7 which is the access route to the Port of Saldanha Bay. The N7 is the main road along the west coast of South Africa into Namibia. Due to the limited rail infrastructure the majority of goods are transported by road, thus the N7 has high volumes of road freight traffic. The N14 is considered to be a high order road carrying long distance and local traffic. The N14 has considerable reserve capacity due to the low traffic volumes. The current traffic volumes are in the order of 600 vehicles per day in each direction, with the highest volumes reaching 100 vehicles per hour.

An increase in traffic volumes is expected during construction and operations.

Impact Assessment

Heavy haul traffic and abnormal loads will be prominent on the N14 and the N7 for the duration of the construction phase. Based on the Traffic Specialist Study the increase in traffic has been modelled to be low for Project activities alone, taking into account vehicle trips to transport workers to and from the site. It is not expected to have a significant impact on the quality of the roads. In addition, during operations material will be transported from the mine Saldanha bay for export.

Table 7.57 describes the assessment of the impact associated with an increase in traffic volumes.

Table 7.57 Impact Assessment: Construction and Operation: Increase in Traffic Volumes

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct negative	The increase in traffic volumes will be direct and negative.
Extent	International	The N7 is an important link to Namibia.
Duration	Long Term	The period of impact will be for the duration of construction activities (approximately 24 months) and throughout operations
Scale	600 vehicles per day	The current vehicle count in the area is approximately 600 per day over approximately 600km or road between BMM and the port of Saldanha from where equipment will be transported.
Frequency	Continuous	Continuous throughout the construction phase.
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium (The N14 and N7 are relatively well maintained, and has medium levels of traffic and there is likely to be sufficient reserve to accommodate the increase in the traffic volumes. However, there is likely to be some disruption due to very large loads being transported.)		
Reversibility- <u>High</u> There are very few other transport options in the area.		
Significance Rating Before Mitigation: MODERATE		

Mitigation and Management Measures

The following mitigation and management measures must be implemented:

- All vehicles will be regularly checked and maintained, including tyre wear.
- Contact details will be displayed on vehicles to allow other road users to report bad driving at any time.
- All drivers will be sensitised about potential accident risks to local users and will be periodically checked for alcohol consumption.
- All driver will be appropriately licensed.
- BMM will develop a Traffic Management Plan to limit the disruption of the roads when high volumes of abnormal freight are expected on the N14 and N7.
- BMM will ensure that vehicles are correctly and safely loaded to avoid accidents, and all loads are secured and covered where they pose a risk of windblown dust or material spillage.
- BMM will work in conjunction with SANRAL to erect appropriate road traffic signage and road markings at the intersections of loop 10 and the Aggeneys access road with the N14.
- The Mine will develop and implement a Grievance Mechanism to address employee concerns related to the Project in a timely manner.

Residual Impact

With the implementation of the above mitigation measures, the impact significance will remain minor Table 7.58.

Table 7.58 Pre- and Post- Mitigation Significance for Increase in Traffic Volumes

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Increase in traffic volumes	Construction and Operations	MODERATE	MINOR

7.12 Archeology and Cultural Heritage

7.12.1 Construction, Operation and Decommissioning Phase: Loss of Heritage Resources

Impact Description

The footprint of the proposed mine expansion includes the open pits, waste rock pad and possible increased road infrastructure. At the time of the study no exact layout of new mining infrastructure was provided, however, there is the potential for the open pit to impact on local archaeology and cultural heritage resources.

The archaeological and cultural heritage traces within the areas of the proposed mining extension on Portion 4 of Zuurwater 64 were found to be of generally 'low archaeological importance' by the heritage specialist study (*Annex D*). They nevertheless constitute important archaeological observations with respect to past use of this landscape. Sites beyond the footprint include a highly important cupule engraving site, an Earlier Stone Age (ESA) accumulation that is richer than many found in the area and a circa century-old or older stone walled farming feature. Secondary impacts on the latter should be prevented, and in the case of the ESA site which is closest to the mining edge, minimised or mitigated if endangered. Should the ESA site be threatened it may be recommended that a surface collection be made to preserve a representative sample.

Impact Assessment

Table 7.59 describes the assessment of the impact on archaeology and cultural heritage.

Table 7.59 Impact Assessment: Construction, Operations and Decommissioning: Archaeology and Cultural Heritage

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct Negative	There is the potential for archaeological and cultural heritage resources to be directly and negatively impacted.
Extent	Local	Possible extent of impact following the expansion and construction activities will be locally restricted to potential damage or destruction as a result of excavations and extractions.
Duration	Permanent	The proposed developments are considered long term. Damage or destruction of archaeological contexts is irreversible and hence permanent.
Scale	± 136 ha	The impacts will be limited to the mine footprint area
Frequency	Continuous	There is the potential for impact for as long as mining activities continue.
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Low		
Reversibility- <u>Low</u> Potential permanent loss of archaeological and cultural heritage, where present – but occurrence is generally extremely low density and of low importance.		
Significance Rating Before Mitigation: MINOR		

Mitigation and Management Measures

It is not regarded as necessary that any mitigation should take place for most of the areas identified for development. However, the following mitigation measures have been recommended in the event of any future extensions of roads or other infrastructure

- Development of a facility Environmental Management Programme (EMPr) that takes cognizance of heritage resources in the event of any future extensions of roads or other infrastructure.
- Provision for on-going heritage monitoring in a facility EMPr which also provides guidelines on what to do in the event of any major heritage feature being encountered during any phase of construction/maintenance.
- A Chance Finds Procedure must be developed to ensure that any heritage resource finds are recorded and reported to the appropriate authorities, and if necessary, all work is stopped until the find can be assessed by a relevant specialist. In addition the relevant Heritage Authority should be contacted by the client.
- Should the ESA site be threatened it may be recommended that a surface collection be made to preserve a representative sample.
- Officials from relevant heritage authorities (National and Provincial) must be permitted to inspect the operation at any time in relation to the heritage component of the EMPr.
- All work must cease immediately, if any human remains and/or other archaeological, palaeontological and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/ palaeontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. Sufficient time must be allowed to remove/collect such material before development recommences.

Residual impacts

Even with mitigation, mining may result in a permanent and irreversible loss archaeological resources, even if from an archaeological perspective the observed heritage resources are of Minor significance (including low density occurrence). Therefore, even with the implementation of the above mitigation measures, the impact significance is likely to be remain minor (*Table 7.60*).

Table 7.60 Pre- and Post- Mitigation Significance: Archaeology and Cultural Heritage

Impact	Project Phase	Significance (Pre-mitigation)	Residual Impact Significance (Post-mitigation)
Archaeology and Cultural Heritage	Construction, Operations and Decommissioning	MINOR	MINOR

7.13 Unplanned Events

The following Section presents the assessment of impacts resulting from unplanned or non-routine events and those that result from accidents. These are different to impacts from effects that would reasonably be predicted to occur in the normal course of activities during construction, operations, and decommissioning.

Unplanned and accidental events have the potential to occur and therefore the evaluation of impacts for unplanned and accidental event takes into account the likelihood of the event occurring into the impact magnitude. Likelihood is determined as unlikely, possible, or likely based in professional judgement and quantitative information where available.

Given the nature of Project activities, unplanned and accidental events might include:

- Worker Health and Safety;
- Accidental spills of equipment fuel and oils; and
- Vehicle traffic accidents.

If unplanned and accidental events did occur, there would be effects on the biophysical and social environment. The risk of unplanned and accidental events and the potential impacts are described in this Section.

7.13.1 Construction, Operation, and Decommissioning: Occupational Health and Safety

Impact Description

This aspect focuses on the impact of the Project on the Mine Health and Safety (MHS). The main impacts under this aspect include onsite hazards for workers during construction, operations, and decommissioning. The unplanned MHS risks include falling objects, accidental explosions, and exposure to moving vehicles. There could also be a risk of fatigue from working long hours, and without rest. In addition, the transportation of the workers to and from site, and transport of materials poses a risk for the workers, depending on the type and quality of vehicles used, the time of day being transported, the quality of the road and the driver.

Impact Assessment

Table 7.61 describes the impacts of unplanned accidents on occupational health and Safety.

Table 7.61 Impact Assessment: Occupational Health and Safety Hazards during Construction, Operation, and Decommissioning Activities

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct	The impact may result of primary project activities
Extent	Local	The impact will occur in the Project area
Duration	Permanent	Impacts will occur during the construction phase and continue into the operational and decommissioning phase
Scale	Small	Risks will only be exposed to a small experienced workforce
Frequency	NA	NA
Likelihood	Medium	The activities undertaken by workers are high risk activities
Impact Magnitude: Large		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: High		
Reversibility- Low		
Significance Rating Before Mitigation: Major		

Mitigation

The following management measures must be implemented in the Project's management plans:

- Development or upgrade of an Occupational Health and Safety Management Plan (OHSMP). Inductions, training, H&S records and remediating actions, risk assessments of all activities and provision of PPE.
- The OHSMP should cover all workers on site, including temporary workers and Business partners.
- Carry out regular monitoring and audits of the OHSMP and update as required.

Residual Impacts

With the implementation of the above-mentioned mitigation measures, the residual impact will reduce to Moderate in all phases (*Table 7.62*).

Table 7.62 Pre- and Post- Mitigation Occupational Health and Safety Hazards during Construction, Operation, and Decommissioning Activities

Impact	Project Phase	Significance (Pre-mitigation)	Residual Significance (Post-mitigation)
Occupational Health and Safety Hazards (OHS)	Establishment	MAJOR	MODERATE

7.13.2 Construction, Operation, and Decommissioning: Accidental Spills of Equipment Fuel, Oils, and Chemicals

Impact Description

Various hazardous materials will be used in the course of carrying out Project activities, the main ones being hydrocarbon fuels (diesel), lubricating oils, and chemicals. There is the potential for accidental release in the course of storage and handling of these fuels.

During construction, there is the potential for spills of fuels and oils during fuelling and maintenance of machinery and vehicles. Spills could occur in a number of locations around the site including areas used for maintenance, material and equipment laydown, parking, fuel storage, and fuelling. Spills could also occur along the roads adjacent to the Project Site and along the route for construction traffic. Spills on the site have the potential to affect the terrestrial environment.

Operations will include activities that require handling and storage of fuels, oils, and chemicals as part of general operating procedures of the quarry. All hazardous fuels will be stored onsite in a storage facility in a bunded area. Spills from the storage areas due to major spills would affect the terrestrial environments and result in potential deterioration of the quality of groundwater, soil, and sediment. This would in turn have adverse effects on flora and fauna and local groundwater users.

Impact Assessment

The following sections describe and assess the potential consequence of accidental spills on soils and groundwater.

Soils

Table 7.63 illustrates describes the impacts of unplanned spills on the soils in the Project area.

Table 7.63 Impact Assessment: Accidental Spills of Hazardous materials Construction, Operation, and Decommissioning Activities

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct negative	The impact may result of primary project activities
Extent	Local	The impact will occur in the Project area
Duration	Long term	Impacts will occur during the construction phase and continue into the operational and decommissioning phase
Scale	Medium	If hazardous materials such as fuel were to be released to soil, spread would be mostly limited in extent to the immediate area, however depending on volume and soil permeability at the specific location, material could spread into the subsurface
Frequency	NA	NA
Likelihood	Low	Incidental spills of fuels are infrequent but do occur, most frequently due to malfunction of handling systems, poor practices of workers despite procedures in place and force majeure. Spills are most likely to occur during refilling and transport of the fuels and oils. Large releases of hazardous materials from storage vessels are rare because storage containers are designed and built specifically to prevent release. Overall, it is unlikely that a significant spill would occur under regular operations.
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of the Resource/Receptor: Medium		
Reversibility- High		
Significance Rating Before Mitigation: Moderate		

Groundwater

Table 7.64 illustrates describes the impacts of unplanned spills on the groundwater in the Project area.

Table 7.64 Impact Rating: Groundwater Quality on the Groundwater Resource during the Construction Phase before Mitigation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct negative	Activities could have a negative direct impact on groundwater quality.
Extent	Local/on site	The extent of the impact will occur in the Project area
Duration	Permanent	The expected impact will be permanent.
Scale	Medium	It is anticipated that large volumes of chemicals, that have a potential to contaminate groundwater, will be stored/used on site therefore the scale is medium
Frequency	NA	NA
Likelihood	Unlikely	Incidental spills of fuels are infrequent but do occur, most frequently due to malfunction of handling systems, poor practices of workers despite procedures in place and force majeure. Spills are most likely to occur during refilling and transport of the fuels and oils. Large releases of hazardous materials from storage vessels are rare because storage containers are designed and built specifically to prevent release. Overall, it is unlikely that a spill would occur
Impact Magnitude: Small		
Sensitivity/Vulnerability/Importance of Resource/Receptor – Medium		
Reversibility: Low		
Significance Rating Before Mitigation: MINOR		

Mitigation Measures

A construction environmental management plan (EMP) needs to be in place including, but not limited to:

- Adhere to best practice principles.
- Equipment should be up to industry standard and serviced regularly to prevent oil spills.
- A spill response plan should be in place and construction workers should be trained accordingly.
- On-site storage areas for hydrocarbons and other chemicals should be constructed in a way that potential tank failures can be contained including bunds and surface hardstanding.
- Hazardous material storage will be constructed on an impermeable surface and the bulk storage facility will be banded. The Project will restrict storage and handling of hazardous materials and fuels to banded areas of sufficient capacity to contain a release.
- Refuelling of equipment and vehicles will be carried out in designated areas on hard standing ground to prevent seepage of any spillages into the ground. Collection systems will be installed in these areas to manage any spills, fuels will be collected and either reused, treated by incineration or removed by a local business partner. Drip trays must be used when refuelling and servicing vehicles or equipment, where it is not on a hardstanding surface.
- Leaking equipment must be repaired immediately or be removed from site to facilitate repair.
- The Mine will develop a detailed hazardous material spill response plan, which includes community sensitisation/ notifications when required. The Project will maintain spill clean-up and

response capability adequate for addressing spills for all phases of the Expansion. All spills will be immediately contained and cleaned up. Contaminated areas will be remediated and post remediation verification will be carried out.

- Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available.
- Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged.

Residual Impacts

By implementing the above management measures, it is unlikely for an unplanned spill of equipment fuel and oils to negatively impact, soils and groundwater. *Table 7.65* illustrates the residual impacts for each receptor after mitigation measures have been put in place.

Table 7.65 Pre- and Post-Mitigation Impact Rating: Groundwater Quality on the Groundwater Resource during the Construction Phase Post Mitigation

Impacted Media	Project Phase	Pre-mitigation Significance	Potential Impact Residual Significance
Soils	Establishment and Operation	Moderate	Minor
Groundwater	Establishment and Operation	Minor	Negligible

7.13.3 Construction, Operation, and Decommissioning: Vehicle Accidents

Impact Description

The presence of Project vehicles during construction, operations, and decommissioning could increase the risk of accidents along the roads to the Project Site. Degradation and damage to regional and local roads from Project vehicles also has the potential to increase the risk of accidents. The potential impacts of vehicle accidents are discussed in this *Section*.

Traffic volumes will increase during the construction phase of the Project in areas surrounding the Project Site as well as those near existing major transport routes.

Goods including machinery, equipment and building materials will be transported to the Project Site.

The increase in heavy traffic levels on roads will also increase the rate of road wear and could result in damaged road surfaces, breaks in the paved surface (e.g. potholes, damage at the road shoulders) which also increases the risks of road accidents.

There are a number of towns located adjacent to the roads, which will be used for heavy vehicle traffic. There are Heavy Duty Vehicles currently using roads to the Project site. The number of sensitive receptors close to the roads results in risks of vehicle accidents, which could be compounded by the damaged roads such as potholes. The vehicle accidents could be caused by collisions with other vehicles, as well as collisions between vehicles and people.

Impact Assessment

Table 7.66 illustrates describes the impacts of traffic accidents in the Project area.

Table 7.66 Impact Rating: Vehicle Accidents Construction, Operation, Decommissioning Phase before Mitigation

Rating of Impacts Before Mitigation		
Characteristic	Designation	Summary of Reasoning
Nature	Direct negative	Activities could have a negative direct impact on the receiving environment.
Extent	Local/on site	The spatial extent of the increase in traffic, vehicle accidents are considered to be regional, as the impacts are experienced around the Project Site and along the construction routes that extend beyond the Project Site
Duration	Long term	The expected impact will be long term
Scale	Medium	There will be increased traffic related to Project activities
Frequency	NA	NA
Likelihood	Possible	Given the increase in traffic to and from the Project site and the sensitive receptors close to the roads, traffic accidents are considered possible.
Impact Magnitude: Medium		
Sensitivity/Vulnerability/Importance of Resource/Receptor – Medium The N7 and N14 and adjacent road networks are existing important arterial networks and are subject to constant traffic		
Reversibility: Low		
Significance Rating Before Mitigation: Moderate		

Mitigation Measures

The following management measures must be implemented in the Project's management plans:

- All new drivers employed throughout the course of the Mine's operations will be required to undergo Defensive Driver Training.
- Speed limits will be enforced for all vehicles.
- Speed limits of 40kph will be enforced along all internal roads except haul roads where the limit is 80kph.
- The Mine will regularly consult with the relevant local and regional government to ensure the roads used are well maintained, and that potential problems or hazards are communicated to the relevant authority timeously. Expansion planning for construction traffic must be done in consultation with the government.
- The status of the integrity of proposed Project transportation routes with respect to structural properties (load limits, traffic volume limits), functionality (condition of road surface) and safety (signage, markings, and potential public safety hazard areas) must be confirmed. Additional measures required to upgrade transportation routes and minimise traffic congestion must be carried out in consultation with the local authorities.
- The Project will undertake sensitisation in the local communities, including appropriate warning signs and notifications of the risks of traffic accidents.

Residual Impacts

By implementing the above management measures, the likelihood of an unplanned vehicle accident occurring and leading to negative impact is reduced. *Table 7.67* illustrates the residual impact significance after mitigation measures have been put in place.

Table 7.67 Pre- and Post-Mitigation Impact Rating: Vehicle Accidents during the Construction, Operation, and Decommissioning Phase Post Mitigation

Impacted Media	Project Phase	Pre-mitigation Significance	Potential Impact Residual Significance
Unplanned Vehicle Accidents	Establishment and Operation	MODERATE	MINOR

7.14 Cumulative Impacts

7.14.1 Background

The preceding impact assessment assessed the impacts associated with the Project largely in isolation. In an assessment of this nature, it is important to assess cumulative impacts associated with a proposed development and there is a legislated requirement in South Africa to do so. A cumulative impact is one that arises from an impact associated with a proposed Project, that when viewed in isolation may be acceptable, but when combined with multiple developments in the greater area affected by the proposal may not be acceptable.

The DEAT Integrated Environmental Management Information Series (2004) suggest the following principles be applied when undertaking a cumulative assessment:

- Cumulative effects are caused by the aggregate of past, present, and reasonably foreseeable future actions;
- Cumulative effects are the total effect, including both direct and indirect effects, on a given resource, ecosystem, and human community of all actions taken;
- Since it is not practical to analyse the cumulative effects of an action on every environmental receptor, the list of environmental effects must focus on those that are considered meaningful;
- Boundaries must be set so analysts are not attempting to measure effects on everything;
- Cumulative effects analysis on natural systems must use natural ecological boundaries, and analysis of human communities must use actual socio-cultural boundaries to ensure all effects are included;
- Cumulative effects may result from the accumulation of similar effects or the synergistic interaction of different effects;
- Repeated actions may cause effects to build up through simple addition (more and more of the same type of effect), and the same or different actions may produce effects that interact to produce cumulative effects greater than the sum of the effects;
- Cumulative effects may last for years beyond the life of the action that caused the effects; and
- Each affected resource, ecosystem, and human community must be analysed in terms of its capacity to accommodate additional effects, based on its own time and space parameters.

The assessment of cumulative impacts of the Project are presented in this section.

7.14.2 Methodology

The assessment of cumulative impacts requires a holistic and integrated view of the Project and other known projects within a proximity that could feasibly contribute to an accumulated impact.

The current operations at BMM in the Project area are as follows:

- Operations at the Deeps underground mine;
- Operations at the existing underground Swartberg Mine; and
- Existing processing plant and associated infrastructure to process material from Deeps and Swartberg Mines.

Once the planned Swartberg expansion is operational the Deeps mine will have reached its LOM, although the processing plant will continue to operate and process the material from the expanded Swartberg Mine. The processing plant will be upgraded but will remain within current plant footprint at BMM mine.

Other Developments in the beyond the immediate Project area are:

- Gamsberg mine and processing plant (located approximately 28km from the Project site and approximately 11km from Aggeneys). It is noted that any other future proposed developments at the Gamsberg site have not been considered in this assessment, though the same cumulative impact process would be completed for all future developments.
- Phase 2 of the Gamsberg mine (planned construction event) (located approximately 28km from the Project site and approximately 11km from Aggeneys).

The way in which the nature and effect of the impacts are assessed is strongly influenced by the status of the other activities (e.g. already in existence, approved or proposed) and how much data is available to characterise the magnitude of their impacts. Where possible specialists' recommendations and conclusions from similar developments were taken into consideration in the assessment of cumulative impacts, as reflected above and in more detail in each specialist study.

7.14.3 Air Quality

There are no known new Projects in the Project Area that will contribute to air quality emissions. There will be air emissions from the Gamsberg mine and processing plant and Gamsberg Phase 2 construction but it is anticipated that this will not have a cumulative effect. The Gamsberg mine is located approximately 28km from the Swartberg Mine and the prevailing wind direction means that dust emissions from the Swartberg Mine will not blow towards Gamsberg Mine or Aggeneys town. As a result, the cumulative impact to air quality is considered negligible.

7.14.4 Noise

There are no known new Projects in the Project Area that will contribute to noise emissions. There will be noise emissions from the Gamsberg mine and processing plant, and Gamsberg Phase 2 construction but it is anticipated that this will not have a cumulative effect. The Gamsberg mine is located approximately 28 km from the Swartberg Mine and Aggeneys town therefore it is unlikely that there will be cumulative noise impacts. As a result, the cumulative Impact is considered negligible.

7.14.5 Soils and Geology

The implementation of the Project will result in the removal of soils and excavation across the Project site during the construction phase, resulting changes in drainage regime and increased erosion potential and runoff during establishment, operation and decommissioning. There are no known projects in the Project area which will have a cumulative impact. In addition, it is expected, that re-

vegetation will occur on all bare surface in the projects to area on all bare surfaces after construction has been completed. As such, the cumulative impacts on soils and geology are considered negligible.

7.14.6 Terrestrial Flora

Loss of Habitats of Medium-High, High and Very High Sensitivity and Associated Species Post Mitigation

The implementation of the Project will result in the removal of vegetation. In combination with other known contributions in the broader area the most likely cumulative impacts include:

- Increased loss or fragmentation of unique niche habitats and plant species of conservation concern, increasing the impact of existing surrounding anthropogenic activities.
- Possible spread and establishment of alien invasive species.
- Potential for tracts of sensitive habitats adjacent to the mining operations to deteriorate further indefinitely due to the soil-sealing effect of long-term dust deposition.
- Possible change in plant vigour in downstream environments due to changes in surface runoff patterns – most noticeable in riparian vegetation.

The cumulative impacts are considered to be Major.

Loss of Habitats of Medium-Low to Low Sensitivity and Associated Species

The implementation of the Project will result in the removal of vegetation. In combination with other known contributions in the broader area the most likely cumulative impacts include:

- Possible increased loss or fragmentation of unique niche habitats and plant species of conservation concern, increasing the impact of existing surrounding anthropogenic activities.
- Possible spread and establishment of alien invasive species.
- Potential for tracts of sensitive habitats adjacent to the mining operations to deteriorate further indefinitely due to the soil-sealing effect of long-term dust deposition.
- Possible change in plant vigour in downstream environments due to changes in surface runoff patterns – most noticeable in riparian vegetation.

The cumulative impacts are considered to be Moderate.

Loss of Plant Species of Conservation Concern

The implementation of the Project will result in the removal of vegetation. In combination with other known Projects in the broader Project area the most likely cumulative impact of be habitat and potential species loss – or loss of rescued plants - will still occur as a residual impact but could be reduced with effective mitigation as discussed above. Based on the estimated areas of loss, up to 300 ha of natural and partially irreplaceable habitat will be lost to the mine footprint. Even with mitigation, mining will result in a permanent and irreversible loss of habitat that would be suitable for the re-establishment of such species.

The cumulative impacts are considered to be Major.

Reduced Ecological Function and Degradation due to Altered Soil Surfaces

The implementation of the Project will result in the removal of vegetation. In combination with other known contributions in the broader area the most likely cumulative impacts include:

- Increased loss and fragmentation of unique habitats and plant species of conservation concern by reducing natural dispersal corridors, increasing the impact of existing surrounding anthropogenic activities.

- Degradation of downstream habitats such as the Koa River due to potential reduced moisture recharge.
- Possible degradation of on-site and downstream riparian vegetation may also occur due to a potential change in ground-water dynamics caused by the open-cast operations.
- This impact was not further assessed, but will have to be based on a detailed hydrological study, which was not available at the time of writing.
- A gradual but continued expansion of the mining footprint to beyond the area directly impacted – the exact extent of this cannot yet be determined but is also influenced by blasting plumes and wind direction.
- Continued degradation of more sensitive adjacent and possibly downstream habitats such as Koppie Ridges with narrow endemics or the Koa River, due to potential reduced moisture recharge resulting from dust-induced soil surface sealing.

The cumulative impacts are considered to be Major.

Increase in Alien Invasive Vegetation

The implementation of the Project will result in the removal of vegetation. In combination with other known contributions in the broader area the most likely cumulative impacts include:

- Possible increased modification and degradation of natural and unique habitats and continued loss of species unique to the area and affected ecosystems, increasing the impact of existing surrounding anthropogenic activities.
- Possible continued and unabated spread and establishment of alien invasive species.

The cumulative impacts are considered to be Moderate.

7.14.7 Fauna

The Project will contribute to cumulative habitat loss and impact in the broader Project area. The major contributors to habitat loss are mining activities associated with the Gamsberg mine and processing plant and Gamsberg Phase 2 construction. The potential footprint the developments poses a threat to the ecological functioning of the area. Habitat loss and fragmentation are a particular concern and may impact fauna species' ability to respond to environmental fluctuations. The Project will contribute 200 hectares (max) of additional direct and indirect habitat loss to cumulative impact in the area. As this impact is related largely to the presence and operation of the mining activities, it cannot be well mitigated. However, currently, the impacted areas do not appear to be within areas that are likely to be critical for faunal movement in the area. As result the cumulative impact is considered Moderate.

7.14.8 Groundwater

Modelling for the Swartberg Expansion project and modelling undertaken for the Gamsberg Mine project (Helen Seyler, 2013) indicate that the cone of dewater or suppressions will be isolated to each mine area as well as adjacent properties. Therefore it is unlikely that operations of the Projects will result in larger dewatering feature due to the distances between the two operations (22.5 km) as well as the low hydraulic properties of the gneiss plain aquifer. As result the cumulative impacts are considered negligible.

7.14.9 Employment, Skills Enhancement and Local Business Opportunities

The development of the Project will result in increased direct and indirect employment during the construction and operation phases. The nature and extent of the benefits will depend on the extent of local employment.

It is expected that the construction phases of the Gamsberg mine and Swartberg Mine Expansion projects will run consecutively. Therefore, this will result in a significant uplift in local employment directly and indirectly through the procurement of goods and services over continued period of time. Furthermore, both projects are mining projects and therefore there will be continual skills development, which will increase skills level and experience for workers. As such, the potential during construction for cumulative positive benefits associated with economy, employment and skills development is considered to be higher (moderate impact) than for the Project alone.

During operations it is expected that the current workforce of the Deeps mine will be primarily utilised for the Swartberg Expansion and it is not expected that there will be a significant increase in operation employment. Therefore, cumulative impacts of the operational employment will be minor.

7.14.10 Community Health and Safety

It is expected that the construction phases of the Gamsberg mine Phase 2 and Swartberg Mine Expansion projects will run consecutively. In addition, during operations the current workforce of the Deeps mine will be primarily utilised for the Swartberg Expansion and it is not expected that there will be a significant increase in operation employment. Therefore, no major in-migration is expected into the Project area and associated impacts on existing social infrastructure and human health.

As a result the cumulative impacts on Community Health and Safety is expected to be Minor.

7.14.11 Traffic

It is expected that the construction phases of the Gamsberg mine Phase 2 and Swartberg Mine Expansion projects will run consecutively. Therefore, it is anticipated that there will only be minor cumulative impacts during construction

During operations with both Gamsberg and the Swartberg Expansion, operating concurrently as well as existing arterial traffic on the N7 and N14 there is the potential for cumulative impacts. The operations of both Gamsberg and Swartberg Mines will include the transport of processed material. This in combination will existing road traffic along a key transport route may lead to degradation of roads and increased risk of vehicle accidents.

As result the cumulative impacts are expected to be Moderate during operations.

8. ENVIRONMENTAL MANAGEMENT PROGRAMME

8.1 Purpose of this EMPr

The aim of the Environmental Management Programme report (EMPr) is to provide a set of guidelines and actions aimed at addressing potential biophysical and socio-economic impacts associated with the construction, operation and decommissioning phases of the project, and will be included in contract documentation between BMM and its Business partners. The EMPr also provides assurance to regulators and stakeholders that their requirements with respect to biophysical and socio-economic performance will be met, and provides a framework for compliance auditing and inspection programs. It becomes a legally binding document should the Project receive Environmental Authorisation. A standalone EMPr is included in *Annex H*.

8.2 Legal Requirements

In light of the nature of the Project, the following legislation are identified to be applicable:

- National Environmental Management Act (107 of 1998) (NEMA);
- Minerals and Petroleum Resources Development Act (28 of 2002) (MPRDA);
- National Heritage Resources Act (25 of 1999) (NHRA);
- Mine Health and Safety Act (29 of 1996);
- Noise Control Regulations under the Environmental Conservation Act (73 of 1989);
- Major Hazard Installation Regulations (GNR. 692 of 30 July 2001);
- Hazardous Substances Act (56 of 1973);
- Explosives Act (15 of 2003);
- National Environmental Management: Air Quality Act (39 of 2008) (NEM:AQA);
- National Environmental Management Act: Biodiversity Act (10 of 2004) (NEM:BA);
- National Environmental Management: Waste Act (59 of 2008) (NEM:WA); and
- National Water Act (36 of 1998) (NWA).

Despite the applicability of a suite of legislation, the NEMA and MPRDA are the body of legislation that govern the content, structure and approach to this EMPr. However, specific mitigation and management requirements in terms of the remaining aforementioned pieces of legislation will be met in this EMPr as well.

The specific legal requirements for an EMPr, as per the NEMA and MPRDA, are presented below, for ease of reference.

8.2.1 National Environmental Management Act (107 of 1998) (NEMA)

In terms of Section 24 (n) of the NEMA, an EMPr is required. Appendix 4 of the EIA Regulation GNR 326 (2017) outlines specific requirements for the compilation of an EMPr. The specific requirements in terms of the EIA Regulation GNR 326 are included in *Table 8.1*.

Table 8.1 Contents of a draft EMPr

Legislated Requirements	Section in EMPr
An EMPr must comply with section 24N of the Act and include–	
(a) details of –	
(i) the EAP who prepared the EMPr; and	Section 8.3
(ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Section 8.3
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 8.4
(c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;	Section 8.2
(d) a description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including—	
(i) planning and design;	Section 8.5
(ii) pre-construction activities	Section 8.5
(iii) construction activities;	Section 8.5
(iv) rehabilitation of the environment after construction and where applicable post closure; and	Section 8.5
(v) where relevant, operation activities;	Section 8.5
(e) a description and identification of impact management outcome required for the aspects contemplated in paragraph (d)	Section 8.5
(f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraph (d) and (e) will be achieved, and must, where applicable, include actions to —	
(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;	Section 8.6
(ii) comply with any prescribed environmental management standards or practices;	Section 8.6
(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and	Section 8.6
(iv) comply with any provisions of the Act regarding financial provision for rehabilitation, where applicable;	Section 8.6
(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 8.6
(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 8.6
(i) an indication of the persons who will be responsible for the implementation of the impact management actions;	Section 8.6
(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 8.6
(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 8.6
(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 8.6
(m) an environmental awareness plan describing the manner in which—	
(i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and	Section 8.6
(iii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	Section 8.6
(n) any specific information that may be required by the competent authority.	Section 8.6
(2) Where a government notice gazetted by the Minister provides for a generic EMPr, such generic EMPr as indicated in such notice will apply.	

8.2.2 Mineral and Petroleum Resources Development Act (No. 28 of 2002)

The objectives of the MPRDA, *inter alia*, is to promote equitable access to South Africa's minerals and petroleum resources, expand opportunities for previously disadvantaged individuals, promote economic growth and mineral and petroleum resources development (objective), employment opportunities, and ensure that the holders of the mining right contribute to the socio-economic development on the surrounding communities.

The MPRDA identifies the state as the official custodian of South Africa's Mineral and Petroleum Resources. Therefore, all activities relating to reconnaissance, prospecting rights, mining rights, mining permits and retention permits are regulated by the State. An application must be submitted and approved by the National Department of Mineral Resources, before proceeding with such activities.

Black Mountain Mining (Pty) Ltd already has an existing mining right and approved EMPr for the mining activities that are currently being undertaken within the Project area. The subject of the present application for Environmental Authorisation is to obtain approval for the proposed Swartberg Mine expansion and amendment of the existing mining right to include the proposed activities covered by this application.

In terms of Section 102 of the MPRDA, amendments to an approved EMPr requires an EIA process to be undertaken in terms of NEMA. In addition, Section 39 of Regulation 527 of the MPRDA outlines specific information requirements for an EMPr, *inter alia*, are as follows:

Table 8.2 EMPr requirements of Section 39 of the MPRDA

Requirements
39 (1) Every person who has applied for a mining right in terms of section 22 must conduct an environmental impact assessment and submit an environmental management programme within 180 days of the date on which he or she is notified by the Regional Manager to do so.
(2) Any person who applies for a reconnaissance permission, prospecting right or mining permit must submit an environmental management plan as prescribed.
(3) An applicant who prepares an environmental management programme or an environmental management plan must-
(a) establish baseline information concerning the affected environment to determine protection, remedial measures and environmental management objectives;
(b) investigate, assess and evaluate the impact of his or her proposed prospecting or mining operations on-
(i) the environment;
(ii) the socio-economic conditions of any person who might be directly affected by the prospecting or mining operation; and
(iii) any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), with the exception of the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act;
(c) develop an environmental awareness plan describing the manner in which the applicant intends to inform his or her employees of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment; and
(d) describe the manner in which he or she intends to--
(i) modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
(ii) contain or remedy the cause of pollution or degradation and migration of pollutants; and
(iii) comply with any prescribed waste standard or management standards or practices.

8.3 Project EAP and Proponent

8.3.1 Expertise of Environmental Assessment Practitioners

The requirement for environmental consultants to act independently and objectively is a well-established principle in South African law. The EIA regulations (GN R.326), specifically state:

“that an EAP (environmental assessment practitioner) (must have) no business, financial, personal or other interest in the activity, application or appeal in respect of which that EAP is appointed in terms of these Regulations other than fair remuneration for work performed in connection with that activity; or that there are no circumstances that may compromise the objectivity of that EAP in performing such work.”

ERM is a global environmental consulting organisation employing over 5,000 people in over 150 offices in more than 40 countries. ERM Southern Africa employs over 150 environmental consultants across three offices: Johannesburg, Durban and Cape Town. ERM is a privately owned company registered in South Africa. ERM has no financial ties to, nor is ERM a subsidiary, legally or financially, of BMM. Remuneration for the services by the Proponent in relation to this EIA is not linked to an approval by the decision-making authority. Furthermore, ERM has no secondary or downstream interest in the development.

The role of the environmental consultants is to provide credible, objective and accessible information to government and other stakeholders, so that an informed decision can be made about whether the project should proceed or not. The ERM team selected for this Project possess the relevant expertise and experience to undertake this EIA. As such, ERM has signed the legally required declaration of independence to function as an objective Environmental Assessment Practitioner (EAP). The CVs and details of the Independent Environmental Practitioner are presented in Annex A. The contact details of the EAP for the application are presented in

Box 1.3 and the core EIA team members involved in this EIA are listed in Table 8.3.

Box 8.1 Contact Details of the EAP

Environmental Resources Management Southern Africa (Pty) Ltd.
Stephanie Gopaul
Address: Postnet Suite 90, Private Bag X12, Tokai, 7966, Cape Town, South Africa
Tel: +27 21 681 5400, Fax: +27 21 686 0736
Email: Stephanie.gopaul@erm.com

Table 8.3 The EIA Team

Name	Role	Qualifications, Experience
Philip Johnson	Partner in Charge	BSc. (Hons), MSc, PIEMA, 14 years
Brendon Solik	Project Manager	B Soc Sci (hons), MSc 5 years
Stephanie Gopaul	Technical Specialist	BSc, MSc, 12 years

8.3.2 Project Proponent

BMM engages in mining operations in South Africa and produces primarily zinc concentrates, as well as lead, copper, and silver concentrates. BMM operates the Gamsberg, Black Mountain Mines consisting of two underground operations namely Swartberg, and Deeps and currently employ more than 1,600 individuals through direct employment and business partners. The contact details for the applicant are presented in Box 8.2.

Box 8.2 Contact Details of Project Proponent

Black Mountain Mining Company (Pty) Ltd
Pieter David Venter (Environmental Manager)
Address: Penge Rd, Aggeneys, 8893
Tel: +27 54 983 9802
Email: PVenter@vedantaresources.co.za

8.4 Project Description

8.4.1 Background

BMM is a producer of Copper, Lead and Zinc concentrates in the Northern Cape. BMM currently produce ore from two underground operations; the Deeps and Swartberg (both located on the Black Mountain Mine). Extensive exploration in the vicinity of Swartberg, to determine the extent of the orebody, has opened up the possibility of expanding the existing underground mine and establishing new open pits at Swartberg to levels on par with, or exceeding, the current Deeps mine. A pre-feasibility study completed in April 2017 concluded that the mining of the identified orebody at Swartberg is financially viable.

The bulk of the current ore production, approximately 1.3 million tonnes per annum (Mtpa), is produced from Deeps, and 400 kilo tonnes per annum (ktpa) from the Swartberg operations. The Black Mountain Mine also includes an existing ore processing plant, mine offices, maintenance facilities and other associated services and infrastructure necessary to sustain the existing underground operations. The Deeps Life of Mine (LOM) is scheduled to extend to March 2021. To secure the future of mining at BMM, it is proposed to ramp-up ore production from Swartberg Mine to a minimum of 1.7 Mtpa before Deeps mine is mined out. The expansion will advance the Swartberg LOM within the existing Mining Right Area (MR 517) by at least 19 years.

The expansion of Swartberg Mine will consist of the expansion of the current underground mine and three new open pit mines, and a total of 150,000,000 tons of ore mined from the Swartberg over the 19 year LOM. Of this expected tonnage, approximately 18,000,000 tons of lead and copper concentrate will be extracted. Lead and copper concentrate will be transported via existing rail and/or road networks and exported via the Port of Saldahna in the Western Cape.

BMM has a long-term view to mine additional resources to ensure mining at Black Mountain Mine continues.

8.4.2 Project Location

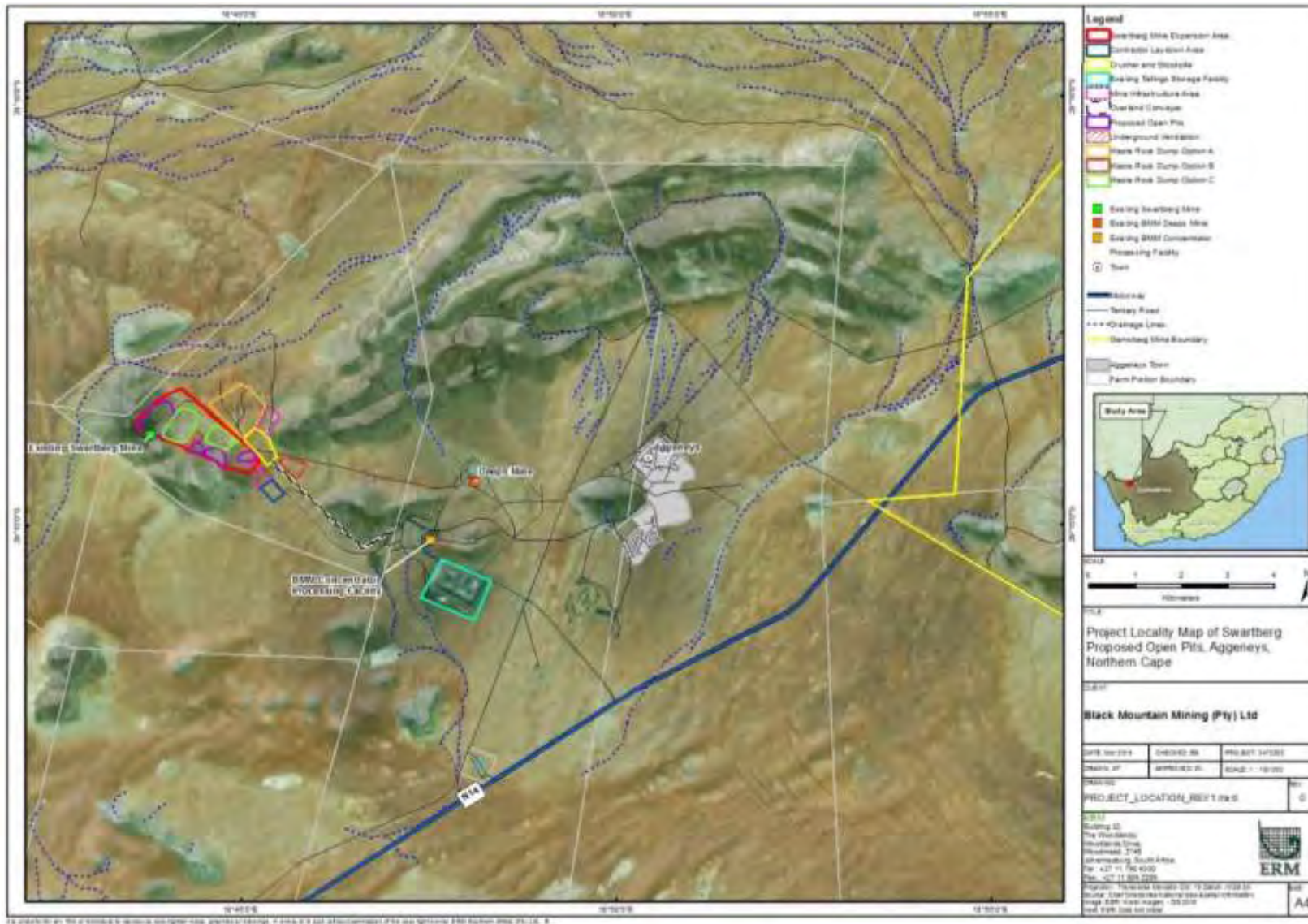
The Project site is located in the Northern Cape Province of South Africa, approximately 10 km west of the town of Aggeneys, between the existing towns of Pofadder and Springbok. The Project site falls within the Black Mountain Mine, which is owned by BMM. *Table 8.4* shows the details of the property where the Project will be located and

Figure 8.1 illustrates the Project Location.

Table 8.4 Property Details

Farm Name	Zuurwater 62
Portion Number	Portion 4
SG21 Code	C05300000000006200004
Local Municipality	Khai-Ma Local Municipality
Magisterial District	Namaqualand [C053]
District Municipality	Namakwa District Municipality

Figure 8.1 Project Location Map



8.5 Environmental Management Programme

This section covers the environmental specifications and recommendations required during the following phases of the Project:

- Construction Phase;
- Operational Phase; and
- Decommissioning Phase.

The EMP outlines the following:

- Potential impact to the receptor;
- Objective;
- Proposed mitigation / management and monitoring measures;
- Parameters for monitoring;
- Timing/frequency for implementation of mitigation / management and monitoring measures; and
- Responsibility for implementation.

8.5.1 Existing Environmental Management System

BMM has an Environmental Management System (EMS) that is certified to the ISO14001:2015 International Environmental Management Standard. This International Standard, as per SANAS *ISO14001: 2015 Edition*, *Environmental Management Systems - Requirements with guidance for use*, states that the Standard “*specifies requirements for an environmental management system to enable an organisation to develop and implement a policy and objectives which take into account legal requirements and other requirements to which the organisation subscribes, and information about significant environmental aspects. It applies to those environmental aspects that the organisation identifies as those which it can control and those which it can influence. The system enables an organisation to develop an environmental policy, establish objectives and processes to achieve the policy commitments, take action as needed to improve its performance and demonstrate the conformity of the system to the requirements of the ISO14001 International Standard*”.

“*The ISO14001 Standard is based on the methodology known as Plan-Do-Check-Act, which is described as follows:*

- Plan: establish the objectives and processes necessary to deliver results in accordance with the organisation’s environmental policy;
- Do: implement the processes;
- Check: monitor and measure processes against environmental policy, objectives, targets, legal and other requirements, and report the results; and
- Act: take actions to continually improve performance of the environmental management system.” (SANAS ISO14001: 2004 Edition 2, *Environmental Management Systems - Requirements with guidance for use*)

The EMS is subjected to annual internal and external audits by competent, independent assessors. External assessors are accredited to the South African National Accreditation System (SANAS) which is an EMS certification body, and adjudicate whether or not the mine meets the minimum requirements of the ISO14001 Standard.

8.5.2 Management Plans

In addition to this EMP the following standalone management plans will be developed or existing plans amended for the Project:

- Water Management Plan;
- Water Management Plan;
- Emergency Response Plan;
- Hazardous Spill Response Plan;
- Air Quality Management Plan;
- Biodiversity Management Plan;
- Construction Management Plan;
- Traffic and Transportation Management Plan;
- Closure Plan;
- Mine Health and Safety Management Plan;
- Environmental Competence & Awareness (STD026);
- Environmental Aspects (STD027);
- Air Quality Monitoring (STD028);
- Communication & Environmental Reporting (STD031);
- Emergency Preparedness and Response (STD033);
- Environmental Management Systems Manual (STD034);
- Environmental Audits (STD035);
- Environmental Document Control & Record Keeping (STD036);
- Exploration Drilling (STD037);
- Hydrocarbon Management (STD038);
- Handling of Chemical Spillages (STD039);
- Handling, Storage and Disposal of Waste (STD040);
- Environmental Incident & Non-conformance (STD041);
- Legal Register & Compliance (STD042);
- Management of Domestic and Garden Refuse Dumps (STD043);
- Management Review Procedure (STD044);
- Management of Oxidation ponds (STD045);
- Setting of Objectives and Targets (STD046);
- Operating and Managing the Salvage Yard (STD048);
- Correct Storage of Hazardous Material (STD052); and
- Handling, Storage and Disposal of Medical Waste (STD053)

8.5.3 Mitigation and Monitoring Measures

Mitigation and monitoring measures presented in the tables below have been prescribed by the EIA and specialist studies. The EMPr will require updating with conditions of the Environmental Authorisation and on the basis of the results of any monitoring programmes.

Table 8.5 Construction Environmental Management Measures

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Air Quality						
Decreased Local Ambient Air Quality due to Dust Emissions	Control and/or avoidance of dust emissions during establishment.	<ul style="list-style-type: none"> Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the EO. As far as practically possible, blasting should only be done under low- or no-wind conditions. Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; Vehicles must be kept clean to avoid tracking dirt around and off the site. Vehicles transporting friable materials must be covered. Where feasible, surface binding agents must be used on exposed open earthworks and roads. Vegetation clearance must be phased to minimise the area of exposed soil. Topsoil stockpiles must be planted to bind the soil and minimise dust. The design of stockpiles should be optimised to retain a low profile with no sharp changes in shape. Drop heights of material must be minimised where possible. Where possible, wind breaks should be erected around high- dust generating activities. For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. 	Construction	Visual inspection and photographic record Regular Dust Monitoring South African Emission Standards	Environmental Manager, Environmental Officer	Throughout construction
Noise						
Increased Local Ambient Noise Levels due to Noise Propagation from Establishment Activities	Reduce Project noise levels to acceptable levels.	<ul style="list-style-type: none"> Business Partners must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only. All diesel-powered construction and earth moving equipment must be well maintained. This must include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance. Vendors must be required to guarantee optimised equipment design noise levels. A mechanism to monitor noise levels, record and respond to complaints and mitigate impacts should be developed and implemented. Use of quieter powered mechanical equipment (PME) should be considered, where possible. Use of noise barriers/enclosures should be considered, where possible. Vibrating equipment such as crushers must be installed on vibration isolation mountings. Individual vehicle engine, transmission and body noise/vibration should be minimised through the implementation of an equipment maintenance program. Maintain road surfaces regularly to avoid corrugations, potholes etc. Avoid unnecessary idling times. Minimise the need for trucks/equipment reversing. This will reduce the frequency at which reverse warnings occur. Any complaints received by Business Partners regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers. 	Construction	Noise monitoring at any identified sensitive receptors Complaints Register South African Standards	Environmental Manager, Environmental Officer	Throughout construction
Soils						
Loss of soil resources as a result of site clearance and construction activities	Control soil erosion and compaction and promote soil reinstatement.	<ul style="list-style-type: none"> Develop and implement a Soil Erosion, Control and Reinstatement Plan. Restrict extent of disturbance within the Project Site to the extent practicable. Minimise the period of exposure of the soil surface, including stockpiles, by revegetating temporary-use areas as soon as practicable after construction activities. Stockpiled soil must not be compacted. Stockpiles are to be protected from erosion by keeping the stockpiles as low as possible with gentle gradients, and by planting as soon as possible. Topsoil stockpiles must not exceed 2 m in height. 	Construction	Visual inspection and photographic record	Environmental Manager, Environmental Officer	Throughout construction
Terrestrial Flora						
Loss of habitats of medium and high sensitivity and associated species due to construction activities	Minimise the loss of habitats of medium and high sensitivity	<ul style="list-style-type: none"> All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods. Where possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. Avoid any direct activities on any surrounding or adjacent areas with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). 	Construction	Visual inspection and photographic record Biodiversity Action Plan (BAP) Rehabilitation Plan Training records	Environmental Manager, Environmental Officer	Throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> • Where clearing for access purposes is essential, the maximum width to be cleared within the servitude must be in accordance to distance as agreed between the land owner and the EA holder. • Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area. • Avoid placing the waste rock pad within natural habitats. • Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural areas. • No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. • Avoid and/or minimise the loss of species of conservation concern by conducting a thorough pre-construction survey. • Only a registered pest control operator may apply herbicides on a commercial basis and commercial application must be carried out under the supervision of a registered pest control operator, supervision of a registered pest control operator or is appropriately trained. • A daily register must be kept of all relevant details of herbicide usage. • No herbicides must be used in estuaries. • The pre-construction survey must be followed by implementing the necessary Search and Rescue actions prior to any groundworks taking place, whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern. • Development and implement a detailed Plant Search- and Rescue, and Monitoring Plan in areas where infrastructure development impact on vegetation before any groundworks taking place. • Delineate all permissible areas so that all movement of vehicles and heavy machinery can be restricted to permissible areas, these being designated access roads, maintenance roads, turning points and parking areas. No off-road driving beyond designated areas will be allowed. • Design and create berms to stop runoff from the mining areas and waste-rock dump during/after periodic/ extreme rainfall events from entering directly into existing washes. • Keep the clearing of natural vegetation to a minimum. • Cleared indigenous shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas. • Ensure topsoils, where available, are first removed and correctly stored for rehabilitation purposes. • Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close together as possible (but avoiding the blockage of or increased impact on sensitive habitats), e.g. by using waste rock pad Alternative 2, which is closer to the planned open pits, thus also reducing transport requirements. • Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer (with the necessary storm water control) if oil and fuel spillages are likely to occur. • Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas. • Install adequate drainage structures to ensure that water flows are never concentrated or blocked. • If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing of fill materials. • Areas of high conservation significance in close proximity but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or Business partners. • - Alien invasive vegetation must be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) and disposed of at a recognised waste disposal facility. • Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances. This will also reduce fragmentation due to mining operations. • Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible. This will be according to a Rehabilitation Plan that needs to be compiled by a suitably qualified specialist and complement the current Biodiversity Management Plan (BMP). It will include the following: <ul style="list-style-type: none"> ▪ Installation of erosion control structures. 				

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> ▪ Re-vegetation measures of disturbed/modified areas using indigenous shrubs and grasses only. ▪ Special attention will be paid to ensuring that critical topography is reconstructed as far as practical. 				
Loss of habitats of medium to low sensitivity and associated species due to construction activities	Minimise the loss of habitats of medium to low sensitivity	<ul style="list-style-type: none"> • Minimise clearing and operations in natural habitats. For the location of waste rock pads, clearing of natural vegetation within at least 50 m of adjacent habitats with high sensitivity should be avoided. • Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). • Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area. • Avoid placing the waste rock pad within natural habitats. • Use existing gravel roads and already disturbed areas to access mining operations as far as possible. • No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. • Conducting a thorough pre-construction survey to avoid and/or minimise the loss of species of conservation concern. • The pre-construction survey must be followed by implementing necessary Search and Rescue actions prior to any groundworks taking place, whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern. • Delineate all permissible areas so that all movement of vehicles and heavy machinery can be restricted to permissible areas, these being designated access roads, maintenance roads, turning points and parking areas. No off-road driving beyond designated areas will be allowed. • Design and create berms to stop runoff from the mining and waste-rock dump during/after periodic extreme rainfall events from entering directly into existing washes. • Keep the clearing of natural vegetation to a minimum. • Cleared indigenous shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas. • Ensure topsoils, where available, are first removed and retained for rehabilitation purposes. Topsoils should not be stored in heaps higher than 1 m, may never be compacted and the growth of natural vegetation on such piles during storage should be encouraged. • Wheels of large machinery should be checked prior to entering topsoil storage sites and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds) to reduce the introduction and spread of alien invasive plants. All such plant material removed must be burnt. • Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close as possible together (but avoiding the blockage of or increased impact on sensitive habitats). • Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer (with the necessary storm water control) if oil and fuel spillages are highly likely to occur. • Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas. • Install adequate drainage structures to ensure that water flows are never concentrated or blocked in any way. • If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing of fill materials. • Areas of high conservation significance in close proximity but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or Business partners. • Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances. • Compilation of a Rehabilitation Plan by a suitably qualified specialist to complement the Biodiversity Management Plan (BMP). It will include the following: <ul style="list-style-type: none"> ▪ Installation of erosion control structures. ▪ Re-vegetation of disturbed/modified areas using indigenous shrubs and grasses only. ▪ Special attention will be paid to ensuring that critical topography is reconstructed as far as practical. 	Construction	<p>Monitoring: Visual inspection and photographic record</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p> <p>Training records</p>	Environmental Manager, Environmental Officer	Throughout construction
Loss of plant species of conservation concern due to	Minimise the loss of plant species of conservation concern	<ul style="list-style-type: none"> • If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. In general, minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. 	Construction,	<p>Visual inspection and photographic record</p> <p>Training records</p>	Environmental Manager, Environmental Officer	Throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
construction activities		<ul style="list-style-type: none"> Avoid and/or minimise the loss of species of conservation concern by conducting a thorough pre-construction survey. The pre-construction survey must be followed by implementing the necessary Search and Rescue actions prior to any groundworks taking place whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern. The following activities will be prohibited for staff and Business Partners or any other person that may be present within or have access to the BMM mining concession area: <ul style="list-style-type: none"> Purchase or transport of any wildlife/indigenous plant products from local communities or passing traders who cannot prove that they have valid permits for having such plants in their possession. Collection of any plants or plant- products for trade, consumption, medicinal use or cultivation, unless such person has the permission of the mine management as well as a valid permit from the responsible authorities. Plants of conservation concern that will be directly affected by planned mining operations could be used for research purposes, if this will not critically reduce the viability of natural populations, and only with the necessary permits and permissions from the responsible authorities and BMM management. Any unauthorised driving to areas not directly affected by the mine, but which may contain species of conservation concern and/or natural habitat within the BMM mining concession, will not be allowed. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and continue progressively during all phases of mining. Where possible, rescued plants can be used as part of the rehabilitation efforts. 		<p>Biodiversity Action Plan (BAP)</p> <p>Plant Search- and Rescue, and Monitoring Plan</p> <p>Rehabilitation Plan</p>		
Reduced ecological function and degradation due to altered soil surfaces due to construction activities	Minimise impacts to soils to avoid reduced ecological function	<ul style="list-style-type: none"> If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area. Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural areas. Keep the clearing of natural vegetation to a minimum. Indigenous cleared shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas. Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas. Install adequate drainage structures to ensure that water flows are never concentrated or blocked in any way. Dust levels from blasting and haulage must be controlled and minimised at all times. <ul style="list-style-type: none"> As far as practically possible, blasting should only be done under low- or no-wind conditions. Once the extent of possible dust deposition has been modelled and is known, it will be advisable to search the area affected for plant species of conservation concern. In areas with a high(er) concentration of such species, dust monitoring programmes, coinciding with monitoring programmes of the plants affected should be implemented to advise management if any immediate remedial action will be required, or if possible offset or relocation measures will need to be implemented if affected species start dying off at increased rates due to dust deposition. Strict speed limits must be set and adhered to in order to reduce dust fall out. Prior to rehabilitation, landscaping of disturbed areas needs to be undertaken in a way that ensures sufficient surface roughness, but also blends in with natural runoff and drainage patterns, whilst still preventing the start of rill- or gully erosion. As part of rehabilitation, all compacted soils need to be ripped to a depth of at least 30 cm to prevent soil-surface crusting. All signs of accelerated erosion after a large rainfall event must be mitigated as soon as possible. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible. 	Construction	<p>Monitoring: Visual inspection and photographic record</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p> <p>Dust monitoring in affected areas</p>	Environmental Manager, Environmental Officer	Throughout construction
Increase in alien invasive vegetation due to	Reduce the spread of alien and invasive species	<ul style="list-style-type: none"> Wheels of large machinery should be checked prior to entering the site and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds). All such plant material removed must be burnt. 	Construction	Visual inspection and photographic record	Environmental Manager,	Throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
construction activities	below the current rate of infestation. In addition, create awareness about the potential impacts of alien invasive species.	<ul style="list-style-type: none"> If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing fill materials. Conduct a detailed Alien Invasive Survey within the BMM concession area, and if possible also along approximately 20 -50 km of all major access routes leading to the mine. From this: <ul style="list-style-type: none"> Create and implement a suitable (alien) Invasive Plant Management Plan (following DEA standards for an Alien Management Control Plan). Destruction of regenerative material of cleared alien species by burning in a protected area is encouraged. Be aware of alien species that may be newly introduced to the area and act immediately to eradicate once detected. <p>Rehabilitate:</p> <ul style="list-style-type: none"> Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and progressively during all phases of the mine. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). It will include the following: <ul style="list-style-type: none"> Re-vegetation measures of disturbed/modified areas using indigenous shrubs and grasses only. The selection of species used for rehabilitation may not include any species that are not suitable to the receiving environment (i.e. must occur there naturally), and also no species that are indicative of habitat degradation. 		<p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Invasive Plant Management Plan</p> <p>Rehabilitation Plan</p>	Environmental Officer	
Terrestrial Fauna						
Loss of medium, high and very high sensitivity areas of faunal habitat	Minimise impact on faunal habitat due to construction activities	<ul style="list-style-type: none"> As far as possible, minimize disturbance and habitat loss within the high and very high sensitivity areas such as drainage lines. The final design mine footprint areas should be clearly demarcated and all mining activities restricted to these areas. In the event that the final design differs from that presented in this EIA, an additional walkover of the area to confirm conditions. Any exploration trenches, pits or boreholes that pose a danger to fauna should be filled-in or covered to prevent fauna from falling and becoming trapped. Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural habitats. No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. There should be waste bins with lids distributed at strategic points across the site to ensure that litter is well-managed. No food waste or other waste that might attract fauna should be left exposed. There should be a preconstruction search and rescue for fauna prior to vegetation clearing within areas where there are identified fauna resident and which might be killed by construction activities. Design and create berms to stop runoff from the mining and waste-rock dump during/after periodic extreme rainfall events from entering directly into existing washes. If the site must be lit at night for security purposes, this should be done with downward-directed low-UV type lights (such as most LEDs), which do not attract insects. Keep the clearing of natural vegetation to a minimum. Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close together as possible (but avoiding the blockage of or increased impact on sensitive habitats). Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer. Areas of high faunal significance in close proximity to, but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or contractors. Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances. This will also reduce fragmentation due to mining operations. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and progressively during all phases of the mine. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). 	Construction	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or relocated without appropriate authorisations/permits. No poaching must be tolerated under any circumstances. No deliberate or intentional killing of fauna is allowed. 				
Loss of fauna due to mining activities	Minimise impacts on fauna during construction activities	<ul style="list-style-type: none"> Waste bins with lids should be distributed at strategic points across the site to ensure that litter is well-managed. No food waste should be left exposed. A preconstruction search and rescue for fauna prior to vegetation clearing must be undertaken within areas where there are identified fauna resident which might be affected by construction activities. All fauna threatened by mining activities should be removed to safety by an appropriately trained person. All mine staff and contractors should receive an induction highlighting the need to respect the environment, no littering, no persecution of fauna, no illegal hunting, poaching or harvesting of natural products from the environment. All construction vehicles should adhere to a low speed limit (30kph for heavy vehicles and 40kph for light vehicles) to avoid collisions with susceptible species such as snakes and tortoises. All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner. All open water sources such as reservoirs, waste water, evaporation dams etc should be covered with shade cloth, fine mesh or similar to prevent fauna accessing these areas and from falling into the reservoirs and drowning. Provide signage to indicate the right of way of fauna such as tortoises. Any roadkill should be recorded and all areas where repeated events occur should be inspected to see if additional mitigation can be applied. 	Construction,	Visual inspection and photographic record Training records Biodiversity Action Plan (BAP)	Environmental Manager, ECO	Throughout construction
Groundwater						
Impact of contaminants on the groundwater resource	Minimise degradation of the groundwater resource due to contaminants	<ul style="list-style-type: none"> Prior to construction of the WRDs (enlarged foot print area), the ground of the facility's footprint should be prepared to reduce the hydraulic conductivity of the material, ie through means of compaction, so that seepage water is forced out of the facility at ground level rather than infiltrating into groundwater. Toe drains (interception trenches) must be constructed along the base of both WRDs to intercept drainage and convey seepage to a return water dam. The numerical groundwater flow and transport model should be updated/validated as additional information becomes available (ie SEEP/W model results, geophysics results and hydraulic conductivity of WRDs material) prior to construction to ensure assumptions made during the development of the model remain valid. 	Construction	Monitoring: Groundwater quality monitoring must be undertaken in the vicinity of contamination sources and in radially increasing distance from them. The monitoring data should be stored in an appropriate data management tool/database. It is recommended that additional groundwater monitoring boreholes be constructed for the planned WRDs. Effluent quality meeting DWS requirements	Environmental Manager, Environmental Officer	Throughout construction
Socio-Economic						
Employment, skills enhancement and local business opportunities	To build local capacity in the Project-affected communities to enable local recruitment and contracting to be realised and successful.	<ul style="list-style-type: none"> The Mine will establish a Recruitment Policy which prioritises the employment of South African and local residents (originating from the Local Municipality) over foreigners. All contractors will be required to recruit in terms of the Project's Recruitment Policy, where practical. The Khâi-Ma Local Economic Development (LED) Forum should be consulted in the process of unlocking opportunities for local businesses. The Project will advertise job opportunities and criteria for skills and experience needed through local media, at least three months ahead of recruitment. This information should also be provided to all relevant authorities, community representatives and organisations on the interested and affected party database. The Recruitment Policy and Procedure should promote the employment of women as a means of ensuring that gender equality is attained. No employment will take place at the entrance to the site. Only formal channels for employment will be used. 	Construction	Recruitment Policy Social and Labour Plan Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to and during construction
Presence of the workforce and jobseekers	Minimise impacts on the local population due to the presence of the work force and job seekers	<ul style="list-style-type: none"> BMM will ensure that their security personnel work in close collaboration with the police to monitor any illegal activity. BMM and its appointed business partners will conform on the current induction programme and Code of Conduct for all workers directly or indirectly employed by the Mine. The Code of Conduct should be available in all relevant languages and at a minimum, English, Afrikaans and Setswana. The Code of Conduct should address the following aspects: 	Construction	Code of Conduct HIV/AIDS Policy Stakeholder Engagement Records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> ▪ Respect for all communities and traditions; ▪ No unauthorised taking of natural resources; ▪ Respect for the natural environment and no littering or illegal dumping; ▪ Zero tolerance of illegal activities by Project related employees including: soliciting prostitutes; illegal sale and purchase of alcohol; sale, purchase or consumption drugs; illegal gambling or fighting; and engaging in sexual acts with minors; ▪ Compliance with the traffic regulations on site and all road traffic regulations; and ▪ Description of disciplinary measures for infringement of the Code of Conduct and company rules. • The Mine will follow the current grievance procedure that is easily accessible to the local community, through which complaints related to business partner or employee behaviour can be lodged and responded to. The Mine will respond in a serious manner to any such complaints. • The BMM HIV/AIDS Policy and information document for all workers directly related to the Project will apply. The information document will address factual health issues as well as behaviour change issues around the transmission and infection of HIV/AIDS. 		<p>Training records</p> <p>Grievance mechanism records</p>		
Pressure on Social Infrastructure and Services	To ensure pressure is not exerted on the local social amenities which will reduce the availability and access of services to the local community.	<p>The Project will implement a grievance procedure that is easily accessible to the local community, through which complaints related to business partner or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. Key steps include:</p> <ul style="list-style-type: none"> • Development of an Employment Management Plan. • Regular Engagement with Khai Ma Municipality to understand impact to the social infrastructure. • Circulation of contact details of 'grievance officer' or other key Project contact. • Awareness raising among the local community regarding the grievance procedure and how it works. • Establishment of a grievance register to be updated and maintained by the Project. 	Construction	<p>Employment Management Plan</p> <p>Stakeholder Engagement Records</p> <p>Training records</p> <p>Grievance mechanism records</p>	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Impact on human health due to air emissions and dust generation	To reduce the health impact on Project-affected communities to the lowest possible level.	<ul style="list-style-type: none"> • The Mine will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner. 	Construction	Grievance mechanism records	Environmental Manager, Community Relations Officer, Environmental Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Risk to workers' health and safety due to hazardous construction activities	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> • The Mine will implement a rigorous induction programme for all employees outlining health and safety risks. • The Project will comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workman's compensation for loss of income resulting from an onsite incident. • As part of the business partner and supplier selection process, the Project will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law and the Project's policies. • The Mine will provide support to business partners and sub-business partners to ensure that labour and working conditions are in line with South African law through capacity building. • Workers will be provided with primary health care and basic first aid at construction camps /worksites. • Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place. • In line with the worker code of conduct, employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment. • The Project will provide of Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits. • The Project will implement the current BMM Grievance Mechanism to address employee concerns related to the Project in a timely manner. 	Construction	<p>Induction records</p> <p>Training records</p> <p>Grievance mechanism records</p>	Project Manager, Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Increase in traffic volumes	Minimise the impact of the quality of local roads as well as other road users	<ul style="list-style-type: none"> • All vehicles will be regularly checked and maintained, including tyre wear. • Contact details will be displayed on vehicles to allow other road users to report bad driving at any time. • All drivers will be sensitised about potential accident risks to local users and will be periodically checked for alcohol consumption. • All driver will be appropriately licensed. • BMM will ensure that vehicles are correctly and safely loaded to avoid accidents, and all loads are secured and covered where they pose a risk of windblown dust or material spillage. 	Construction	<p>Traffic Management Plan</p> <p>License record</p> <p>Training records</p> <p>Vehicle maintenance records</p> <p>Grievance mechanism</p>	Environmental Manager, Environmental Officer	Prior to construction and to be implemented throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> BMM will work in conjunction with SANRAL to erect appropriate road traffic signage and road markings at the intersections of loop 10 and the Aggeneys access road with the N14. The Mine will develop and implement a Grievance Mechanism to address employee concerns related to the Project in a timely manner. 				
Archaeology and Cultural Heritage						
Impacts on local archaeology and cultural heritage due to construction activities	To avoid, minimise, manage and mitigate the impact on local archaeology and cultural heritage resources	<ul style="list-style-type: none"> Development of a facility Environmental Management Programme (EMPr) that takes cognizance of heritage resources in the event of any future extensions of roads or other infrastructure. Provision for on-going heritage monitoring in a facility EMPr which also provides guidelines on what to do in the event of any major heritage feature being encountered during any phase of construction/maintenance. A Chance Finds Procedure must be developed to ensure that any heritage resource finds are recorded and reported to the appropriate authorities, and if necessary, all work is stopped until the find can be assessed by a relevant specialist. In addition the relevant Heritage Authority should be contacted by the client. Should the ESA site be threatened it may be recommended that a surface collection be made to preserve a representative sample. Officials from relevant heritage authorities (National and Provincial) must be permitted to inspect the operation at any time in relation to the heritage component of the EMPr. All work must cease immediately, if any human remains and/or other archaeological, palaeontological and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/ palaeontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. Sufficient time must be allowed to remove/collect such material before development recommences. 	Construction	Chance Find Procedure Grievance mechanism records	Environmental Manager, Community Relations Officer, Environmental Officer	Throughout construction, operations and decommissioning
Unplanned Events						
Occupational Health and Safety	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> Development of an Occupational Health and Safety Management Plan (OHSMP). Inductions, training, H&S records and remediating actions, risk assessments of all activities and provision of PPE. The OHSMP should cover all workers on site, including temporary workers and Business partners. Carry out regular monitoring and audits of the OHSMP and update as required. 	Construction	Occupational Health and Safety Management Plan Training records H&S audit records	Environmental Manager, Community Relations Officer	Throughout construction, operations and decommissioning
Accidental spills of equipment fuel, oils, and chemicals	Reduce the risk of accidental spills of equipment fuels and oils.	<ul style="list-style-type: none"> Adhere to best practice principles. Construction equipment should be up to industry standard and serviced regularly to prevent oil spills. A spill response plan should be in place and construction workers should be trained accordingly. On-site storage areas for hydrocarbons and other chemicals should be constructed in a way that potential tank failures can be contained including bunds and surface hardstanding. Hazardous material storage will be constructed on an impermeable surface and the bulk storage facility will be bunded. The Project will restrict storage and handling of hazardous materials and fuels to bunded areas of sufficient capacity to contain a release. Refuelling of equipment and vehicles will be carried out in designated areas on hard standing ground to prevent seepage of any spillages into the ground. Collection systems will be installed in these areas to manage any spills, fuels will be collected and either reused, treated by incineration or removed by a local business partner. Drip trays must be used when refuelling and servicing vehicles or equipment, where it is not on a hardstanding surface. Leaking equipment must be repaired immediately or be removed from site to facilitate repair. The Mine will develop a detailed hazardous material spill response plan, which includes community sensitisation/ notifications when required. The Project will maintain spill clean-up and response capability adequate for addressing spills for all phases of the Expansion. All spills will be immediately contained and cleaned up. Contaminated areas will be remediated and post remediation verification will be carried out. Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available. Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged. 	Construction	Spill Response Plan Training records Equipment maintenance records Incident register	Environmental Manager, Environmental Officer	Throughout construction, operations and decommissioning
Vehicle Accidents	Reduce the risk and potential impact of vehicle accidents on site and for all Project related activities.	<ul style="list-style-type: none"> All new drivers employed throughout the course of the Mine's operations will be required to undergo Defensive Driver Training. Speed limits will be enforced for all vehicles. Speed limits of 40kph will be enforced along all internal roads except haul roads where the limit is 80kph. The Mine will regularly consult with the relevant local and regional government to ensure the roads used are well maintained, and that potential problems or hazards are communicated to the relevant authority timeously. Expansion planning for construction traffic must be done in consultation with the government. 	Construction,	Training records Grievance mechanism	Project Manager, Environmental Manager, Environmental Officer	Throughout construction, operations and decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> The status of the integrity of proposed Project transportation routes with respect to structural properties (load limits, traffic volume limits), functionality (condition of road surface) and safety (signage, markings, and potential public safety hazard areas) must be confirmed. Additional measures required to upgrade transportation routes and minimise traffic congestion must be carried out in consultation with the local authorities. The Project will undertake sensitisation in the local communities, including appropriate warning signs and notifications of the risks of traffic accidents. 				

Table 8.6 Operational Environmental Management Measures

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Air Quality						
Decreased Local Ambient Air Quality due to Dust Emissions	Control and/or avoidance of dust emissions during operations.	<ul style="list-style-type: none"> Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the EO. As far as practically possible, blasting should only be done under low- or no-wind conditions. Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; Vehicles must be kept clean to avoid tracking dirt around and off the site. Vehicles transporting friable materials must be covered. Where feasible, surface binding agents must be used on exposed open earthworks and roads. Vegetation clearance must be phased to minimise the area of exposed soil. Topsoil stockpiles must be planted to bind the soil and minimise dust. The design of stockpiles should be optimised to retain a low profile with no sharp changes in shape. Drop heights of material must be minimised where possible. Where possible, wind breaks should be erected around high- dust generating activities. For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. 	Operations	Visual inspection and photographic record South African Emission Standards	Environmental Manager, Environmental Officer	Throughout operations
Noise						
Increased local ambient noise levels due to noise propagation from operational activities	Reduce Project noise to acceptable levels.	<ul style="list-style-type: none"> Business Partners must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only. All diesel-powered construction and earth moving equipment must be well maintained. This must include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance. Vendors must be required to guarantee optimised equipment design noise levels. A mechanism to monitor noise levels, record and respond to complaints and mitigate impacts should be developed and implemented. Use of quieter powered mechanical equipment (PME) should be considered, where possible. Use of noise barriers/enclosures should be considered, where possible. Vibrating equipment such as crushers must be installed on vibration isolation mountings. Individual vehicle engine, transmission and body noise/vibration should be minimised through the implementation of an equipment maintenance program. Maintain road surfaces regularly to avoid corrugations, potholes etc. Avoid unnecessary idling times. Minimise the need for trucks/equipment reversing. This will reduce the frequency at which reverse warnings occur. Any complaints received by Business Partners regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers. 	Operations	Noise monitoring at any identified sensitive receptors	Environmental Manager, Environmental Officer	Throughout operations
Terrestrial Flora						
Loss of habitats of medium and high sensitivity and associated species due to construction activities	Minimise the loss of habitats of medium and high sensitivity	<ul style="list-style-type: none"> Where possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Avoid any direct activities on any surrounding or adjacent areas with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. Pits should be backfilled as soon as possible (if possible). Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible according to the Rehabilitation Plan 	Operations	Visual inspection and photographic record Biodiversity Action Plan (BAP) Rehabilitation Plan Training records	Environmental Manager, Environmental Officer	Throughout operations
Loss of habitats of medium to low sensitivity and associated species due to operational activities	Minimise the loss of habitats of medium to low sensitivity	<ul style="list-style-type: none"> Minimise clearing and operations in natural habitats. Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. 	Operations	Visual inspection and photographic record Biodiversity Action Plan (BAP) Rehabilitation Plan Training records	Environmental Manager, Environmental Officer	Throughout operations

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> Delineate all permissible areas so that all movement of vehicles and heavy machinery can be restricted to permissible areas, these being designated access roads, maintenance roads, turning points and parking areas. No off-road driving beyond designated areas will be allowed. Wheels of large machinery should be checked prior to entering topsoil storage sites and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds) to reduce the introduction and spread of alien invasive plants. All such plant material removed must be burnt. Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer (with the necessary storm water control) if oil and fuel spillages are highly likely to occur. Maintenance of access routes that are prone to erosion or seasonal inundation. If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing of fill materials. Areas of high conservation significance in close proximity but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or contractors. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible according to the Rehabilitation Plan 				
Loss of plant species of conservation concern due to operational activities	Minimise the loss of plant species of conservation concern	<ul style="list-style-type: none"> If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. In general, minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. The following activities will be prohibited for staff and contractors or any other person that may be present within or have access to the BMM mining concession area: <ul style="list-style-type: none"> Purchase or transport of any wildlife/indigenous plant products from local communities or passing traders who cannot prove that they have valid permits for having such plants in their possession. Collection of any plants or plant- products for trade, consumption, medicinal use or cultivation, unless such person has the permission of the mine management as well as a valid permit from the responsible authorities. Any unauthorised driving to areas not directly affected by the mine, but which may contain species of conservation concern and/or natural habitat within the BMM mining concession, will not be allowed. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible according to the Rehabilitation Plan 	Operations	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout operations
Reduced ecological function and degradation due to altered soil surfaces due to operational activities	Minimise impacts to soils to avoid reduced ecological function	<ul style="list-style-type: none"> If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). Maintain existing access routes that are prone to erosion or seasonal inundation. Dust levels from blasting and haulage must be controlled and minimised at all times. <ul style="list-style-type: none"> As far as practically possible, blasting should only be done under low- or no-wind conditions. Speed limits (40kph) must be adhered to in order to reduce dust fall out. All signs of accelerated erosion after a large rainfall event must be mitigated as soon as possible. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible. 	Operations	<p>Visual inspection and photographic record</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p> <p>Dust monitoring in affected areas</p>	Environmental Manager, Environmental Officer	Throughout operations
Increase in alien invasive vegetation due to operational activities	Reduce the spread of alien and invasive species below the current rate of infestation. In addition, create awareness about the potential impacts of alien invasive species.	<ul style="list-style-type: none"> Wheels of large machinery should be checked prior to entering the site and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds). All such plant material removed must be burnt. If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing fill materials. Destruction of regenerative material of cleared alien species by burning in a protected area is encouraged. Be aware of alien species that may be newly introduced to the area and act immediately to eradicate once detected. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible according to the Rehabilitation Plan. 	Operations	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout operations
Terrestrial Fauna						
Loss of medium, high and very high sensitivity areas of faunal habitat	Minimise impact on faunal habitat due to operational activities	<ul style="list-style-type: none"> The mine footprint areas should be clearly demarcated and all mining activities restricted to these areas. Any exploration trenches, pits or boreholes that pose a danger to fauna should be filled-in or covered to prevent fauna from falling and becoming trapped. No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. 	Operations	<p>Monitoring: Visual inspection and photographic record</p> <p>Training records</p>	Environmental Manager, Environmental Officer	Throughout operations

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> There should be waste bins with lids distributed at strategic points across the site to ensure that litter is well-managed. No food waste or other waste that might attract fauna should be left exposed. If the site must be lit at night for security purposes, this should be done with downward-directed low-UV type lights (such as most LEDs), which do not attract insects. Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer. Areas of high faunal significance in close proximity to, but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or contractors. Pits should be backfilled as soon as possible, all stockpiles must be, as far as possible, obliterated and/or landscaped to merge into the surroundings. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and progressively during all phases of the mine. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). 		<p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>		
Loss of fauna due to mining activities	Minimise impacts on fauna during operational activities	<ul style="list-style-type: none"> Waste bins with lids should be distributed at strategic points across the site to ensure that litter is well-managed. No food waste should be left exposed. All mine staff and contractors should receive an induction highlighting the need to respect the environment, no littering, no persecution of fauna, no illegal hunting, poaching or harvesting of natural products from the environment. All vehicles on-site should adhere to a low speed limit (30kph for heavy vehicles and 40kph for light vehicles) to avoid collisions with susceptible species such as snakes and tortoises All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner. All open water sources such as reservoirs, waste water, evaporation dams etc should be covered with shade cloth, fine mesh or similar to prevent fauna accessing these areas and from falling into the reservoirs and drowning. Provide signage to indicate the right of way of fauna such as tortoises. Any roadkill should be recorded and all areas where repeated events occur should be inspected to see if additional mitigation can be applied. 	Operations	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout operations
Groundwater						
Impact of contaminants on the groundwater resource	Minimise degradation of the groundwater resource due to contaminants	<ul style="list-style-type: none"> Toe seepage from the WRD's is expected to be contaminated and suitable management measures should be in place to prevent the release of this contaminated water into the environment. It is recommended that as much water as possible should be recycled and re-used. The numerical groundwater flow and transport model should be updated/validated as additional information becomes available (ie SEEP/W model results, geophysics results and hydraulic conductivity of WRDs material) prior to construction to ensure assumptions made during the development of the model remain valid. Pumped water from the pit following heavy rain events is expected to be contaminated and will need to be contained or treated to applicable standards if it is to be released into the environment, in accordance with the Water Use Licence (WUL) requirements. 	Operations	<p>Groundwater quality monitoring in the vicinity of contamination sources and in radially increasing distance from them. The monitoring data should be stored in an appropriate data management tool/database.</p> <p>Effluent quality meeting DWS requirements</p>	Environmental Manager, Environmental Officer	Throughout operations
Impact of contaminants on groundwater users	Minimise the impact on groundwater users due to contamination of the groundwater resource	<ul style="list-style-type: none"> Should monitoring data confirm an impact on private users, the client will compensate affected farmers for their loss or replace the lost water supply source. 	Operations	<p>Groundwater quality should be monitored at the existing (known) private boreholes at regular intervals to confirm modelling results.</p> <p>Effluent quality meeting DWS requirements</p>	Environmental Manager, Environmental Officer	Throughout operations
Impact of drawdown or dewatering on the groundwater resource	Minimise impacts to the groundwater resource due to drawdown or dewatering	<ul style="list-style-type: none"> The monitoring data should be stored in an appropriate data management tool/database. Groundwater models should be validated and updated using the monitoring data such that drawdown predictions can be updated. This will lead to models with a higher confidence level that can be used as management tools throughout the operational phase (ie update predicted impacts in order to be proactive etc) and for planning of the post-closure phase of the project to ensure appropriate provisions are made. 	Operations	<p>Groundwater levels in the vicinity of the pits as well as in each of the known farm boreholes (Witputs BH, Koeris 54BH1 and Koeris 54BH2), must be monitored on a regular basis.</p>	Environmental Manager, Environmental Officer	Throughout operations

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Impact of drawdown or dewatering on groundwater users	Minimise the impact on groundwater users due to drawdown or dewatering of the groundwater resource	<ul style="list-style-type: none"> Should monitoring confirm that any of the private boreholes are affected by lowering of the groundwater table, rendering boreholes unusable (ie loss of water supply source), the client will compensate affected famers for their loss, or replace the lost water supply source. This can be achieved by drilling new boreholes for the affected farmers outside of the drawdown cone, by increasing the depth of the existing boreholes or by providing an alternative good quality water source. 	Operations	Groundwater levels in each of the known farm boreholes must be monitored.	Environmental Manager, Environmental Officer	Throughout operations
Socio-economic						
Employment, skills enhancement and local business opportunities	To build local capacity in the Project-affected communities to enable local recruitment and contracting to be realised and successful.	<ul style="list-style-type: none"> The Mine will establish a Recruitment Policy which prioritises the employment of South African and local residents (originating from the Local Municipality) over foreigners. All contractors will be required to recruit in terms of the Project's Recruitment Policy, where practical. The Khâi-Ma Local Economic Development (LED) Forum should be consulted in the process of unlocking opportunities for local businesses. The Project will advertise job opportunities and criteria for skills and experience needed through local media, at least three months ahead of recruitment. This information should also be provided to all relevant authorities, community representatives and organisations on the interested and affected party database. The Recruitment Policy and Procedure should promote the employment of women as a means of ensuring that gender equality is attained. No employment will take place at the entrance to the site. Only formal channels for employment will be used. 	Operations	Recruitment Policy and Procurement Policy Grievance mechanism records	Environmental Manager, Community Relations Officer	Throughout operations
Presence of the workforce and jobseekers	Minimise impacts on the local population due to the presence of the work force and job seekers	<ul style="list-style-type: none"> BMM will ensure that their security personnel work in close collaboration with the police to monitor any illegal activity. All new employees directly or indirectly employed by the Project to go through the induction programme and a Code of Conduct. The Code of Conduct is to form part of induction of all employees related to the Project and it is to be signed by each employee. The Code of Conduct should be available in all relevant languages and at a minimum, English, Afrikaans and Setswana. Grievance procedure to be in place that is easily accessible to the local community, through which complaints related to contractor or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. 	Operations	Stakeholder Engagement Records Training records Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Pressure on Social Infrastructure and Services	To ensure pressure is not exerted on the local social amenities which will reduce the availability and access of services to the local community.	<ul style="list-style-type: none"> Implementation of the Grievance Mechanism 	Construction, operations and decommissioning	Stakeholder Engagement Records Training records Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Impact on human health due to air emissions	To reduce the health impact on Expansion - affected communities to the lowest possible level.	<ul style="list-style-type: none"> The Project will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner. 	Operations	Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Risk to workers' health and safety due to hazardous operation activities	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> The Mine must comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workman's compensation for loss of income resulting from an onsite incident. As part of the contractor and supplier selection process the Mine will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law and the Project's policies. The Project will provide support to contractors and subcontractors to ensure that labour and working conditions are in line with South African law through capacity building. Workers will be provided with primary health care and basic first aid at construction camps /worksites. Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place. 	Operations	Training records Grievance mechanism records H&S Audits	Project Manager, Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> In line with the worker code of conduct employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment. The Mine will provide Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits. The Mine will develop and implement a Grievance Mechanism to address employee concerns in a timely manner. 				
Increase in traffic volumes	Minimise the impact of traffic on the quality of local roads as well as other road users	<ul style="list-style-type: none"> BMM will develop a Traffic Management Plan to limit the disruption of the roads when high volumes of abnormal freight are expected on the N14 and N7. All vehicles will be regularly checked and maintained, including tyre wear. Contact details will be displayed on project vehicles to allow other road users to report bad driving at any time. All project drivers will be sensitised about potential accident risks to local users and will be periodically checked for alcohol consumption. BMM will ensure that vehicles are correctly and safely loaded to avoid accidents, and all loads are secured and covered where they pose a risk of windblown dust or material spillage. BMM will work in conjunction with SANRAL to erect appropriate road traffic signage and road markings at the intersections of loop 10 and the Aggeneys access road with the N14. The Mine will develop and implement a Grievance Mechanism to address employee concerns related to the Project in a timely manner. 	Operations, decommissioning	Traffic Management Plan Training records Vehicle maintenance records Grievance mechanism	Environmental Manager, Environmental Officer	Throughout operations and decommissioning
Unplanned Events						
Occupational Health and Safety	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> Development or upgrade of an Occupational Health and Safety Management Plan (OHSMP). Inductions, training, H&S records and remediating actions, risk assessments of all activities and provision of PPE. The OHSMP should cover all workers on site, including temporary workers and contractors. Carry out regular monitoring and audits of the OHSMP and update as required. 	Construction, operations and decommissioning	Occupational Health and Safety Management Plan Training records H&S records	Environmental Manager, Community Relations Officer	Throughout construction, operations and decommissioning
Accidental spills of equipment fuel, oils, and chemicals	Reduce the risk of accidental spills of equipment fuels and oils.	<ul style="list-style-type: none"> Adhere to best practice principles. Equipment should be up to standards and serviced regularly to prevent oil spills. A spill response plan should be in place and construction workers should be trained accordingly. On-site storage areas for hydrocarbons and other chemicals should be constructed in a way that potential tank failures can be contained including bunds and surface hardstanding. Hazardous material storage will be constructed on an impermeable surface and the bulk storage facility will be banded. The Project will restrict storage and handling of hazardous materials and fuels to banded areas of sufficient capacity to contain a release. Refuelling of equipment and vehicles will be carried out in designated areas on hard standing ground to prevent seepage of any spillages into the ground. Collection systems will be installed in these areas to manage any spills, fuels will be collected and either reused, treated by incineration or removed by a local contractor. Drip trays must be used when refuelling and servicing vehicles or equipment, where it is not on a hardstanding surface. Implement the detailed hazardous material spill response plan, which includes community sensitisation/ notifications when required. The Project will maintain spill clean-up and response capability adequate for addressing spills for all phases of the Project. All spills will be immediately contained and cleaned up. Contaminated areas will be remediated and post remediation verification will be carried out. 	Construction, operations and decommissioning	Spill Response Plan Training records Records of spill clean up and post remediation verification	Environmental Manager, Environmental Officer	Throughout construction, operations and decommissioning
Vehicle Accidents	Reduce the risk and potential impact of vehicle accidents on site and for all Project related activities.	<ul style="list-style-type: none"> All new drivers employed throughout the course of the Project's operations will be required to undergo training. Speed limits will be enforced for all Project vehicles. Speed limits of 30kph (for heavy vehicles and 40kph for light vehicles) will be enforced along all internal roads. The Project will work with the relevant local and regional government to ensure the roads used by Project vehicles are well maintained, and that potential problems or hazards are communicated to the relevant authority timeously. 	Construction, operations and decommissioning	Training records Grievance mechanism	Project Manager, Environmental Manager	Throughout construction, operations and decommissioning

Table 8.7 Decommissioning Environmental Management Measures

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Air Quality						
Decreased local ambient air quality due to dust emissions	Control and/or avoidance of dust emissions during decommissioning.	<ul style="list-style-type: none"> Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the EO. As far as practically possible, blasting should only be done under low- or no-wind conditions. Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; Vehicles must be kept clean to avoid tracking dirt around and off the site. Vehicles transporting friable materials must be covered. Where feasible, surface binding agents must be used on exposed open earthworks and roads. Vegetation clearance must be phased to minimise the area of exposed soil. Topsoil stockpiles must be planted to bind the soil and minimise dust. The design of stockpiles should be optimised to retain a low profile with no sharp changes in shape. Drop heights of material must be minimised where possible. Where possible, wind breaks should be erected around high- dust generating activities. For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. 	Decommissioning	Visual inspection and photographic record South African Emission Standards	Environmental Manager, Environmental Officer	Throughout decommissioning
Noise						
Increased Local Ambient Noise Levels due to Noise Propagation from Decommissioning Activities	Reduce noise levels to acceptable levels.	<ul style="list-style-type: none"> Business Partners must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only. All diesel-powered construction and earth moving equipment must be well maintained. This must include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance. Vendors must be required to guarantee optimised equipment design noise levels. A mechanism to monitor noise levels, record and respond to complaints and mitigate impacts should be developed and implemented. Use of quieter powered mechanical equipment (PME) should be considered, where possible. Use of noise barriers/enclosures should be considered, where possible. Vibrating equipment such as crushers must be installed on vibration isolation mountings. Individual vehicle engine, transmission and body noise/vibration should be minimised through the implementation of an equipment maintenance program. Maintain road surfaces regularly to avoid corrugations, potholes etc. Avoid unnecessary idling times. Minimise the need for trucks/equipment reversing. This will reduce the frequency at which reverse warnings occur. Any complaints received by Business Partners regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers.	Decommissioning	Noise monitoring at/ near identified sensitive receptors Complaints register	Environmental Manager, Environmental Officer	Throughout decommissioning
Terrestrial Flora						
Increase in alien invasive vegetation due to decommissioning activities	Minimise the spread of alien and invasive species post decommissioning and closure	<ul style="list-style-type: none"> Wheels of large machinery should be checked prior to entering the site and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds). All such plant material removed must be burnt. If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing fill materials. Rehabilitate:	Decommissioning, post closure	Visual inspection and photographic record Training records Rehabilitation Plan	Environmental Manager, Environmental Officer	Throughout decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> Rehabilitate and revegetate all areas that have been disturbed. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). It will include the following: <ul style="list-style-type: none"> As part of rehabilitation, all compacted soils need to be ripped to a depth of at least 30 cm to prevent soil-surface crusting. Re-vegetation measures of disturbed/modified areas using indigenous shrubs and grasses only. The selection of species used for rehabilitation may not include any species that are not suitable to the receiving environment (i.e. must occur there naturally), and also no species that are indicative of habitat degradation. After decommissioning, if access roads or portions thereof will not be of further use to the landowner(s), remove all foreign material and rip area to a depth of at least 30 cm to facilitate the establishment of vegetation, followed by a suitable revegetation program. 				
Groundwater						
Impact on groundwater quality of the groundwater resource	Minimise degradation of the groundwater resource due to contaminants	<ul style="list-style-type: none"> Operational mitigation measures have to be maintained post closure. Final profiling of the WRDs should be aimed at reducing erosion and minimising further water infiltration. Higher confidence groundwater models (developed/updated using monitoring data collected throughout the construction and operational phases) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring. 	Decommissioning, post closure	<p>It is expected that the DWS Water Use Licence requirements will indicate that the mining site and regionally identified boreholes that are off-site of the project area should be monitored (groundwater levels and water quality) for at least 10 years after mine closure.</p> <p>Indicators: Effluent quality meeting DWS requirements</p>	Environmental Manager; Environmental Officer	Throughout decommissioning and post closure
Impact of contaminants on groundwater users	Minimise the impact on groundwater users due to contamination of the groundwater resource	<ul style="list-style-type: none"> Should monitoring data confirm impact on private users, the client will compensate affected farmers for their loss, or replace the lost water supply source. The numerical groundwater flow and transport model which must have been updated at regular intervals becomes available to ensure assumptions made during the development of the model remain valid and that model predictions remain current. 	Decommissioning, post closure	<p>It is expected that the DWS Water Use Licence requirements will indicate that the mining site and regionally identified boreholes that are off-site of the project area should be monitored (groundwater levels and water quality) for at least 10 years after mine closure.</p> <p>Indicators: Effluent quality meeting DWS requirements</p>	Environmental Manager, Environmental Officer	Throughout decommissioning and post closure
Impact of drawdown or dewatering on the groundwater resource	Minimise impacts to the groundwater resource due to drawdown or dewatering	<ul style="list-style-type: none"> Higher confidence groundwater models (developed/updated using monitoring data collected throughout the operational phase) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring. 	Decommissioning, post closure	<p>It is expected that the DWS Water Use Licence requirements will indicate that the mining site and regionally identified boreholes that are off-site of the project area should be monitored (groundwater levels and water quality) for at least 10 years after mine closure.</p>	Environmental Manager, Environmental Officer	Throughout decommissioning and post closure
Impact of drawdown or dewatering on groundwater users	Minimise the impact on groundwater users due to drawdown or dewatering of the groundwater resource	<ul style="list-style-type: none"> Higher confidence groundwater models (developed/updated using monitoring data collected throughout the construction and operational phases) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring. Should monitoring confirm that any private boreholes are affected by lowering the groundwater table, rendering boreholes unusable (ie loss of water supply source), the client will compensate affected farmers for their loss, replacing the lost water supply source. 	Decommissioning, post closure	<p>It is expected that the DWS Water Use Licence requirements will indicate that the mining site and regionally identified boreholes that are off-site should be monitored for at least 10 years after mine closure.</p>	Environmental Manager, Environmental Officer	Throughout decommissioning and post closure
Socio-economic						
Loss of Employment and Contract Opportunities	To minimise the negative impact of the loss of jobs and termination of contracts due to the	<ul style="list-style-type: none"> The company should develop a Decommissioning Plan for the ultimate closure of the mine to ensure that all social aspects are considered, including human resource management, retrenchment packages, retraining and transferable skills. 	Decommissioning	<p>Decommissioning Plan</p> <p>Grievance mechanism records</p>	Project Manager, Community Relations Officer	Prior to decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
	decommissioning and closure of the mine.					
Presence of the workforce and jobseekers	Minimise impacts on the local population due to the presence of the work force and job seekers	<ul style="list-style-type: none"> BMM will ensure that their security personnel work in close collaboration with the police to monitor any illegal activity. All new employees directly or indirectly employed by the Project to go through the induction programme and a Code of Conduct. The Code of Conduct is to form part of induction of all employees related to the Project and it is to be signed by each employee. The Code of Conduct should be available in all relevant languages and at a minimum, English, Afrikaans and Setswana. Grievance procedure to be in place that is easily accessible to the local community, through which complaints related to contractor or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. 	Decommissioning	Stakeholder Engagement Records Training records Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Pressure on Social Infrastructure and Services	To ensure pressure is not exerted on the local social amenities which will reduce the availability and access of services to the local community.	<ul style="list-style-type: none"> Implementation of the Grievance Mechanism. 	Construction, operations and decommissioning	Stakeholder Engagement Records Training records Grievance mechanism records	Project Manager, Environmental Manager, Community Relations Officer	Throughout Project life
Impact on human health due to air emissions and dust generation	To reduce the health impact on Project-affected communities to the lowest possible level.	<ul style="list-style-type: none"> The Mine will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner. 	Construction, operations and decommissioning	Grievance mechanism records	Environmental Manager, Community Relations Officer	Throughout Project life
Risk to workers' health and safety due to hazardous Decommissioning activities	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> The Mine will implement a rigorous induction programme for all employees outlining health and safety risks. The Project will comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workman's compensation for loss of income resulting from an onsite incident. As part of the contractor and supplier selection process the Project will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law, international standards and the Project's policies. The Project will provide support to contractors and subcontractors to ensure that labour and working conditions are in line with South African law through capacity building. Workers will be provided with primary health care and basic first aid at construction camps /worksites. Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place. In line with the worker code of conduct, employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment. The Project will provide of Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits. The Project will develop and implement a Grievance Mechanism to address employee concerns related to the Project in a timely manner. 	Decommissioning	Training records Grievance mechanism records H&S Audits	Project Manager, Environmental Manager, Community Relations Officer	Throughout Project life
Unplanned Events						

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Occupational Health and Safety	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> Development or upgrade of an Occupational Health and Safety Management Plan (OHSMP). Inductions, training, H&S records and remediating actions, risk assessments of all activities and provision of PPE. The OHSMP should cover all workers on site, including temporary workers and contractors. Carry out regular monitoring and audits of the OHSMP and update as required. 	Construction, operations and decommissioning	Occupational Health and Safety Management Plan Training records H&S Audits	Environmental Manager, Community Relations Officer	Throughout construction, operations and decommissioning
Accidental spills of equipment fuel, oils, and chemicals	Reduce the risk of accidental spills of equipment fuels and oils.	<ul style="list-style-type: none"> Adhere to industry best practice principles. Equipment should be up to standards and serviced regularly to prevent oil spills. A spill response plan should be in place and construction workers should be trained accordingly. On-site storage areas for hydrocarbons and other chemicals should be constructed in a way that potential tank failures can be contained including bunds and surface hardstanding. Hazardous material storage will be constructed on an impermeable surface and the bulk storage facility will be bunded. The Project will restrict storage and handling of hazardous materials and fuels to bunded areas of sufficient capacity to contain a release. Refuelling of equipment and vehicles will be carried out in designated areas on hard standing ground to prevent seepage of any spillages into the ground. Collection systems will be installed in these areas to manage any spills, fuels will be collected and either reused, treated by incineration or removed by a local contractor. Drip trays must be used when refuelling and servicing vehicles or equipment, where it is not on a hardstanding surface. Implement the detailed hazardous material spill response plan, which includes community sensitisation/ notifications when required. The Project will maintain spill clean-up and response capability adequate for addressing spills for all phases of the Project. All spills will be immediately contained and cleaned up. Contaminated areas will be remediated and post remediation verification will be carried out. 	Construction, operations and decommissioning	Spill Response Plan Training records Records of spill clean up and post remediation verification	Environmental Manager, Environmental Officer	Throughout construction, operations and decommissioning
Vehicle Accidents	Reduce the risk and potential impact of vehicle accidents on site and for all Project related activities.	<ul style="list-style-type: none"> All new drivers employed throughout the course of the Project's operations will be required to undergo appropriate levels of training. Speed limits will be enforced for all Project vehicles. Speed limits of 30kph (for heavy vehicles and 40kph for light vehicles) will be enforced along all internal roads. The Mine will work with the relevant local and regional government to ensure the roads used by Project vehicles are well maintained, and that potential problems or hazards are communicated to the relevant authority timeously. 	Construction, operations and decommissioning	Training records Grievance mechanism	Project Manager, Environmental Manager	Throughout construction, operations and decommissioning

8.6 Implementation of the EMPr

8.6.1 Proponent Roles and Responsibilities

BMM is committed to provide resources essential to the implementation and control of the EMPr. Resources include the appropriate human resources with the necessary skills. BMM has and will have dedicated personnel judged to be competent on the basis of appropriate education, training, and experience to manage and oversee the environmental and social aspects of project operations.

Specific roles and responsibilities of the Proponents key positions are provided in *Table 8.8*.

Table 8.8 BMM Role and Responsibilities

Position	Responsibility
Project Manager	<ul style="list-style-type: none"> Oversee the project team and coordinate all activities pertaining to the Project.
Environmental Manager	<ul style="list-style-type: none"> Ensure that the Project and all its Business partners operate in accordance with applicable regulatory requirements and the Project EMPr; Liaise with regulators on the Project's behalf; and Oversee programs associated with environmental management.
Site Manager	<ul style="list-style-type: none"> Manage, and ensure the efficient functioning of all site activities by the Project staff and by engineering, procurement, and Business partners and Business partners; Support the HSE Manager with matters related to HSE compliance and enforcement including implementation of EMPr.
Community Relations Manager	<ul style="list-style-type: none"> Liaise with the communities on the Project's behalf, including in relation to works being carried out by Business partners and Business partners; Oversee programs associated with local employment and social and community development initiatives; Maintain the Project's grievance procedure.
Environmental Officer ¹	<ul style="list-style-type: none"> BMM will utilise the current permanent environmental officers for construction and operational phase; The officers will advise BMM to manage on third party specialist's appointment to undertake monitoring as stipulated in the EMPr. The officers will be responsible to oversee the specialist during their period on site; The officers will also manage third party services to undertake audits as per the EMPr; The officers must: <ul style="list-style-type: none"> Be fully knowledgeable with the contents and the conditions of the Environmental Authorisation (s) including all subsequent amendments; Be fully knowledgeable with the contents of the EMPr(s). Be fully knowledgeable of all the Project licences and permits issued to the site and ensure communication to the relevant personnel on the conditions contained therein; Be fully knowledgeable with the contents of all relevant environmental legislation, and ensure compliance with them; Ensure that the contents of this document are communicated to the Business partner site staff and that the Site Manager and Business partner are constantly made aware of the contents through regular discussion;

¹ BMM has indicated that the role typically referred to as ECO is currently fulfilled by the title of Environmental officer at the project site

Position	Responsibility
	<ul style="list-style-type: none"> • Ensure that the compliance of the EMPr (s), EA(s) and legislation is monitored through regular and comprehensive inspection of the site and surrounding areas; • Ensure that the Site Manager has input into the review and acceptance of construction methods and method statements; • Ensure that activities on site comply with all relevant environmental legislation; • Keep record of all environmental activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken; • Ensure that the compilation of progress reports for submission to the Project Company, with input from the Site Manager, takes place on a regular basis, Weekly, Monthly Reports including the Final Post-Construction Audit Report. • Monitor and report on the compliance and performance of the Project with respect to the execution of the EMPr; • Carry out regular on-site inspection; • Monitor and enforce compliance and performance of Business partners and any Business partners; •

As a general mitigation strategy, the Environmental officers should be present at the onset, for the site preparation to ensure the correct demarcation of no-go areas, and facilitate environmental induction with construction staff and supervise any flora relocation and faunal rescue activities that may need to take place during the site clearing (i.e. during site establishment).

Thereafter monthly site compliance inspections would probably be sufficient, provided that compliance with the requirements of the EA, EMPr and environmental legislation is maintained. Any Ad-hoc environmental issues which may arise after that will also be dealt with by the site Environmental Officer and Business partners.

In addition, the appointed Business partner will be required to establish and maintain a similar HSE organization.

Business partners are responsible for the overall execution of the activities envisioned in the construction phase including the implementation and compliance with recommendations and conditions of the EMPr and all project permits as stipulated by BMM. It is important that the Business partner is fully aware of the responsibilities in terms of the relevant environmental legislation and the contents of this EMPr. The Business partner is responsible for informing employees and sub-Business partners of their environmental obligations in terms of the environmental specifications, and for ensuring that employees are adequately experienced and properly trained in order to execute the works in a manner that will minimise environmental impacts.

Table 8.9 Business partner Roles and Responsibilities

Position	Responsibility
Business Partner Project Manager	<ul style="list-style-type: none"> • Oversee and coordinate all activities; ultimately responsible for HSE compliance of the Business partner; • Be fully knowledgeable with the contents of the EIA Reports and risk management; • Be fully knowledgeable with the contents and conditions of the Environmental Authorisations and related amendments; • Be fully knowledgeable with the contents of the EMPr; • Be fully knowledgeable with the contents of all relevant environmental legislation, and ensure compliance with these; • Have overall responsibility of the EMPr and its implementation; • Ensure that audits are conducted to ensure compliance to the EMPr; • Ensure there is communication with the Project Manager, the ECO, the EO/ Environmental Representative, and relevant discipline engineers on matters concerning environmental compliance; • Be fully knowledgeable with the contents of all Project licences and permits; • Ensure that no actions are taken which will harm or may indirectly cause harm to the environment, and take steps to prevent pollution on the site.
Business Partner Site Manager	<ul style="list-style-type: none"> • Ensure that all work by the Business partner and by all Business partners is done in compliance with applicable regulatory environmental requirements and the Project HSE plans. Responsible for coordination with project Community Relations Manager for all community relations issues including upcoming works. • The Site Manager has the same responsibilities as the Project Manager and is more responsible for the day to day of the EMPr.
Business partner HSE Manager	<ul style="list-style-type: none"> • Ensure that the Business partner organization operates in accordance with applicable regulatory environmental requirements and the Project HSE plans.
Business partner Environmental Officer	<ul style="list-style-type: none"> • The Business partner's EO/ Environmental Representative, employed by the Business partner on a fulltime basis. The EO will be responsible for full day-to-day implementation of this EMPr and should be appointed prior to any commencement of the activities. The Business partner's EO/ Environmental Representative should: • Understand the relevant environmental legislation and processes and the implementation thereof; • Understand the hierarchy of Environmental Compliance Reporting, and the implications of Non-Compliance; • Keep accurate and detailed records of all EMPr-related activities on site. The EO shall keep a daily diary for monitoring the site-specific activities as per project schedule; • The EO is responsible for managing the day-to-day on-site implementation of this EMPr and other Project Permits/ Authorisations; • Train and induct all Business partners employees prior to commencement of any works; • Compilation of Weekly and Monthly Monitoring Reports to be submitted to BMM, and Site Manager; • In addition, the EO/ Environmental Representative must act as project liaison and advisor on all environmental and related issues and ensure that any complaints received from the public are duly recorded and forwarded to the Site Manager, and Business partner.

It is important to note that it is the responsibility of the Business partner (and delegated sub-Business partners) to enforce the day-to-day implementation of the enhancement and mitigation measures for the construction phase specified in this EMP. The Business partner must be contractually required to perform all work in compliance with relevant national HSE legislation and regulations, and the EMP.

8.6.2 Training and Environmental Awareness on Site

BMM will identify, plan, monitor, and record training needs for personnel whose work may have a significant adverse impact upon the environment or social conditions. BMM recognises that it is important that employees at each relevant function and level are aware of the Project's environmental and social management measures; potential impacts of their activities; and roles and responsibilities in achieving conformance with the commitments and procedures. Training and awareness-raising therefore forms a key element of the EMP.

Key staff will, therefore, be appropriately trained in key areas of environmental and social management and operational control with core skills and competencies being validated on an on-going basis. The identification of training and awareness requirements and expediting of the identified training/awareness events will be the responsibility of the Safety Manager, Environmental Manager and EO.

This will be achieved through a formal training process. Employee training will include awareness and competency with respect to:

- Environmental and social impacts that could potentially arise from their activities;
- Key sensitive no-go areas as identified in the EMPs;
- Legal requirements in relation to environmental and social performance;
- Necessity of conforming to the requirements of the EIA and EMP, in order to avoid or reduce those impacts;
- Activity-specific training on waste management practices, documentation systems and community interactions; and
- Roles and responsibilities to achieve that conformity, including those in respect of change management and emergency response.

The Safety Manager and the Environmental manager for BMM have a responsibility to ensure that their personnel are adequately trained. The BMM training Manager is responsible for coordinating the training, maintaining employee training records, and ensuring that these are monitored and reviewed on a regular basis. The Safety Manager and the Environmental manager for BMM will also periodically verify through discussion and observations that staff are performing competently.

The BMM Training Manager is responsible for coordinating training, maintaining employee-training records, and ensuring that these are monitored and reviewed on a regular basis. The BMM Training Manager will also periodically verify that staff is performing competently through discussion and observation.

The EO is responsible for site environmental awareness training for personnel working on the job sites. The Business partners are also responsible for identification of any additional training requirements to maintain required competency levels.

8.6.3 Record Keeping

BMM will control HSE documentation, including management plans; associated procedures; and checklists, forms and reports, through a formal procedure. All records will be kept on site and kept in both hard copy and soft copy formats. The Environmental Manager and Safety Manager is responsible for maintaining a master list of applicable HSE documents.

8.6.4 Grievance Mechanism

The management of grievances is a vital component of stakeholder management and an important aspect of risk management for the project, since grievances can be an indication of growing stakeholder concerns (real and perceived). Grievances may be verbal or written and are usually either specific claims for damages/injury or complaints or suggestions about construction or operational activities.

When a grievance has been brought to the attention of BMM it will be logged and evaluated. The person or group with the grievance is required to present grounds for making a complaint or claiming loss so that a proper and informed evaluation can be made. Where a complaint or claim is considered to be valid then steps are required to be undertaken to rectify the issue. Where there remains disagreement on the outcome then an arbitration procedure may be required to be overseen by a third party (e.g. government official). Stakeholders will be informed of the grievance procedure.

An existing six-step grievance procedure will be used for the project. These are as follows:

- Step 1: Receive and Log Grievance;
- Step 2: Acknowledge Grievance;
- Step 3: Assess and Prioritise Grievance and Forward to Relevant Department;
- Step 4: Investigate and Resolve Grievance;
- Step 5: Sign-off on Grievance; and
- Step 6: Monitor.

8.6.5 Monitoring Programme

Monitoring will be conducted to ensure compliance with regulatory requirements as well as to evaluate the effectiveness of operational controls and other measures intended to mitigate potential impacts. Monitoring parameters are included in the EMPr.

8.6.6 Auditing

Beyond the routine inspection and monitoring activities conducted, audits will be carried out internally by BMM to ensure compliance with regulatory requirements. The audit shall be performed by qualified staff and the results shall be reported to the Site management to be addressed.

The audit will include a review of compliance with the requirements of the EMPr and include, at a minimum, the following:

- Completeness of HSE documentation, including planning documents and inspection records;
- Conformance with monitoring requirements;
- Efficacy of activities to address any non-conformance with monitoring requirements; and
- Training activities and record keeping.

8.6.7 Corrective Action

Potential impacts and associated risks should be identified. Investigating a 'near miss' or actual incident after it occurs can be used to obtain valuable lessons and information that can be used to prevent similar or more serious occurrences in the future.

BMM will implement a formal non-compliance and corrective action tracking procedure for investigating the causes of, and identifying corrective actions to, accidents or environmental or social non-compliances. This ensures coordinated action between the Site and its Business partners. The BMM Environmental manager is responsible for keeping records of corrective actions and for overseeing the modification of environmental or social protection procedures and/or training programs to avoid repetition of non-conformances and non-compliances.

8.6.8 Reporting

BMM will provide appropriate documentation of EHS related activities, including internal inspection records, training records, and reports to the DMR as required.

9. CONCLUSION

9.1 Introduction

The aim of the Environmental Impact Assessment (EIA) for the proposed Project is to provide information to inform decision-making that will contribute to sound decision making and environmental and social sustainable development. This report is to be submitted to the DMR to provide an independent assessment of the proposed Project, thus enabling the DMR to make an accountable and informed decision regarding the environmental authorisation for the proposed development in terms of NEMA.

In considering a development of this type, it is inevitable that there will be a degree of environmental impact. However, details provided in this Report indicate how these have been mitigated where possible, and should be viewed along with Black Mountain Mining's plan to continue and develop mineral resources contributing to economic stability in the Northern Cape.

Through the EIA process, which included scoping phase stakeholder and specialist input, ERM has identified and assessed a number of potential impacts relating to the development. A brief overview of the EIA findings and key mitigation measures are presented in this chapter. The EIA will be revised further after stakeholder engagement activities during the EIA phase of the Project.

The preferred layout of the waste rock dump has been designed based on the sensitivity constraints of the site, as established during the EIA process, including ecological sensitivities, as identified during the initial screening process.

9.2 Summary of Impacts Identified and Assessed

A summary of the bio-physical and socio-economic impacts, including their pre-mitigation and residual impacts post-mitigation, is given in *Table 9.1*.

Table 9.1 Summary of the significance of identified impacts in the construction phase of the proposed Project

Impact	Phase	Significance Mitigation	Pre Residual Significance	Impact
Air Quality: Decreased Local Ambient Air Quality due to Dust Emissions	Construction, Operations, Decommissioning	Moderate (receptors within 200m of the Project site)	Minor (receptors within 200m of the Project site)	
Ambient Noise and Vibration: Increase in the Ambient Noise Levels	Construction, Operations, Decommissioning	Minor	Minor	
Soils and Geology: Loss of Soil Resources as a result of Site Clearance and Construction Activities	Construction	Moderate	Minor	
Terrestrial Flora: Loss of Medium and High Sensitivity Habitats and Associated Species	Construction, Operations	Major	Major	
Terrestrial Flora: Loss of Medium and Low Sensitivity Habitats and Associated Species	Construction, Operations	Moderate	Minor	
Terrestrial Flora: Loss of Plant Species of Conservation Concern	Construction, Operations	Major	Major	
Terrestrial Flora: Reduced Ecological Function and Degradation due to Altered Soil Surfaces	Construction, Operations	Major	Major	
Terrestrial Flora: Increase in Alien Invasive Vegetation	Construction, Operations	Moderate	Minor	
Terrestrial Fauna: Faunal Habitat Loss of Medium, High Sensitivity areas	Construction, Operations	Moderate	Moderate	
Terrestrial Fauna: Loss of Individuals of Fauna due to mining activities.	Construction, Operations	Moderate	Minor	
Groundwater: Impact of Contaminants on the Groundwater Resource	Operations	Moderate	Minor	
Groundwater: Impact of Contaminants on the Groundwater Resource	Decommissioning	Moderate	Moderate	
Groundwater: Impact of Contaminants on Groundwater Users	Operations, Decommissioning	Negligible	Negligible	
Groundwater: : Impact of Drawdown or Dewatering on the Groundwater Resource	Operations, Decommissioning	Moderate	Moderate	
Groundwater: : Impact of Drawdown or Dewatering on Groundwater Users	Operations, Decommissioning	Negligible	Negligible	
Employment, Skills Enhancement and Local Business Opportunities	Construction, Operations, Decommissioning	Positive	Positive	
Loss of Employment, Skills Enhancement and Local Business Opportunities	Decommissioning	Major	Moderate	
Community Health and Safety: Impacts Associated with the Presence of the Workforce and Jobseekers	Construction, Operations, Decommissioning	Moderate	Minor	
Community Health and Safety: Pressure on Social Infrastructure and Services	Construction, Operations, Decommissioning	Minor	Negligible	

Impact	Phase	Significance Mitigation	Pre Residual Significance	Impact
Community Health and Safety: Impact on Human Health due to Air Emissions	Construction, Decommissioning	Minor	Negligible	
Community Health and Safety: Impact on Human Health due to Air Emissions	Operations	Minor	Minor	
Worker Health and Safety and Rights: Risk to Workers' Health and Safety due to Hazardous Activities	Construction, Operations, Decommissioning	Moderate	Minor	
Traffic: Increase in Traffic Volumes	Construction, Operations	Moderate	Minor	
Archaeology and Cultural Heritage	Construction, Operations, Decommissioning	Minor	Minor	
Unplanned Events: Occupational Health and Safety Hazards	Construction, Operations, Decommissioning	Major	Moderate	
Unplanned Events: Accidental Spills of Equipment Fuel, Oils, and Chemicals on Soils	Construction, Operations, Decommissioning	Moderate	Minor	
Unplanned Events: Accidental Spills of Equipment Fuel, Oils, and Chemicals on Groundwater	Construction, Operations, Decommissioning	Minor	Negligible	
Unplanned Events: Vehicle Accidents	Construction, Operations, Decommissioning	Moderate	Minor	

9.2.1 Significance Impact Summary

It is considered that the majority of the potential impacts which have been identified in this assessment, associated with the proposed development, can be mitigated to a level which is deemed appropriate for the construction phase to proceed; assuming that the mitigation measures identified in the EMPr are adequately implemented.

The significance of impact on terrestrial flora has been assessed to be Major both pre- and post-mitigation, as the Project will result in loss of highly sensitive habitats and species. An extensive list of mitigation measures has been proposed to minimise the loss, however the location of the proposed mine expansion suggests there will a degree of habitat loss. Another major impact relates to Occupational Health and Safety should an unplanned event occur, however this can be mitigated to Moderate with strict operational controls.

9.2.2 Recommendations

It is considered that an appropriate level of effort has been made by the Project proponent to accommodate the mitigation measures recommended during this EIA process, to the extent that is practically possible. The implementation of the mitigation measures detailed in Chapter 8 and listed in the EMPr, including monitoring, will provide a basis for ensuring that the potential positive and negative impacts associated with the establishment of the Project are respectively enhanced and mitigated to a level which is deemed adequate for the Project to proceed.

In summary, based on the findings of this assessment, ERM is of the opinion that the Swartberg Mine Expansion should be authorised, contingent on the recommended mitigation and monitoring measures being implemented, for potential environmental and socio-economic impacts, as outlined in the EIA Report and EMPr.

10. REFERENCES

AMC Consultants. 2017. Draft Report, Swartberg Underground Project Pre-feasibility Study. AMC Project 117020.

Anthing, L. 1863. Letter to the Cape Parliament. Cape Blue Book.

Assouline, S. 2004. Rainfall-Induced Soil Surface Sealing Contribution of the Agricultural Research Organization, Institute of Soil, Water and Environmental Sciences, Bet Dagan, Israel, No. 617/03. Vadose Zone Journal. 3:570-591.

Beaumont, P. B. Smith, A.B., and Vogel, J.C. 1995. Before the Einiqua: the archaeology of the frontier zone. In A. B. Smith. Einiqualand: studies of the Orange River frontier, Cape Town: UCT Press.

Beaumont, P.B. and Morris, D. 1990. Guide to archaeological sites in the Northern Cape. Kimberley: McGregor Museum.

Bisigato, A.J., Villagra, P.E., Ares, J.O. and Rossi, B.E. 2009. Vegetation heterogeneity in Monte Desert ecosystems: A multi-scale approach linking pattern and process. Journal of Arid Environments. 73:182-191.

Bromilow, C. 2010. Problem plants and alien weeds of South Africa. Briza Publications, Pretoria, RSA.

Burghardt, W. 2006. Soil sealing and soil properties related to sealing. Geological Society, London, Special Publications. 266:117-124.

Burnett, M.R., August, P.V., Brown, J.H. and Killingbeck, K.T. 1998. The influence of geomorphological heterogeneity on biodiversity. A patch-scale perspective. Conservation Biology. 12: 363-370.

Carrick, P.J. and Krüger, R. 2007. Restoring degraded landscapes in lowland Namaqualand: Lessons from the mining experience and from regional ecological dynamics. Journal of Arid Environments. 20:767-781.

Chapin, F.S., Zavaleta, E.S., Eviner, V.T., Naylor, R.L., Vitousek, P.M., Reynolds, H.L., Hooper, D.U., Lavorel, S., Sala, O.E., Hobbie, S.E., Mack, M.C. and Díaz, S. 2000. Consequences of changing biodiversity. Nature. 405:234-242.

Chong, G.W. and Stohlgren, T.J. 2007. Species-area curves indicate the importance of habitats' contributions to regional biodiversity. Ecological Indicators. 7:387-395.

De Ridder, N.A. and Kruseman, G.P 1990. Analysis and Evaluation of Pumping Test Data.

Deacon, J. nd. Archaeological Impact Assessment - specialist input to planning and design. Unpublished notes compiled for the National Monuments Council.

Dekker, S.C., Rietkerk, M. and Bierkens, M.F.P. 2007. Coupling microscale vegetation soil-water and macroscale vegetation-precipitation feedbacks in semiarid ecosystems. Global Change Biology. 13:671-678.

Department of Environmental Affairs. 2011. National Environmental Management: Biodiversity Act, 2004: National list of ecosystems that are threatened and in need of protection, Government Gazette Number 34809, Notice 1002, 9 December 2011, Pretoria: DEA.

Department of Environmental Affairs and Tourism, 2007. NEMBA 2004 (Act No. 10 of 2004): Critically Endangered, Endangered, Vulnerable and Protected Species, Regulation No. 151, Government Gazette No. 29657, 23 February 2007, Pretoria: DEAT.

Department of Water Affairs and Forestry. 1993. South African Water Quality Guidelines (first edition). Volume 1: Domestic Use.

Department of Water Affairs and Forestry. 1996. South African Water Quality Guidelines (second edition). Volume 1: Domestic Use.

Department of Water Affairs and Forestry. 1998. Quality of Domestic Water Supply, Volume 1: Assessment Guide. WRC Report Nr. TT101/98.

Desmet, P. 2010. Gamsberg Zinc Project. Vegetation Baseline Report. Report for SRK Consulting on behalf of Anglo Operations Limited, Cape Town.

Desmet, P.G., Yates, M. and Botha, M. 2005. Bushmanland Conservation Initiative Spatial Data Report. Botanical Society of South Africa, Kirstenbosch, South Africa.

Díaz, S., Tilman, D. and Fargione, J. 2005. Biodiversity regulation of ecosystem services. In: Ecosystems and human well-being: Current state and trends. Millennium Ecosystem Assessment Series Vol 1, Island Press, Washington, Covelo, London. 297-329.

Dirnböck, T., Hobbs, R.J., Lambeck, R.J. and Caccetta, P.A. 2002. Vegetation distribution in relation to topographically driven processes in southwestern Australia. *Applied Vegetation Science*. 5:147-158.

Dunn, E.J. 1931. *The Bushmen*. London: Charles Griffin and Co.

Ehrlén, J. and Van Groenendael, J.M. 1998. The trade-off between and longevity - an important aspect of plant species diversity. *Applied Vegetation Science*. 1:29-36.

Endemic Vision Environmental Services, 2017. Basic Assessment Report and Environmental Management Plan. Swartberg Decline. DMR Ref: NC-00066-MR/102.

Environmental Resources Management, 2013. Environmental and Social Impact Assessment Report for the Gamsberg Zinc Mine and Associated Infrastructure in the Northern Cape.

Environmental Resources Management, 2017. Review of the Black Mountain Mine Biodiversity Management and Monitoring. Final Front Report.

Eriksson, B. K., Rubach, A. and Hillebrand, H. 2006. Biotic habitat complexity controls species diversity and nutrient effects on net biomass production. *Ecology*. 87:246–254.

Fitzsimmons, J.A. and Michael, D.R. 2016. Rocky outcrops: A hard road in the conservation of critical habitats. *Biological Conservation*. 211:36-44

Foden, W., Midgley, G.F., Hughes, G., Bond, W.J., Thuiller, W., Hoffman, M.T., Kaleme, P., Underhill, L.G., Rebelo, A. and Hannah, L. 2007. A changing climate is eroding the geographical range of the Namib Desert tree *Aloe* through population declines and dispersal lags. *Diversity and Distributions* 13:645-653.

Germishuizen, G. and Meyer, N.L. 2003. *Plants of southern Africa: an annotated checklist*. Strelitzia 14. South African National Biodiversity Institute, Pretoria.

- Henderson, L. 2001. Alien weeds and invasive plants: A complete guide to declared weeds and invaders in South Africa. Agricultural Research Council, Paarl Printer, Cape Town.
- Hill, D. and R. Arnold. 2012. Building the evidence base for ecological impact assessment and mitigation, *Journal of Applied Ecology*. 49(1): 6-9.
- Hooper, D.U., Chapin, F.S., Ewel, J.J., Hector, A., Inchausti, P., Lavorel, S., Lawton, J.H., Lodge, D.M., Loreau, M., Naeem, S., Schmid, B., Setälä, H., Symstad, A.J., Vandermeer, J. and Wardle, D.A. 2005. Effects of biodiversity on ecosystem functioning: A consensus of current knowledge. *Ecological Monographs*. 75(1): 3-35.
- Hough, J.J.H. and Rudolph, D.C. 2018. Black Mountain Mining: Aquifer Test Pumping, Falling Head Testing and Slug Testing of Selected Groundwater Monitoring Boreholes, RVN818.1/1842.
- Hough, J.J.H. and Rudolph, D.C. 2019. Black Mountain Mining: Quarterly Groundwater monitoring Report, Phase 2: 1st Quarter 2019, RVN831.1/1908.
- Hough, J.J.H. and Rudolph, D.C. 2019. Gamsberg Mine: Quarterly Groundwater monitoring Report, Phase 5: 1st Quarter 2019, RVN814.5/1907.
- IDP, 2012-2017. Khai-Ma Municipality Integrated Development Plan.
- Keith, D.A. 1998. An evaluation and modification of World Conservation Union Red List Criteria for classification of extinction risk in vascular plants. *Conservation Biology*. 12(5):1076-1090.
- Kremen, C. 2005. Managing ecosystem services: what do we need to know about their ecology? *Ecology Letters*. 8:468-479.
- Le Houérou, H.N. 2000. Restoration and rehabilitation of arid and semiarid Mediterranean ecosystems in North Africa and west Asia: A review. *Arid Soil Research and Rehabilitation*. 14:3-14.
- Lloyd, J.W. and Heathcote, J.A. 1985. Natural inorganic Hydro-Chemistry in relation to groundwater. Clarendon Press, Oxford.
- Lukas E, 2002. Windows interpretation system for hydrogeologists (WISH) Software developed by Institute for Groundwater Studies (IGS).
- Morris, D. and Beaumont, P.B. 1991. !Nawabdanas: archaeological sites at Renosterkop, Kakamas District, Northern Cape. *South African Archaeological Bulletin*. 46:115-124.
- Morris, D. and Beaumont, P.B. 2004. Archaeology in the Northern Cape: some key sites. Kimberley: McGregor Museum.
- Morris, D. 1999a. Archaeological impact assessment, 'Southern Option', powerline 'Schuitdrift' to 'Paulputs', Pofadder District, Northern Cape. Unpublished Report to Eskom.
- Morris, D. 1999b. Archaeological impact assessment, Skuitklipkop Microwave Tower, Kenhardt District, Northern Cape. Unpublished Report to Eskom.
- Morris, D. 2000a. Gamsberg Zinc Project environmental impact assessment specialist report: archaeology.
- Morris, D. 2000b. Archaeological impact assessment, Black Mountain Mine, Aggeneys, Northern Cape. Unpublished report to Walmsley Environmental Consultants.

Morris, D. 2000c. Archaeological specialist report: desktop assessment of possible archaeological resources along the proposed route, Helios to Aggeneis, Northern Cape. Appendix G in Eyethu Engineers CC: Scoping report: environmental impact assessment for the proposed Aggeneis to Helios 400 kV transmission line. Eskom Transmission Group.

Morris, D. 2001. Gamsberg Zinc: supplementary report on archaeological resources at Gamsberg. Unpublished report for Gamsberg Zinc Project.

Morris, D. 2010. Cultural Heritage Assessment: Gamsberg. Supplementary observations to a previous specialist report on archaeological resources. Unpublished report to SRK Consulting.

Morris, D. 2011. Black Mountain Concentrated Solar Power Facility development at Aggeneys, Northern Cape. Heritage Impact Assessment.

Morris, D. 2012. Pofadder Solar Thermal Facility KaXu Solar One: specialist input for the Environmental Impact Assessment Phase and Environmental Management Plan: Archaeology.

Morris, D. 2013. Environmental Management Plan Report for Black Mountain Mine, Aggeneys, Northern Cape: Input with respect to Heritage Resources.

Morris, D. 2016. Paulputs CSP Project and Road Realignment of the MN73 near Pofadder, Northern Cape.

Morris, D. 2018. Before the Anthropocene: human pasts in Karoo landscapes. *African Journal of Range and Forest Science*. 35:179-190.

Mucina, L. and Rutherford, M.C. 2006. The vegetation of South Africa, Lesotho and Swaziland. *Strelitzia* 19. South African National Biodiversity Institute, Pretoria

Münzbergova, Z. and Herben, T. 2005. Seed, dispersal, microsite, habitat and recruitment limitation: identification of terms and concepts in studies of limitation. *Oecologia*. 145:1-8.

Nciizah, A.D and Wakindiki, I.C. 2016. Physical crust formation and steady-state infiltration rate in soils dominated by primary minerals in some South African ecotopes. *South African Journal of Plant and Soil*. 33:1, 43-50.

Northern Cape Department of Environment and Nature Conservation. 2016. Northern Cape Critical Biodiversity Areas [Vector] 0. Available from the Biodiversity GIS website.

Orton, J. 2016. Heritage Impact Assessment for the proposed Sol Invictus 3 PV facility, Namakwa Magisterial District, Northern Cape.

Penn, N. 2005. *The Forgotten Frontier: Colonist and Khoisan on the Cape's Northern Frontier in the 18th Century*. Athens, Ohio and Cape Town: Ohio University Press and Double Storey Books.

Perlman, D.L. and Milder, J.C. 2005. *Practical ecology for planners, developers and citizens*. Island Press, Washington.

Pether, J. 2012. Proposed Orlight SA Development of a solar photovoltaic power plant near Aggeneys, Northern Cape Province, Portion 1 of Farm Aoams 57 RD.

Prinsloo, H.P. 1998. *Argeologiese omgewingsverslag: Pofadder en Aggeneys omgewing*. For Klopfer Environmental Consultants.

Raimondo, D., Von Staden, L., Foden, W., Victor, J.E., Helme, N.A., Turner, R.C. Kamundi, D.A. and Manyama, P.A. 2009. Red list of South African plants 2009. *Strelitzia*. 25: 1-668. Updated Online: <http://redlist.sanbi.org/>.

Robinson, A.M.L. 1978. Selected articles from the Cape Monthly Magazine NS, 1870-1876. Cape Town: Van Riebeeck Series Second Series No 9.

Sampson, C.G. 1974. The Stone Age archaeology of South Africa. New York: Academic Press.

SANBI. 2016a. Lexicon of Biodiversity Planning in South Africa. Beta Version, June 2016. South African National Biodiversity Institute, Pretoria. 72.

SANBI. 2016b. Botanical Database of Southern Africa (BODATSA) [dataset]. <http://newposa.sanbi.org/>

SANBI. 2017. Technical guidelines for CBA Maps: Guidelines for developing a map of Critical Biodiversity Areas and Ecological Support Areas using systematic biodiversity planning. First Edition (Beta Version), June 2017. Compiled by Driver, A., Holness, S. and Daniels, F. South African National Biodiversity Institute, Pretoria.

Smith, A.B. 1995. Archaeological observations along the Orange River and its hinterland. In A. B. Smith. Einiqualand: studies of the Orange River frontier, Cape Town: UCT Press.

South African National Standard, SANS241:2006. 2006. Drinking Water, Edition 6.1, ISBN 0-626-18876-8.

South African National Standard, SANS241-1:2011. 2011. Drinking Water - Part 1: Microbiological, physical, aesthetic and chemical determinants, Edition 1, ISBN 978-0-626-26115-3.

South African National Standard, SANS241-1:2015. 2015. Drinking Water - Part 1: Microbiological, physical, aesthetic and chemical determinants, Edition 2, ISBN 978-0-626-29841-8.

South African National Standard, SANS241-2:2011. 2011. Drinking Water - Part 2: Application of SANS241-1, Edition 1, ISBN 978-0-626-26116-0.

South African National Standard, SANS241-2:2015. 2015. Drinking Water - Part 2: Application of SANS241-1, Edition 2, ISBN 978-0-626-31245-9.

Texo-Faber Consultants, 2015. Biodiversity Action Plan 2015, Black Mountain Mining Pty (Ltd).

Thompson, G. 1827. Travels and adventures in Southern Africa. Reprint, Cape Town: Africana Connoisseurs Press, 1962.

U.S. Environmental Protection Agency (EPA). 2003. List of Drinking Water Contaminants and their Maximum Contaminant Levels.

uMoya-Lilu Consulting (Pty) Ltd. 2018. Air Quality Management Plan for the Northern Cape. Report: uMN016-18.

Van Ryneveld, K. 2017. Koa Valley prospecting right application (without bulk sampling, portions of farms Haramoep 53, Oonab-Noord 609, Amam 46 and Nooisabes 51, near Springbok/Aggneys, Namakwa District Municipality, Northern Cape.

Van Tonder, G., Bardenhagen, I., Riemann, K., Van Bosch, J., Dzanga, P. and Xu, Y. 2002. Manual on Pump Test Analysis in Fractured-Rock Aquifers. Water Research Commission. WRC Report No.: 1116/1/02.

Van Tonder, G., Kunstmann, H., Xu., Y and Zhang Jin-Hui. 2001. FC-Method, Version 3.0.

Webley, L. and Halkett, D. 2012. Heritage Impact Assessment; proposed Aggeneys photovoltaic solar plant on Portion 1 of the farm Aroams 57, Northern Cape Province.

Webley, L. and Halkett, D. 2016. Scoping Heritage Assessment; proposed construction of CS and PV facilities on the Remaining Extent of the farm Hartbeest Vlei 86 near Aggeneys, Northern Cape.

Whitelaw, G. 1997. Archaeological monuments in KwaZulu-Natal: a procedure for the identification of value. Natal Museum Journal of Humanities. 9:99-109.

Annex A

Details of Environmental
Impact Assessment
Practitioner

Stephanie Gopaul

Senior Consultant

Stephanie Gopaul is a Senior Consultant within ERM, based in Durban, South Africa. Upon obtaining a science degree in engineering and environmental geology, and Masters in Environmental Management, she was employed by the eThekweni Municipality in the air pollution division. Thereafter, Stephanie served at GCS (Pty) LTD as an Environmental Scientist before joining ERM. Stephanie has over ten years of experience in the field of environmental consulting.



Her fields of expertise include environmental authorisation processes (i.e. Basic Assessments, Environmental Impact Assessments, Environmental Management Plans, Integrated Water Use License, Integrated Water and Waste Management Plans in terms of South African environmental legislation and IFC performance standards). Additional, Stephanie has experience in closure costing reports, environmental auditing, due diligence, feasibility studies and environmental risk assessments.

Stephanie has managed projects for a number of public and private sector clients in the oil and gas, power utilities, renewable energy, industrial, mining and transport sectors. Her particular focus and area of expertise is in the South African market where she has managed various large-scale, multi-disciplinary and complex projects for companies including Shell, Sasol, Afrox, De Beers, Kangra Coal, Forbes Coal, Bidvest Tank Terminals, Vopak, etc.

Experience: >10 years' experience in environmental permitting, environmental management and project management.

LinkedIn: <https://www.linkedin.com/in/stephanie-gopaul-79473172>

Email: Stephanie.gopaul@erm.com

Professional Affiliations & Registrations

- IAIA SA

Fields of Competence

- Environmental Impact Assessments,
- Environmental Management Programmes,
- Basic Assessments,
- Environmental audits and due diligence,
- Waste Management Licenses,
- Integrated Water Use License Applications,
- Integrated Water and Waste Management Plans (IWWMP),

- Environmental legal assessments;
- Environmental compliance monitoring,
- Mining and prospecting right applications,
- Public / stakeholder consultation and participation,
- Mine closure and closure cost estimations.

Education

- Masters in Environmental Management, University of the Free State, South Africa, 2012
- BSc Environmental and Engineering Geology, University of KwaZulu Natal, South Africa, 2005

Additional Education

- Water Quality Monitoring Short Course - GCS
- Environmental Impact Assessment Training 3-day Course – Metamorphosis Environmental Consultants;
- Intermediate/ Advanced Excel (ExecuTrain);
- Conflict resolution (Elsie Van Der Merwe)
- Project Management- University of the Free State;
- Hazardous Waste Course- IWMSA (Institute of Waste Management of Southern Africa)
- Environmental Managers as Leaders, Managers and Change Masters- University of the Free State;
- First Aid- Titan Medical; and
- Defensive Driving Course- MasterDrive.

Languages

- English, native speaker

Key Industry Sectors

- Point one
- Point two
- Point three
- Point four

Honours & Awards

- Oil and Gas
- Manufacturing
- Chemicals
- Mining

Key Projects

- Polihali Reservoir and Associated Infrastructure, (Lesotho), Lesotho Highlands Development Agency, 2018
Assistant Project Manager
Responsibilities include input into the Inception Report, co-ordination of specialists in terms of field visits and their reporting, compilation of the Environmental and Social Impact Assessment and Environmental Management Plan.
- Venetia Mine Waste Management Licence, De Beers, 2015-2017
Project Manager
Responsibilities included managing the Waste Management Licence in terms of specialists' co-ordination, public consultation, client liaison, report compilation and all financial aspects.
- Voorspoed Mine Closure SIA, De Beers, 2017
Project Manager
Responsibilities included managing the project from a schedule and financial perspective. Additional tasks included compiling the environmental baseline and impact assessment.
- On-Land Early Power Project, Department of Energy, South Africa, 2016
Project Consultant
Responsibilities include compilation of the application form, Scoping Reports, EIA and EMPs for this Gas to Power Project, located in Richards Bay, KwaZulu Natal.
- Floating Power Plant Project, Department of Energy, South Africa, 2016
Project Consultant
Responsibilities include compilation of the application form, Scoping Reports, EIA and EMPs for this Gas to Power Project, located in Richards Bay, KwaZulu Natal.
- Terminal Screening/ Scoping and EIA, Globeleq, South Africa, 2016 - ongoing
Project Consultant

Responsibilities include compilation of the application form, Scoping Reports, EIA and EMPs for this Gas to Power Project, located in Richards Bay, KwaZulu Natal.

- Teranga Mine Closure Plan, Teranga Gold Corporation, 2015
Project Consultant
Assisted in the compilation of the Mine Closure Framework and Mine Closure Plan in English for the Sabodala Gold Mine and regional exploration located in Senegal. The final documents were translated to French and submitted to the Government of the Republic of Senegal. This Closure Plan has been defined to meet Senegal's regulatory requirements, Teranga's Canadian-based principles and IFC standards for mine closure.
- Bakubung Platinum Mine Conceptual Closure Plan, Wesizwe Platinum Limited, 2015
Project Consultant
Compiled the Closure Plan for the Bakubung Platinum Mine located on the Western Limb of the Bushveld Igneous Complex, north of Rustenburg in the North West Province of South Africa. This Closure Plan has been defined to meet South Africa's regulatory requirements for mine closure.
- Marampa 9 ESIA, Sierra Leone, London Mining Plc., 2013- 2014
Project Manager
Responsibilities included managing the project in terms of specialist's co-ordination, report compilation and financial aspects.
- IPP Floating Power Plant, Department of Energy, South Africa, 2016 - ongoing
Project Consultant
Responsibilities include compilation of the application form, Scoping Reports, EIA and EMPs for this Gas to Power Project, located in the Port of Richards Bay, KwaZulu Natal.
- Shell Gess Programme, Shell, South Africa, 2013 - ongoing

Project Manager

Responsibilities included managing various (ERM has been awarded over 400 to date) Shell Gess projects including Environmental Licensing, Environmental Audits and Waste Management Licenses in terms of specialists co-ordination, public consultation, client liaison, report compilation and all financial aspects. List of selected Projects include:

- Alberton Water Use License;
 - Assegai Motors Environmental Audit and EMP;
 - Bailey and Maile EMP;
 - Bargain Wholesalers EMP;
 - Bayhead Road Compliance Motivation;
 - Beverly Service Station Basic Assessment Process;
 - Breede Valley Decommissioning Basic Assessment and ECO Audits;
 - Caledon Depot Basic Assessment;
 - Combined Transport Section 30 Application;
 - Cosmo City Basic Assessment Process;
 - Davenport Service Station Compliance Audit;
 - Diepsloot Basic Assessment Process;
 - Five Star Service Station Compliance Audit;
 - Glebe Service Station Compliance Audit and ECO;
 - Key Delta Basic Assessment Process and ECO;
 - Mondri Basic Assessment Process and ECO;
 - Montrose Service Station ECO;
 - Masakhane Basic Assessment Process and ECO;
 - Ntokozweni EMP and ECO;
 - Philani Valley EMP and ECO;
 - Quatro EMP;
 - Summit Road Basic Assessment Process;
 - Willie Street Basic Assessment Process;
 - Witbank WULA;
 - Mvoti Service Station WULA;
 - Umfula Motors Basic Assessment Process.
- Vopak Growth 4 Basic Assessment, Vopak terminal, South Africa, 2017
Project Manager
Responsibilities included managing the project in terms of processes co-ordination, authority and

public consultation, specialist's co-ordination, report compilation and financial aspects.

- Kroonstad Terminal ECO, Chevron, South Africa, 2015
Project Manager
Responsibilities included co-ordinating the monthly ECO site visits, reviewing the monthly ECO compliance audits and overseeing the compilation and submission of the annual compliance report.
- Alrode Terminal ECO, Chevron, South Africa, 2015
Project Manager
Responsibilities included co-ordinating the monthly ECO site visits, reviewing the monthly ECO compliance audits and overseeing the compilation and submission of the annual compliance report.
- Alrode Depot Basic Assessment, Chevron, South Africa, 2015
Project Manager
Responsibilities included co-ordinating the project, reviewing the reports and overseeing the compilation and submission of the reports.
- Mageza Feasibility and Conceptual Remedial Design, Sasol Oil, South Africa, 2014
Project Manager
Responsibilities included managing and compiling a feasibility assessment and conceptual remedial design for the Mageza Filling Station based on the concept and associated costs of using wetlands for the removal of contamination.
- AFROX CIBE, AFROX, South Africa, 2013- 2014
Project Manager
Responsibilities included managing the project in terms of coordinating specialists, holding public consultation, acting as client liaison, report compilation and managing all financial aspects.

Key before joining ERM

- Utrecht Mine Compliance Assessment, Closure EMPR and IWULA, South Africa, Kangra Group (Pty) Ltd.
Project Manager

Responsibilities included team co-ordination and management of the compliance assessment and environmental licensing processes.

- Magdalena Colliery IWULA Compliance Audit, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd.
Project Manager
Responsibilities included managing the project in terms of team co-ordination, public consultation, client liaison, report compilation and all financial aspects of the project.
- Ballengeich Plantation Research and Development Project: phyto-remediation to address acid mine drainage, South Africa, Kangra Group (Pty) Ltd., 2011
Project Manager
Responsibilities included managing the project in terms of team co-ordination, client liaison, report compilation, and all financial aspects of the project.
- Magdalena Colliery Integrated Water Use License Application, Water and Waste Management Plan and Supporting Documentation, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2010-2012
Project Manager
Responsibilities included managing the project in terms of team co-ordination, public consultation, client liaison, report compilation and all financial aspects of the project.
- Aviemore Colliery Integrated Water Use License Application, Water and Waste Management Plan and Supporting Documentation, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2011.
Project Manager
Responsibilities included managing the project in terms of team co-ordination, public consultation, client liaison, report compilation and all financial aspects of the project.
- Magdalena Colliery IWULA audit, South Africa, Forbes Coal/ Zinoju Coal PTY Ltd., 2012.
Project Manager

Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project.

- Utrecht Mine closure EMPR and IWULA, South Africa, Kangra Group (Pty) Ltd., 2012.
Project Manager
Responsibilities included managing the project in terms of team co-ordination, public consultation, client liason, report compilation and all financial aspects of the project until resignation from GCS.

APPENDIX 4
DECLARATION OF THE EAP

I, Stephanie Gopaul, declare that –

General declaration:

- I act as the independent environmental practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting environmental impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in regulation 8 of the Regulations when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will ensure that the comments of all interested and affected parties are considered and recorded in reports that are submitted to the competent authority in respect of the application, provided that comments that are made by interested and affected parties in respect of a final report that will be submitted to the competent authority may be attached to the report without further amendment to the report;
- I will keep a register of all interested and affected parties that participated in a public participation process; and
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- all the particulars furnished by me in this form are true and correct;
- will perform all other obligations as expected from an environmental assessment practitioner in terms of the Regulations; and
- I realise that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F of the Act.

Disclosure of Vested Interest (delete whichever is not applicable)

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;



Signature of the environmental assessment practitioner:

Environmental Resources Management Southern Africa Pty) Ltd.

Name of company:

07/11/2018

Date:

Annex B

Stakeholder Engagement

Annex B1

Stakeholder Database

NAME	SURNAME	INSTITUTION	POSITION
National Authority			
Siphokazi	Ndundane	Department of Agriculture, Forestry and Fisheries: Fisheries Management	Deputy Directory General
Nosipho	Ngcaba	Department of Environmental Affairs	Director General
Stanely	Tshitwamolomoni	Department of Environmental Affairs	Acting Director: Biodiversity Conservation
Wadzi	Mandivenyi	Department of Environmental Affairs	Chief Directorate: Specialist Monitoring and Services
Skumsa	Mancotywa	Department of Environmental Affairs	Chief Directorate: Protected Areas Systems Management
Thea	Carroll	Department of Environmental Affairs	Chief Directorate: Biodiversity Planning & Management
Munzhedzi	Shonisani	Department of Environmental Affairs	DDG - Biodiversity & Conservation
Mpho	Tshitangoni	Department of Environmental Affairs	Director: Land Remediation
Lucas	Mahlangu	Department of Environmental Affairs: Waste Directorate	
Lutendo	Tshifango	Department of Environmental Affairs: Waste Directorate	
Molefe	Morokane	Department of Mineral Resources	Director
Khayaletu	Matrose	Department of Mineral Resources	Director General's Office
Mamabefu	Modipa	Department of Mineral Resources	Director General's PA
Kefilwe	Chibogo	Department of Mineral Resources	Deputy Minister's PA
Michelle	Phenya	Department of Transport	Director General Office
Deborah	Mochotlhi	Department of Water and Sanitation	Director General
Tronny	Motsenga	South African National Parks (SANP)	Conservation
Natasha	Higgit	South African Heritage Resources Agency (SAHRA)	Heritage Officer
Regional Authority			
Leon	October	Department of Agriculture	District Manager
Lungi	Modela	Department of Mineral Resources	Chief Admin Clerk
Linda	Njemla	Department of Mineral Resources	Acting Regional Manager: Springbok
Pieter	Swart	Department of Mineral Resources	Regional Manager: Kimberley
Johannes	Nematatani	Department of Mineral Resources	Mineral Regulation: NC
Vincent	Muila	Department of Mineral Resources	Mine Environmental Management: NC
Azwihangwifi	Mulaudzi	Department of Mineral Resources	Chief Director
Ntsundeni	Ravhugoni	Department of Mineral Resources	Deputy Director: Environment
Diedre	Karsten	Department of Mineral Resources	Environmental Officer
Lisa	Muller	Department of Social Development	
Melinda	Mel	Department of Water and Sanitation - Upington	
Shaun	Cloete	Department of Water and Sanitation - Upington	Water Quality Officer
Lerato	Makhoantle	Department of Water and Sanitation - Kimberly	Control EO
Esther	Adeyileka	Department of Water and Sanitation - Kimberly	Water Quality Officer

NAME	SURNAME	INSTITUTION	POSITION
Provincial Authority			
Vuyani	Nkasayi	Department of Agriculture, Land Reform and Rural Development	Director General Communications
Eddie	Julius	Department of Economic Development and Tourism (DEDAT)	Manager LEP
David	Khakhane	Department of Environment and Nature Conservation: Air Quality	
Dineo	Moleko	Department of Environment and Nature Conservation	
Enrico	Oosthuysen	Department of Environment and Nature Conservation	Nature Conservation Planner
Onwabile	Ndzumo	Department of Environment and Nature Conservation	Environmental Officer
Elsabe	Swart	Department of Environment and Nature Conservation	Kimberly Directorate Biodiversity
Nndwakhulu	Simali	Department of Environmental Affairs	Natural Resources Management (NC)
B	Lenkoe	Department of Cooperative Governance, Human Settlement and Traditional Affairs	Head of Department
Steven	Jonkers	Department of Health	Head of Department
Mangalane	Du Toit	Department of Land Claims	Regional Land Claims Commission NC
K	Nogwili	Department of Roads and Public Works	Head of Department
Sammy	Cloete	Department of Social Development	Namaqua District Manager
Dewald	Badenhorst	Department of Transport	Environmental Manger, Kimberley
Lindi	Ntombela	Department of Transport	PA to HOD
Timothy	Ratha	Ngwao Boswa Ya Kapa Bokone (NBKB)	Manager
Abe	Abrahams	Department of Water and Sanitation: Kimberley	Chief Director; Northern Cape
District Authority			
Chris	Fortuin	Namakwa District Municipality (NDM)	LED Manager
Emanuel	Smit	Namakwa District Municipality (NDM)	District Project Manager
Jeremy	Witbooi	Namakwa District Municipality (NDM)	Manager
Denver	Smith	Namakwa District Municipality (NDM)	Environmental Health Manager
Jodine	Cloete	Namakwa District Municipality (NDM)	Communications
Jannie	Loubser	Namakwa District Municipality (NDM)	Senior Management IDP
Local Municipality			
Boet	Baker	Khai Ma Municipality	Municipal Manager
Thabo	Molete	Khai Ma Municipality	Acting Municipal Manager
Alredo		Khai Ma Municipality	Mayor
A.J.	Jossop	Khai Ma Municipality	Mayor
Estella	Cloete	Councillor	Ward Councillor
Stefanus	April	Councillor	Ward Councillor
Silvia	Brandt	Councillor	Ward Councillor
Lukas	van Rooi	Khai Ma Municipality	Councillor/ PR

NAME	SURNAME	INSTITUTION	POSITION
Pasqueline	van Heerden	Khai Ma Municipality	Councillor/ Pella
Alexander	Visagie	Khai Ma Municipality	Infrastructure officer
Pieter	van der Merwe	Khai Ma Municipality - Pofadder	Financial Manager
Tenna	Brandt		
Lin	Van Wyk		
Reno	Van Wyk		
NGOs			
Danie	Jakob	Agri Namakwa Organised Agriculture Union - Bushmanland	
Zaiton	Rabaney	Botanical Society of South Africa (BSSA)	Director
Kotie	Retief	Botanical Society of South Africa (BSSA)	Kambroo
Carolyn	Ah Sene Verdoom	Birdlife South Africa	Policy and Advocacy Manager
Melisa	Fourie	Centre for Environmental Rights	
Amanda	Bourne	Conservation South Africa (CSA)	
Harriet	Davis-Mostert	Endangered Wildlife Trust (EWT)	
Noel	Oettle	Environmental Monitoring Group	
Stephen	Law	Environmental Monitoring Group	Director
Rachel	Asante-Owusu	International Union for Conservation of Nature (IUCN)	Project Manager
Beryl	Wilson	McGregor Museum	
Andy	Pienaar	Namakwaland Action Group / Nago	
Naledi	Kopolo	National Union of Mineworkers	Regional Representative
Werner	Voigt	SANBI Karoo Desert National Botanical Garden	Curator
Victoria	Wilman	SANBI	Cape Ex-situ Conservation Officer
John	Manning	SANBI	National Herbarium Kirstenbosch
Shaheeda	Davids	SANBI	Succulent Karoo Ecosystem Programme (SKEP)
Lubabalo	Ntsholo	SANBI	SKEP Program developer
Roger	Domingo	Surplus People Projects	
Terry	Smale	The Mesembs Study Group	
Andrew	Young	University of Liverpool	Director of Research
Kerry	Purnell	Wilderness Foundation Africa	Project Manager: NC Land Project
Nikki	Veenstra	Wildlife and Environment Society of South Africa (WESSA)	Office Manager
Tania	Anderson	WESSA Northern Cape	
J	Brown	WWF	
Businesses			
Anna	Afrikaner	Pella Orange River Resort	Shareholder

NAME	SURNAME	INSTITUTION	POSITION
E.J.	Kearns	National Ports Authority	Ports Manager
Philip	Desmet	Ecosol	Conservation Planner
Mark	Mark Botha	Conservation Strategy, Tactics & Insight	Ecological Specialist
Stephan	Gaigher	G&A Heritage (Pty) Ltd	Chief Executive Officer
Lesley	Gaigher	G&A Heritage (Pty) Ltd	Heritage Specialist
Divan	Roets	Divan Roberts Botanical Services	Environmental Services Professional
Alet	Fabricus	Enviroserv Waste Management (Pty) Ltd	Key Accounts Consultant
Annalien	De Ath	EndemicVision Environmental Services	Environmental Technician
Elsche	Cronje	EndemicVision Environmental Services	Environmental Technician
Chrizzette	Neethling	EndemicVision Environmental Services	Managing Director
Tania	Anderson	Community representative	
Adele	Rossouw	Solidarity	Organiser
Abe	Koopman	NAVO Institution	
Theo	Smith	TL Engineering	Owner
Pieter	Klaase	Jowells Transport	
Glenda	Goosen	Klein Pella Guest House	
Helene		Trans Oranje Drukkers	
Leon	Waterboer	Bushmanland Green Heritage	Owner / Manager
Jaco	Goussard	JCG Water treatment	
Shelley	Lizzio	Digby Wells	Biodiversity Specialist
Nirvana	Pillay	Southern Mapping	Business Executive
Community Entities			
		Aggeneys Library	
Akata	Groenewald	Pofadder Library	
	Van der Colff	Pofadder clinic	
Romeo	Ukena	Aggeneys High School	Principal
Ismail	Kolberg	SAPD Forum	Chairperson
Pieter	Clarke	Community Engagement Forum	Stakeholder Relations Manager
Marie	Felicity	Roman Catholic Church - Pella Projects	
Nico	Jano	Khai Ma Business Forum	Chairperson
D.J.	Julie	Khai Ma Business Forum	Member
Gerrie	van der Heever	Pofadder Landbou Vereniging	Chairperson
Community Members			
Alfred	Waterboer	Aggeneys Resident	Pensioner

NAME	SURNAME	INSTITUTION	POSITION
Christoffelr	Tienus	Community representative	Disability Allowance
Abraham	Witbooi	Community representative	
Johny C.	Simboya	Transformasie Komitee	
A.A.	van Wyk	Khai Ma Tourism	
G.P.	Magerman	Community representative	
Kasper	Spence	Elneps Konstruksie	
Janice	Links	Community representative	EDW
Ronald	Stuurman	Desert Road Inn	Brabees Portion 2
Danie	Luttig	Community representative	Farming Community
Hester	Maasdorp	Community representative	Bloemhoek - Gamsberg
Deon	Maasdorp	Community representative	Zuurwater
Phillip	Strauss	Community representative	Brabees Portion 1
Abri	Van Niekerk	Community representative	Dabbiepoort Aroams
Jasper	Mosterd	Community representative	Witputs
Pieter-Jan	Pieter-Jan	Community representative	
Deon	Pietersen	Community representative	
Tertius	Visser	Community representative	
Johan	van Dyk	Community representative	
State Entities			
Prudence	Msebenzi	NC District Police	District Manager
Margret	Ovengo	South Africa Social Security Agency (SASSA)	Supervisor
Ethel	Coetzee	Transnet National Ports Authority	Environmental Manager
Nicole	Abrahams	SANRAL	SANRAL Environmental coordinator
BMM			
Pieter	Venter	Black Mountain Mining	BMM Environmental Manager
Neil	MacDonald	Black Mountain Mining	Gams Biodiversity
Markus	Schaefer	VZI	Head of Exploration
Kobus	Zandberg	Black Mountain Mining	Engineer
MU	Khan	VZI	Legal Manager
Clecinda	Clarke	Black Mountain Mining	Gams Environmental Officer
Charles	Klopper	Black Mountain Mining	Acting Safety & Sustainability HOD
Anne-Marie	Cloete	Black Mountain Mining	BMM Environmental Officer
Jacobus HL	Smit	Black Mountain Mining	Biodiversity Manager
Westley	Price	Black Mountain Mining	Exploration Manager

NAME	SURNAME	INSTITUTION	POSITION
Alan	Johnson	Black Mountain Mining	Exploration Geologist

Annex B2

Initial Notification Material

Annex B2.1

Notification Letter

Amy Barclay

From: Amy Barclay
Sent: Thursday, 01 November 2018 16:17
To: Amy Barclay
Subject: Environmental Impact Assessment (EIA) Process for the Swartberg Mine Expansion in the Northern Cape Province of South Africa
Attachments: BMM_Notification Letter Public Meeting_V2.pdf; BMM_Notification Letter Public Meeting_Afrikaans_V2.pdf

Dear Stakeholder

Notice is hereby given of the upcoming commencement of the EIA process for the Black Mountain Mining (Pty) Ltd Swartberg Mine Expansion Project. The Application for Environmental Authorisation will be submitted to the Department of Mineral Resources (DMR) in November 2018. At the same time, the Draft Scoping Report will be made available for a 30 day comment period.

You are hereby notified of the upcoming public meeting that will be held for the proposed Project. The purpose of the public meeting is to inform potentially interested and affected parties of the details of the EIA process and provide opportunity for initial questions and comment.

Details of the public meeting are as follows:

Venue: North Recreational Club, Aggeneys, 8893

Date: Thursday 15 November 2018

Time: 17:00

Please see the attached notification in English and Afrikaans for more details.

Kind regards

Amy Barclay
Consultant II

ERM

1st Floor | Great Westerford | 240 Main Road | Rondebosch | 7700 | Cape Town | South Africa

T +27 21 681 5400

E amy.barclay@erm.com | W www.erm.com



ERM *The business of sustainability*

Read our 2017 [Sustainability Report](#) and [ERM Foundation Annual Review](#)

Amy Barclay

From: Amy Barclay
Sent: Thursday, 01 November 2018 16:16
To: Amy Barclay
Subject: Environmental Impact Assessment (EIA) Process for the Swartberg Mine Expansion in the Northern Cape Province of South Africa
Attachments: BMM_Notification Letter Public Meeting_Afrikaans_V2.pdf; BMM_Notification Letter Public Meeting_V2.pdf

Dear Stakeholder

Notice is hereby given of the upcoming commencement of the EIA process for the Black Mountain Mining (Pty) Ltd Swartberg Mine Expansion Project. The Application for Environmental Authorisation will be submitted to the Department of Mineral Resources (DMR) in November 2018. At the same time, the Draft Scoping Report will be made available for a 30 day comment period.

You are hereby notified of the upcoming public meeting that will be held for the proposed Project. The purpose of the public meeting is to inform potentially interested and affected parties of the details of the EIA process and provide opportunity for initial questions and comment.

Details of the public meeting are as follows:

Venue: North Recreational Club, Aggeneys, 8893

Date: Thursday 15 November 2018

Time: 17:00

Please see the attached notification in English and Afrikaans for more details.

Kind regards

Amy Barclay
Consultant II

ERM

1st Floor | Great Westerford | 240 Main Road | Rondebosch | 7700 | Cape Town | South Africa

T +27 21 681 5400

E amy.barclay@erm.com | W www.erm.com



ERM *The business of sustainability*

Read our 2017 [Sustainability Report](#) and [ERM Foundation Annual Review](#)

8 November 2018

Verwysing: 0472502

Geagte Belanghebbende



Insake: Omgewingsimpak-assesseringsproses vir die Swartberg Mynuitbreiding in die Noord-Kaapprovinsie van Suid-Afrika

Black Mountain Mining (Edms) Bpk (hierin verwys na as BMM), deel van die wêreldwye Vedanta Mynbougroep, beoog om die Swartberg-myn by die bestaande BMM-mynkompleks 10 km wes van die dorp Aggeneys, Noord-Kaapprovinsie, uit te brei. Die Swartberg-myn sal die Swartberg-helling binne die bestaande Mynreggebied (MR 517) nader en is sowat 5 km wes van die operasionele BMM Deeps-myn. Die projek vereis Omgewingsmagtiging (OM) van die Nasionale Departement van Minerale Hulpbronne (DMH) ingevolge die Nasionale Omgewingsbestuurswet (NOBW) (Wetnr. 107 van 1998), soos gewysig, deur 'n Omgewingsimpak-assesserings- (OIA-) proses.

Kennis word hiermee gegee van die aanvang van die OIA-proses, in die besonder die uitreiking van die Konsep-Omvangsverslag vir openbare kommentaar. Die Aansoek vir Omgewingsmagtiging is op 8 November 2018 aan die DMH voorgelê. Die Konsep-Omvangsverslag is terselfdertyd vir 'n tydperk van 30 dae, vanaf **8 November 2018** tot **10 Desember 2018** vir kommentaar beskikbaar gestel.

Die verslag is beskikbaar op die projekwebwerf: <https://www.erm.com/bmm-swartberg-mine-expansion-eia>, op versoek van ERM en by die volgende openbare plekke:

- Aggeneys Openbare Biblioteek
- Pofadder Openbare Biblioteek
- BMM Mynkompleks

Belanghebbendes word genooi om aan die EIA-proses deel te neem deur besorgdhede te identifiseer en voorstelle te maak om voordele te versterk. Alle kommentaar of besorgdhede rakende die Omvangsfase van die projek moet voor of op **10 Desember 2018** by die kontakbesonderhede hieronder ingedien word. Om as 'n Belangstellende en Geaffekteerde Party (B&GP) te registreer, kommentaar in te dien en om verdere inligting te verkry, kontak asseblief ERM:

Brendon Solik

E-pos: BMM.Swartbergmine@erm.com | **Tel:** 021 681 5400 | **Projekwebwerf:** <https://www.erm.com/bmm-swartberg-mine-expansion-eia> |

Pos: Postnet Suite 90, Privaatsak X12, Tokai 7966

Vriendelik die uwe

ERM

8 November 2018

Reference: 0472502

Dear Stakeholder



RE: Environmental Impact Assessment Process for the Swartberg Mine Expansion in the Northern Cape Province of South Africa

Black Mountain Mining (Pty) Ltd (herein referred to as BMM), part of the global Vedanta Mining Group, intends to expand the Swartberg mine at the existing BMM mining complex, 10 km west of the town of Aggeneys, Northern Cape Province. The Swartberg mine will advance the Swartberg Decline within the existing Mining Right Area (MR 517) and is approximately 5 km west of the operational BMM Deeps Mine. The Project requires Environmental Authorisation (EA) from the National Department of Mineral Resources (DMR) under the National Environmental Management Act (NEMA) (Act No. 107 of 1998), as amended, through an Environmental Impact Assessment (EIA) process.

Notice is hereby given of the commencement of the EIA process, particularly, the release of the Draft Scoping Report for public comment. The Application for Environmental Authorisation was submitted to the DMR on 8 November 2018. At the same time, the Draft Scoping Report has been made available for a 30 day comment period from **8 November 2018 to 10 December 2018**.

The Report is available on the project website: <https://www.erm.com/bmm-swartberg-mine-expansion-eia>, on request from ERM, and at the following public locations:

- Aggeneys Public Library
- Poffadder Public Library
- Black Mountain Mining Office, Penge Road, Aggeneys

Stakeholders are invited to participate in the EIA process by identifying issues of concern and providing suggestions to enhance benefits. All comments or concerns regarding the Scoping Phase of the project are to be submitted to the contact details below on or before **10 December 2018**. To register as an Interested and Affected Party (I&AP), submit comments, and to obtain more information, please contact ERM:

Brendon Solik

Email: BMM.Swartbergmine@erm.com | **Tel:** 021 681 5400 | **Project Website:** <https://www.erm.com/bmm-swartberg-mine-expansion-eia> | **Post:** Postnet Suite 90, Private Bag X12, Tokai, 7966

Yours sincerely,

ERM

Amy Barclay

From: Amy Barclay
Sent: Thursday, 08 November 2018 13:46
To: Amy Barclay
Subject: Environmental Impact Assessment (EIA) Process for the Swartberg Mine Expansion in the Northern Cape Province of South Africa
Attachments: BMM_Notification Letter Draft Scoping Report_Afrikaans.pdf; BMM_Notification Letter Draft Scoping Report_English.pdf

Dear Stakeholder

This notification serves to announce the commencement of the Environmental Impact Assessment EIA process for the Black Mountain Mining (Pty) Ltd Swartberg Mine Expansion Project. The purpose of this email is to inform you of the availability of the Draft Scoping Report (DSR) for public comment. The Draft EIA Report is available for comment until 10 December 2018. The DSR is now available on the Project website: <https://www.erm.com/bmm-swartberg-mine-expansion-eia>

To register as an Interested and Affected Party (I&AP), or to submit comments on the project, please contact Brendon Solik of ERM:

Tel: 021 681 5400

Email: BMM.Swartbergmine@erm.com

Postal address: Postnet Suite 90, Private Bag X12, Tokai, 7966

For further information about the Project and associated EIA, as well as the public participation process, please refer to the attached notification letter.

Amy Barclay

ERM

1st Floor | Great Westerford | 240 Main Road | Rondebosch | 7700 | Cape Town | South Africa

T +27 21 681 5400 |

E amy.barclay@erm.com | W www.erm.com



ERM *The business of sustainability*

Read our 2017 [Sustainability Report](#) and [ERM Foundation Annual Review](#)

Amy Barclay

From: Amy Barclay
Sent: Thursday, 08 November 2018 13:46
To: Amy Barclay
Subject: Environmental Impact Assessment (EIA) Process for the Swartberg Mine Expansion in the Northern Cape Province of South Africa
Attachments: BMM_Notification Letter Draft Scoping Report_Afrikaans.pdf; BMM_Notification Letter Draft Scoping Report_English.pdf

Dear Stakeholder

This notification serves to announce the commencement of the Environmental Impact Assessment EIA process for the Black Mountain Mining (Pty) Ltd Swartberg Mine Expansion Project. The purpose of this email is to inform you of the availability of the Draft Scoping Report (DSR) for public comment. The Draft EIA Report is available for comment until 10 December 2018. The DSR is now available on the Project website: <https://www.erm.com/bmm-swartberg-mine-expansion-eia>

To register as an Interested and Affected Party (I&AP), or to submit comments on the project, please contact Brendon Solik of ERM:

Tel: 021 681 5400

Email: BMM.Swartbergmine@erm.com

Postal address: Postnet Suite 90, Private Bag X12, Tokai, 7966

For further information about the Project and associated EIA, as well as the public participation process, please refer to the attached notification letter.

Amy Barclay

ERM

1st Floor | Great Westerford | 240 Main Road | Rondebosch | 7700 | Cape Town | South Africa

T +27 21 681 5400 |

E amy.barclay@erm.com | W www.erm.com



ERM *The business of sustainability*

Read our 2017 [Sustainability Report](#) and [ERM Foundation Annual Review](#)

0472502

Mr A.A.van Wyk
Khai Ma Tourism
Posbus 88,
Pella,
8891

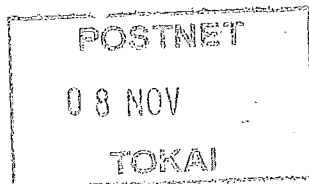
Mr G.P. Magerman
P.O. Box 138,
Pella,
8891

Mr Kasper Spence
Elneps Konstruksie
P.O. Box 24,
Pella,
8891

Ms Janice Links
EDW
P.O. Box 208,
Pella,
8891

Mr Danie Luttig
Community representative
Farming Community
Malan str.31,
Upington,
8801

Mr Deon Maasdorp
Community representative
Zuurwater
PO Box 348,
Aggeneys,
8893



Mr Gert Titus
Community representative
Koerus Wankie street
Aggeneys
8893

Mr Abri Van Niekerk
Community representative
Dabbiepoort Aroams
PO Box 82,
Pofadder,
8890

04792502

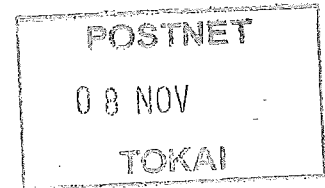
Mr Tore Van Niekerk
Community representative
Dabbiapoort
Gamsberg

Mr Jasper Mosterd
Community representative Witputs
PO Box 383
Springbok,
8240

Mr Deon Pietersen
Community representative
Posbus 35
Pofadder
8890

Mr Tertius Visser
Community representative
Posbus 173
Pofadder
8891

Mrs Prudence Msebenzi
NC District Police
District Manager
Cnr Phillip and Bree Streets
Springbok



0472502

Mr Romeo Ukena
Aggeneys High School
8 School St,
Aggeneys,
8893

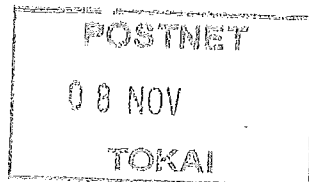
Mr Ismail Kolberg
SAPD Forum
Chairperson
Penge Rd,
Aggeneys,
8893

Mr Pieter Clarke
Stakeholder Relations Manager
P.O. Box 108,
Pofadder
8890

Mr Gerrie van der Heever
Pofadder Landbou Vereniging
Chairperson
P O Box 260
Poffadder
8890

Mr Alfred Waterboer
Aggeneys Resident
Pensioner
Posbus 42,
Pella,
8891

Mr Christoffelr Tienus
Resident
Disability Allowance
Posbus 74,
Pella,
8891



Mr Abraham Witbooi
Resident
Posbus 60,
Pella,
8891

Mr Johny C. Simboya
Transformasie Kommittee
Posbus 11,
Northern Cape,
8891

0472502

Ms Deborah Mochotlhi
Department of Water and Sanitation
Director General
Private Bag X313,
Pretoria,
0001

Ms Mangalane Du Toit
Department of Land Claims
Regional Land Claims Commission NC
PO Box 2458
Kimberley
8300

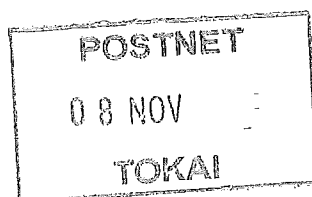
Mrs Pasqueline van Heerden
Khai Ma Municipality
Councillor/ Pella
P.O. Box 108,
Pofadder,
8890

Mr Abubakar Frediricks
National Union of Mineworkers
Regional Representative
16 New Main Street,
Kimberley,
8301

Ms Anna Afrikaner
Pella Orange River Resort
Shareholder
P.O. Box 118,
Pella,
8891

Mr GP Magerman
PO Box 138,
Pella,
8891

Ms Glenda Goosen
Klein Pella Guest House
PO Box 201,
Pofadder,
8890



Sr Van der Colff
Pofadder clinic
Private Bag X2,
Pofadder,
8890



12 December 2018

ERM-verwysing: 0472502

Geagte Belanghebbende

INSAKE: Omgewingsimpak-assesseringsproses vir die Swartberg Mynuitbreiding in die Noord-Kaapprovinsie van Suid-Afrika

Black Mountain Mining (Edms) Bpk (hierin verwys na as BMM), deel van Vedanta Resources Plc, beoog om die Swartberg-myn by die bestaande BMM-mynkompleks 10 km wes van die dorp Aggeneys, Noord-Kaapprovinsie, uit te brei. Die Swartberg-myn sal die Swartberg-helling binne die bestaande Mynreggebied (MR 517) nader en is sowat 5 km wes van die operasionele BMM Deeps-myn.

Die projek vereis Omgewingsmagtiging (OM) van die Nasionale Departement van Minerale Hulpbronne (DMH) ingevolge die Nasionale Omgewingsbestuurswet (NEMA) (Wetnr. 107 van 1998), soos gewysig, deur 'n Omgewingsimpak-assesserings- (EIA-) proses.

Die EA proses is nou in aanvang en die Aansoek vir Omgewingsgoedkeuring is op 13 November 2018 by die Departement van Minerale Hulpbronne (DMH) ingedien. Terselfdetyd, is die Konsep Omvangbepalingsverslag beskikbaar vir 'n 30-dae kommentaar periode vanaf 13 November tot en met 13 Desember 2018.

Ons wil ook graag van hierdie kommunikasie geleentheid gebruik maak om u uit te nooi na die bogenoemde projek se Openbare Vergadering, wat op die 11 Desember 2018 gehou sal word. Die doel van die vergadering is om moontlike belangstellende, asook geaffekteerde partye, in te lig oor die besonderhede van die OIA-proses en terselfdetyd die geleentheid skep vir aanvanklike vrae en kommentaar.

Besonderhede van die openbare vergadering op die **11 Desember 2018** is soos volg:

Plek en Tyd: Onseepkans Gemeenskapsaal om 09:00

Plek en Tyd: Pofadder Gemeenskapsaal om 14:00

Plek en Tyd: Pella Gemeenskapsaal om 16:00

Kontak ERM gerus indien u as 'n Belangstellende en Geaffekteerde Party (B&GP) wil registreer of indien u verdere inligting vereis.

E-pos: Brendon.solik@erm.com | **Tel:** 021 681 5400 | **Posbus:** Postnet Suite 90, Privaatsak X12, Tokai 7966

Vriendelik die uwe

Brendon Solik ERM

12 December 2018

ERM Reference: 0472502



Dear Stakeholder

RE: Environmental Impact Assessment Process for the Swartberg Mine Expansion in the Northern Cape Province of South Africa

Black Mountain Mining (Pty) Ltd (herein referred to as BMM), part of Vedanta Resources Plc, intends to expand the Swartberg mine at the existing BMM mining complex, 10 km west of the town of Aggeneys, Northern Cape Province. The Swartberg mine will advance the Swartberg Decline within the existing Mining Right Area (MR 517) and is approximately 5 km west of the operational BMM Deeps Mine.

The Project requires Environmental Authorisation (EA) from the National Department of Mineral Resources (DMR) under the National Environmental Management Act (NEMA) (Act No. 107 of 1998), as amended, through an Environmental Impact Assessment (EIA) process.

The EA process has commenced and the Application for Environmental Authorisation has been submitted to the Department of Mineral Resources (DMR) on the 13th of November 2018. At the same time, the Draft Scoping Report is available for a 30-day comment period between the 13th of November to the 13th of December 2018.

We would also like to take this opportunity to invite you to attend the Public Meetings that will be held for the above-mentioned proposed project on Tuesday 11 December 2018. The purpose of the public meeting is to inform potentially interested and affected parties of the details of the EIA process and provide opportunity for initial questions and comment.

Details of the public meetings on **Tuesday the 11th of December 2018** are as follows:

Venue and Time: Onseepkans Community Hall at 9:00

Venue and Time: Pofadder Community Hall at 14:00

Venue and Time: Pella Community Hall at 16:00

Please contact ERM should you wish to register as an Interested and Affected Party (I&AP) or should you require more information.

Email: Brendon.solik@erm.com | **Tel:** 021 681 5400 | **Post:** Postnet Suite 90, Private Bag X12, Tokai, 7966

Yours sincerely,

Brendon Solik ERM

Amy Barclay

From: Amy Barclay
Sent: Tuesday, 04 December 2018 14:50
To: Amy Barclay
Subject: Environmental Impact Assessment (EIA) Process for the Swartberg Mine Expansion in the Northern Cape Province of South Africa
Attachments: BMM_Notification Letter Public Meeting.pdf; BMM_Notification Letter Public Meeting_Afrikaans.pdf

Dear Stakeholder

Notice is hereby given of the upcoming additional public meetings that will be held for the Black Mountain Mining (Pty) Ltd Swartberg Mine Expansion Project. The purpose of the additional public meetings are to inform potentially interested and affected parties of the proposed Project, and provide an opportunity to ask questions and comments in terms of the EIA process. In this regard, note that the application for Environmental Authorisation was submitted to the Department of Mineral Resources (DMR) on 13 November 2018, and the comment period is open until 13 December 2018.

Details of the public meetings on **Tuesday the 11th of December 2018** are as follows:

- Venue and Time: Onseepkans Community Hall at 9:00
- Venue and Time: Pofadder Community Hall at 14:00
- Venue and Time: Pella Community Hall at 16:00

For further information about the public meeting, please refer to the attached notification letter.

Kind regards

ERM

1st Floor | Great Westerford | 240 Main Road | Rondebosch | 7700 | Cape Town | South Africa

T +27 21 681 5400

E amy.barclay@erm.com | W www.erm.com



ERM *The business of sustainability*

Read our [2017 Sustainability Report](#) and [ERM Foundation Annual Review](#)

Annex B2.2

Advertisements and Site Notice

VF-PLUS: 'PRESIDENT SPEEL MET WOORDE OOR WIT BOERE WAT IN SA VERMOOR WORD'

"Dr. Groenewald sê daar is geen manier hoe die president nou sy kategoriese ontkenning dat wit boere vermoor word, ongedaan kan maak nie..."

President Cyril Ramaphosa het met woorde gespeel in 'n uiters onbevredigende poging om te verduidelik waarom hy in antwoord op 'n twiet van die Amerikaanse president, Donald Trump, gesê het wit boere word nie in

Suid-Afrika vermoor nie.

Dr. Pieter Groenewald, leier van die VF Plus, het Dinsdag in vraetyd in die parlement aan pres. Ramaphosa gevra om te erken dat wit boere wel vermoor word. Die vraag lui:

"Ongeag hoe u (president

Ramaphosa) gereageer het op die twiet van president Trump, is die werklikheid dat wit boere in Suid-Afrika wel wreedaardig vermoor word. Dit is onwaar om te sê wit boere word nie vermoor nie.

"Is die president bereid om die families en geliefdes van die wit boere wat in Suid-Afrika vermoor is vandag om



verskoning te vra omdat hy die moorde ontken het en om sodoende erkenning te gee aan die mense se leed?

"Die president het self in sy antwoord op pres. Trump se twiet na wit boere verwys en hy het hulle daarom die onderwerp van hierdie vraag gemaak".

Pres. Ramaphosa het geantwoord deur onder meer te sê "baie mense het nie mooi verstaan wat ek gesê het nie".

Hy het ook gesê: "Ek het gereageer op sy (pres. Trump) twiet waarin hy gesê het wit boere en wit mense word vermoor. Ek het gesê nee... dis nie waar nie.

"Wit boere word vermoor, insluitend swart mense op plase. Dit is die realiteit. Die moorde kwel my, en dit behoort ons almal te kwel. Ek sal dit nooit kategoriseer as net wit (moorde) nie. Ek moet totaal nierassig wees as ek hieroor reageer."

Pres. Ramaphosa het voortgegaan deur te sê hy het al ná plaasmoorde die families van slagoffers, wit en swart, gebel om te simpatiseer en dat hy as president moet optree as 'n nasiebouer.

Dr. Groenewald sê daar is geen manier hoe die president nou sy kategoriese ontkenning dat wit boere vermoor word, ongedaan kan maak nie.

Voor Trump en die wêreld ontken hy dit. Hier erken hy dit deur te sê hy het selfs van die slagoffers se naasbestaandes gebel. Hierdie optrede van die president is teleurstellend en is allermins bevorderlik vir nasiebou soos hy wil voorgee.

Opgestel deur Dr. Groenewald vir die VF-Plus.

ERM Verwysingsnommer: 0472502

Omgewingsimpak-assesseringsproses vir die Swartberg Mynuitbreiding in die Noord-Kaap provinsie van Suid-Afrika



UITNODIGING OM TE REGISTREER EN KOMMENTAAR TE LEWER



Black Mountain Mining (Edms) Bpk (hierin verwys na as BMM), deel van die wêreldwye Vedanta Mynbougroep, beoog om die Swartberg-myn by die bestaande BMM-mynkompleks 10 km wes van die dorp Aggeneys, Noord-Kaap provinsie, uit te brei. Die Swartberg-myn sal die Swartberg-helling binne die bestaande Mynreggebied (MR 517) nader en is sowat 5 km wes van die operasionele BMM Deeps-myn.

Die projek vereis Omgewingsmagtiging (OM) van die Nasionale Departement van Minerale Hulpbronne (DMH) ingevolge die Nasionale Omgewingsbestuurswet (NOBW) (Wetnr. 107 van 1998), soos gewysig, deur 'n Omgewingsimpak-assesserings- (OIA-) proses.

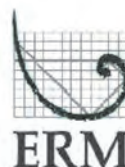
Kennis word hiermee gegee van die aanvang van die OIA-proses, in die besonder die uitreiking van die Konsep-Omvangverslag vir openbare kommentaar. Die Aansoek vir Omgewingsmagtiging sal op 8 November 2018 aan die DMH voorgelê word. Die Konsep-Omvangverslag sal terselfdertyd vir 'n tydperk van 30 dae, vanaf 8 November 2018 tot 10 Desember 2018 vir kommentaar beskikbaar gestel word. Die verslag sal beskikbaar wees op die projekwebwerf: <https://www.erm.com/bmm-swartberg-mine-expansion-eia> op versoek van ERM en by die volgende openbare plekke:

- Aggeneys Openbare Biblioteek
- Pofadder Openbare Biblioteek
- BMM Mynkompleks

Belanghebbendes word genooi om aan die EIA-proses deel te neem deur besorgdhede te identifiseer en voorstelle te maak om voordele te versterk. Alle kommentaar of besorgdhede rakende die Omvangfase van die projek moet voor of op 10 Desember 2018 by die kontakbesonderhede hieronder ingedien word. Om as 'n B&GP te registreer, kommentaar te lewer en om verdere inligting te verkry, kontak asseblief ERM:



Brendon Solik
 Email: BMM.Swartbergmine@erm.com |
 Tel: 021 681 5400 | [ProjectWebsite:](https://www.erm.com/bmm-swartberg-mine-expansion-eia)
<https://www.erm.com/bmm-swartberg-mine-expansion-eia> |
 Post: Postnet Suite 90, Private Bag X12.Tokai, 7966



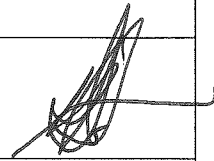





Annex B2.3

Attendance Registers

ATTENDANCE REGISTER

Date 13/11/2018

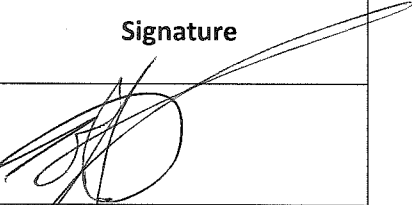
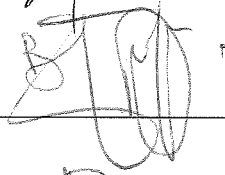


Location Khai-Ma Municipality, Pofadder

Title, First name & Surname	Organisation/ Position	Telephone / Cellphone Numbers	Postal Address	Email Address	Signature
Mrs Peter Venter	BMM Kin Manager	082 851 3091		pventer@vedantaresources.co.za	
MR. CHRISO WITBOOI	BMM Corp. Affairs Man	054 983 9225		cwitbooi@vedantaresources.co.za	
MR. B.B. Josop	Councillor	073 5582524		benbjosop@gmail.com	
Ms. Estella Cloete	Councillor	060 4486091		estellacloete@gmail.com	Estelle
Stefanus April	Councillor	083 270 1457		stefanusapril@yahoo.com	
SILVIA BRANDT	COUNCILLOR	0733348529		@gmail.com tennabrandt92.	
Brendon Solik	ERM	0713304664		brendon.solik@erm.com	

ATTENDANCE REGISTER

Date 11 Desember 2018

Location Pofadder / Pella

Title, First name & Surname	Orangisation/ Position	Telephone / Cellphone Numbers	Postal Address	Email Address	Signature
O'Neill de Beer	Wilderness Foundation.	089 485 2961		dneull@wfa.africa	
Ben Jon 1 Jager	Wilderness Foundation Abitza	0795236330	24 Kamiskloof 4241	ben-jon@wfa. johannesburg	
INA BASSON	Pella forum	078 832 5109	Postbus 3 Pella	inabasson653@gmail.com	
Jan Rooi	u y	0797800585	Postbus 139 Pella	janrooi661@gmail.com	

Annex B3

Background Information Document

Background Information Document

Environmental Impact Assessment for a the Swartberg Mine Expansion, Northern Cape, South Africa

November 2018

Introduction

This Background Information Document (BID) provides information to assist stakeholders to participate in the Environment Impact Assessment (EIA) and environmental authorisation process for a proposed expansion of the Swartberg Mine (the Project).

This BID contains the following:

- Background of the Project;
- Description of the Project;
- Map of the Project location;
- The stakeholder engagement environmental authorisation and processes being followed; and
- How and when stakeholders can participate in the EIA process.

Background

Black Mountain Mining (Pty) Ltd (herein referred to as BMM), intends to expand the Swartberg mine at the existing Black Mountain Mine, 10 km west of the town of Aggeney, Northern Cape Province. The current Swartberg mine is authorised as part of the Black Mountain Mine approved Environmental Management Report under the Minerals and Petroleum Resources Development Act (MPRDA). The expansion of the Swartberg mine (this Project) includes the expansion of the decline and the development of three more open pits.

BMM currently produces ore from two underground mines, the Deeps mine and the Swartberg mine. The bulk of the current ore production, approximately 1.3 million tonnes per annum (Mtpa), is produced from Deeps mine, and 400 kilo tonnes per annum (ktpa) from the Swartberg mine operations. The Black Mountain Mine operation also includes an existing Ore Processing Plant, mine offices, maintenance facilities and other associated services and infrastructure necessary to sustain the existing underground operations.

The Deeps Life of Mine (LOM) is scheduled to extend until March 2021. To secure the future mining at Black Mountain Mine, it is proposed to increase ore production from Swartberg to a minimum of 1.7 Mtpa before Deeps is mined out. The expansion will advance the Swartberg life of mine within the existing Mining Right Area (MR 517) by at least 19 years.

The expansion of Swartberg mine (the Project) will consist of the expansion of the current underground mine and three new open pit mines, and a total of 150,000,000 tons of ore will be mined from the Swartberg over the 19 year life of mine. Of this expected tonnage, approximately 18,000,000 tons of lead and copper concentrate will be extracted. Lead and copper concentrate will be transported via existing rail and/ or road networks and exported via the Port of Saldahna.

What is an EIA?

The project requires Environmental Authorisation (EA) from the National Department of Mineral Resources (DMR) under the National Environmental Management Act (NEMA) (Act No. 107 of 1998), as amended, through an Environmental Impact Assessment (EIA) process. The DMR is the competent authority under these regulations and has authority to approve the development or refuse it.

This document provides background information on the project and the EIA process. It helps Interested and Affected Parties (I&APs) understand the project and provides guidance on getting involved. I&APs play a very important role in the EIA process. We encourage you to register which will enable ERM to keep you informed throughout the EIA processes. By doing so you will be able to engage in discussions on issues, provide comment on the draft Scoping Report, various specialist study findings and comment on the draft EIA Report to be produced in due course.

ERM's Role

BMM has appointed ERM as the independent Environmental Assessment Practitioner (EAP) for the EIA. The EIA will ultimately set out the anticipated impacts and propose measures on how these might be managed. The EIA report will then inform an environmental authorisation decision to be taken by the DMR.

Project Description

BMM intends to establish the Project with resultant waste rock dumps, mine machinery fleet, workshops and supporting infrastructure, to enable mining and handling of the ore towards the concentrator processing plant where the mine ore will be processed. The current Deeps mine concentrator processing plant will be upgraded to enable processing of the Swartberg mine ore which is metallurgical different from the current Deeps feedstock.

The Port of Saldanha will be used by BMM for exporting its products. As the Swartberg mine is seen as a replacement for the current Deeps mine the facilities at Saldanha should not require an upgrade.

Project Location

The Project is located in the Northern Cape Province of South Africa, approximately 10 km west of the town of Aggeneys, between the existing towns of Pofadder and Springbok. The mine is 110 km north-west of Springbok and 60 km east of Pofadder, along the N14. Figure 1 illustrates the Project Location.

Project Activities

Construction Phase

The first phase of the Project will involve the clearance of vegetation, site earthworks and excavation. Site roads will need to be constructed in order to facilitate the clearing and excavation, and stockpile and laydown areas identified and prepared. Site roads constructed during the site preparation phase will be used to transport the heavy plant equipment required during the construction phase.

The preparation and excavation of the site will be followed by the construction of ancillary facilities. The Construction Phase activities will include the phased establishment of infrastructure, establishment of the mine and associated infrastructure and upgrading of the concentrator processing plant.

Plant expansion will include replacement of the current mill with a larger capacity mill and increasing the float cell size to increase the capacity and throughput rate. As far as possible current infrastructure will be utilised. The existing road between Deeps Mine and Swartberg Mine will be widened by approximately 15 m and will be used to during the construction phase.

Operational Phase

During the Operational Phase, the mine will be operated on a continuous basis (7 days a week, 24 hours a day on a 12 hour shift system). Operation is expected to take place during 2020. General maintenance and servicing of the facility will also take place on a regular basis. As open pit areas are mined, fully mined areas will need to be rehabilitated. The pits will be backfilled as the resource becomes depleted. The fourth pit will not be backfilled however, as it will serve as the new decline entrance.

The conceptual mine work plan will be refined throughout the process, taking into consideration the environmental, health, safety and social and labour considerations.

Decommissioning Phase

The proposed Project has a lifespan of 19 years; after which, all infrastructure will be dismantled and removed. Machinery, steel and dismantled materials will be recycled where possible and disposed of at licensed disposal sites. A Closure and Decommissioning Plan will be prepared for the Project and will be included in the EIA.

Project Significance

The Project will create temporary and permanent jobs and sustain employment in the Municipality. The Project will create indirect benefits to the economy through the procurement of local goods and services.

Potential Impacts and Risks

A summary of potential impacts identified during the scoping process is provided below. The potential impacts are discussed for each of the physical, biological and socio-economic aspects during the construction, operational phase, and decommissioning phases.

Physical

Air Quality

- Dust and emissions created by construction, operational and decommissioning activities (i.e. earthworks, blasting, demolition and operation of machinery and vehicles) could have an effect on the local ambient air quality.
- Emissions from the processing plant during operations could impact local ambient air quality.

Ambient Noise

- Truck and vehicle traffic along main transport/access routes during construction will create noise and vibration that could have an effect on ambient noise levels.
- Blasting and excavations during the mining operations will cause noise and vibrations with potentially negative effects.
- The construction and operation of facilities equipment and machinery could create noise and vibrations that could have an effect on ambient noise levels.

Terrestrial Soils and Geology

- Soil properties at the site could be permanently altered due to site preparation and preparation of the mine. Mining, clearing and grading during construction could cause instability of soil at the site.
- Soil quality and properties could be altered through compaction created by construction, operations, and demolition and stock piling activities.
- Potential contamination of land from waste dump rocks site and use of Tailings Storage facility and Pollution Control Dam/s.
- Accidents/ unplanned events: depending on the method

of waste disposal, soils could be directly impacted resulting in impacts being manifested on surface or groundwater, flora and fauna and/ or local communities.

- Accidents/ unplanned events: soil quality and properties could be altered through the release of potential contaminants to land as a result of an unplanned event or accident.

Water Resources

- Earthworks and excavations during construction could alter surface water drainage patterns.
- Water abstraction could have impacts on the water resources in the Project Area.
- Accidents/ unplanned events: depending on the method of waste disposal, direct impacts could be felt on surface or groundwater with indirect impacts manifesting on flora and fauna and/ or local communities.
- Potential contamination of groundwater from the TSF and PCD's.
- Dewatering activities could impact groundwater resources

Landscape and Visual

- Establishment of the mine, clearing and grading activities could alter the topography on a local scale and the sense of place.

Biological

Flora

- Mine preparation and site clearing will result in removal of vegetation and habitats.
- Accidents/ unplanned events: depending on the method of waste disposal, could result in direct or indirect impacts to flora.
- Potential contamination of land from waste dump rocks site and use of TSF and PCD/s.

Fauna

- Mine preparation and site clearing will result in removal of habitat (nesting, foraging and/ or breeding).
- Noise and vibrations during operations (blasting and plant operations) have potential to disturb animals (sedentary animals more affected).
- Increased vehicular movements during construction, operation, and decommissioning could impact fauna.
- Facility lighting may impact terrestrial fauna.
- Potential contamination of land from waste dump rocks site and use of TSF and PCD/s.

Avifauna (birds)

- Mine preparation and site clearing will result in loss of habitat.
- Physical disturbance in relation to increased noise and emissions.
- Potential contamination of land from waste dump rocks

site and use of TSF and PCD/s.

Socio-economic

Community Health & Safety (H&S) and Security

- Dust and engine emissions created by construction activities could impact air quality and hence community health.
- Accidents/ unplanned events: degraded water quality from discharged effluent and sewerage and unplanned events could have an effect on community health.
- Equipment and activities (including blasting) will create noise and vibration during construction, operations and demolition that could impact human health.
- Movement of materials, final product, and workers during construction and operation could impact public safety.
- Access to water and water quality impacts could negatively affect local communities.
- The presence of workers in the Project area could result in a change in the disease profile of the local population; particularly of STDs and HIV/AIDS.
- Worker Health & Safety.
- Hazardous construction or operational activities could impact worker health and safety.
- Handling of hazardous materials could impact worker health and safety.

Local and Macro Economy

- The construction of the mine may enhance the local economy through purchase of local goods and supply chain services.
- Employment of a construction and operational workforce will boost local incomes.

Infrastructure and Services

- The presence of workers in the Project area could have an impact on local social amenities.
- While there might be temporary pressure on these amenities in the short term, there may also be a positive impact on infrastructure development in the longer term.

Traffic and Transportation

- Transport of building materials, equipment and machinery during the construction phase may impact on local transport and access.
- Transportation of waste from the site, and materials and equipment to the Project area, may impact on local transport and access.
- Decommissioning activities could also impact local transport and access.

Cultural/Heritage Resources

- Site clearing and excavation could have an impact on local cultural/heritage sites.

EIA Process

The Environmental Authorisation process in South Africa is governed by NEMA (No. 107 of 1998) as amended and the Environmental Impact Assessment (EIA) Regulations of 2017 (GNR 326) promulgated under NEMA. BMM are required to submit an Environmental Impact Assessment (EIA) under these regulations. BMM has appointed the global sustainability consultancy Environmental Resources Management (ERM) to undertake the EIA for the Project.

The project triggers listed activities in EIA Regulations Listing Notice 1 (GNR 327), Notice 2 (GNR 325) and Notice 3 (GNR 324). Therefore, the project will require full Scoping and EIA Processes to support any environmental authorisation decisions. A typical full Scoping/EIA Process is explained below.

Scoping Phase – The purpose of the scoping phase is to communicate the project to I&APs, to identify possible positive and negative impacts, alternatives, as well as to determine the terms of reference for specialist studies to be conducted in the EIA phase. This will be set out in the Scoping Report. The Draft Scoping Report for the project will be made available for a thirty (30) day public comment period.

EIA Phase – The possible positive and negative impacts identified in the scoping reports will be assessed in the EIA Reports. The significance of the impacts will be rated using a prescribed methodology. The Environmental Impact Report will include Environmental Management Programme, which will detail proposed management measures to minimise negative impacts and enhance positive impacts. The draft EIA Report will be made available for a thirty (30) day public comment period.

The EIA will describe the project, the affected areas, assess the likely positive and negative impacts of the project and describe the proposed plans to mitigate and manage impacts. The EIA Report, along with comments received from stakeholders will be submitted to the DMR who will decide whether or not to authorise the proposed Project.

EIA Scope

The EIA will involve studies of impacts and risks to potentially affected resources and receptors. The studies will be determined during the scoping process but are likely to involve the following:

- Flora;
- Fauna;
- Heritage;
- Hydrogeology; and
- Socio-economic.

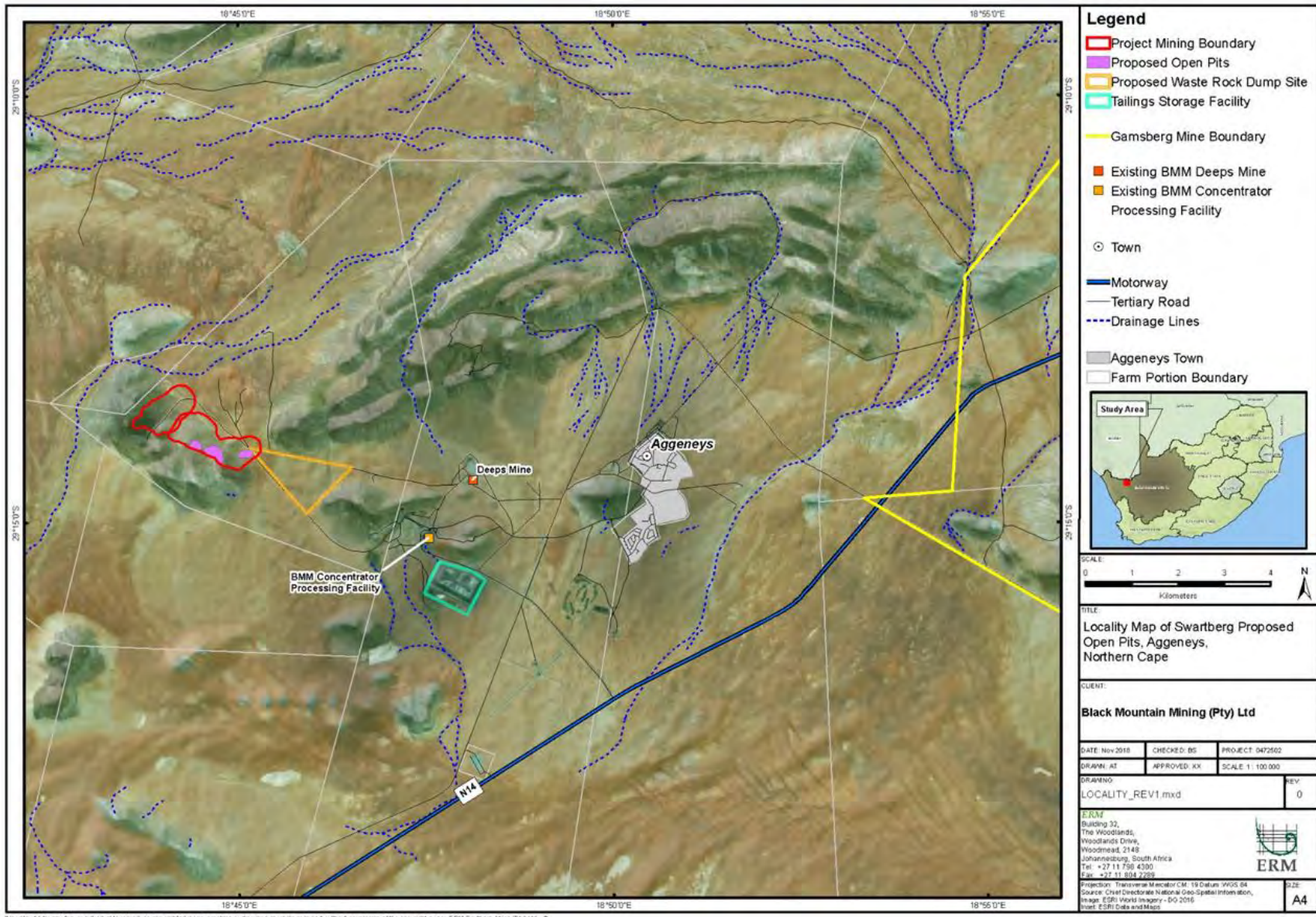


Figure 2: Project Location Map

How to Submit Comments

Should you have any queries, comments or suggestions regarding the proposed project, please note them below.

Please provide your contact details.

Name and Title:	Affiliation:
Phone:	Email:
Address:	

Environmental Resources Management

Tel: +27 21 681 5400

Fax: +27 86 248 8516

Email: BMM.Swartbergmine@erm.com

Address: Postnet Suite 90, Private bag X12, Tokai, 7966

Project Website: <https://www.erm.com/bmm-swartberg-mine-expansion-eia>

Public Participation in the ESIA

The stakeholder engagement process is designed to conform to the NEMA Regulations and global best practice. Key objectives for stakeholder engagement for this project are:

- Share information about the Project and gather local knowledge to improve understanding of the environmental and social context and understand locally-important issues;
- Enable stakeholders to raise concerns / questions about the Project and incorporate stakeholder views into the design and management measures;
- Respond to concerns and questions and report back on the findings of the ESIA and proposed management measures;
- Lay foundation for future stakeholder engagement.

Any party that is interested or potentially affected by the Project is invited to participate in the ESIA process. Please make use of the following opportunities to be involved in the stakeholder engagement process:

- Study the information in the BID.
- Contact the Project Team for further information or raise issues and concerns.
- Complete the Comment Sheet (attached) and return by hand, mail, fax or e-mail;
- Attend planned stakeholder meetings. More information about the meetings will be circulated through letters, community leaders, and through the Project website.

Annex B4

Comments Received



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Private Bag X 447· PRETORIA · 0001· Environment House · 473 Steve Biko Road, Arcadia, · PRETORIA
Tel (+ 27 12) 399 9372

Reference: NCS 30/5/1/2/3/2/1/517 EM

Enquiries: Mr Seoka Lekota

Telephone: 012-399 9411 E-mail: slekota@environment.gov.za

Brendon Solik
Black Mountain Mining (Pty) Ltd
Private Bag X 12
TOKAI
7966

Telephone Number: +27 (21) 681 5400
Email Address: BMM.Swartbergmine@erm.com

PER E-MAIL

Dear Sir/Madam

COMMENTS ON THE DRAFT SCOPING REPORT (DSR) FOR THE PROPOSED SWARTBERG MINE EXPANSION WITHIN THE NORTHERN CAPE PROVINCE

The Directorate Biodiversity Conservation reviewed and evaluated the aforementioned report including its specialist studies and following recommendations must be implemented during the final scoping phase:

- A detailed Terrestrial Ecological Impact Assessment Report must be compiled and submitted for review,
- A Wetland Delineation must be undertaken in order to properly determine the boundaries of wetlands, channels and riparian areas on site,
- All species listed in terms of TOPs and Red Data list must not be disturbed or removed without a permit from relevant authorities,

The overall biodiversity objective is to minimise loss to biodiversity as possible. In order to achieve this objective the above mentioned recommendations must be adhered to.

Yours faithfully


Mr Stanley Tshitwamulomoni
Acting Director: Biodiversity Conservation
Department of Environmental Affairs

Date: 21/11/2018

Amy Barclay

From: Kerry Purnell <kerry@wfa.africa>
Sent: Wednesday, 19 December 2018 17:00
To: Stephan van den Berg
Cc: Ben-Jon Dreyer; Dreull De Beer; Matthew Norval; Coetzee, Jan; jbrown@wwf.org.za; Brendon Solik; Amy Barclay
Subject: Wilderness Foundation Africa comment on the Environmental Impact Assessment (EIA) Process for the Swartberg Mine Expansion in the Northern Cape Province of South Africa
Attachments: Draft NPAES 2 November 2018.pdf; NPAES GOVERNMENT GAZETTE.pdf
Importance: High
Follow Up Flag: Follow up
Flag Status: Flagged

Dear Mr van den Berg

Thank you for allowing us the opportunity to submit our comments to you today as discussed with Ben-Jon Dreyer.

The National vegetation types according to Mucina and Rutherford (2006) which will be possibly impacted by the direct mining of the new proposed area are Bushmanland Inselberg Shrubland (SKr18), Aggenys Gravel Vygieveld (SKr 19), Bushmanland Sandy Grassland (NKb4) and Bushmanland Arid Grassland (NKb3). In future Scoping reports it would be useful to have a map indicating the National Vegetation types in relation to the impact areas. Also a section mentioning the threat status of the impacted vegetation type and conservation status and targets, which will ultimately impact the design of the mine and the possible offsets required.

If we are interpreting the maps correctly, it seems as if the greatest area of impact will fall within Bushmanland Inselberg Shrubland, this vegetation type is a unit of Succulent Karoo embedded within a transitional winter/summer rainfall regime of Bushmanland Arid Grassland. Due to the unique substrate of the Inselbergs in this area, there is a dominance of dwarf succulent flora, which is of great conservation importance. None of the Bushmanland Inselberg Shrubland vegetation is conserved in statutory conservation areas yet, which places it an even greater risk. We would like to point out that should any of this vegetation type be impacted it may be necessary to set aside areas of this vegetation for conservation to prevent South Africa not being able to reach its National Conservation target for this vegetation type of 34%.

At the information meeting which two of our staff members attended, Ben-Jon Dreyer and D'Reull De Beer, it was mentioned that Mariaan Strobach would be undertaking the botanical assessments and Simon Todd the faunal assessments. We would like to recommended that you consider involving botanists with in depth knowledge on local dwarf succulents (*Conophytum* and *Lithops* genera in particular) as the area is known for these plants specifically. Please feel free to contact us should you need any recommendations.

National Government has recently published the National Protected Area Expansion Strategy for public comment (see attached), please consider this document as well as it indicates the country's conservation expansion areas and should be taken into consideration. Please also refer to the Northern Cape Critical Biodiversity Areas (2017) database , please contact Enrico Oosthuizen from DENC directly on enricooosthuizen@gmail.com for this data, should any areas fall within a CBA 1 area they should be reconsidered or alternative layouts sought.

As in all mining design we would like to see that the layouts have considered using areas already impacted by mining for potential waste dump sites and other high impact areas.

Should an offset be required for this mine, the management costs of the new Protected Area will need to be taken into account at least for life of mine if not longer.

As mentioned in your report the mine falls within the Orange River Gorge (28) freshwater priority area, you have also mentioned that historic mining activities have impacted groundwater quantity and quality in the Project area. Groundwater water quality is characterized by elevated calcium, magnesium, sodium, chloride, fluoride, manganese, iron and lead concentrations. Any further impact on freshwater in this area needs to be mitigated or prevented.

I have sent a previous email requesting that we are registered as an Interested and Affected party and look forward to receiving all communication regards the progress of the EIA.

Kind Regards
Kerry

Kerry Purnell

Project Manager: Northern Cape Land Project



M: +27 (0)76 1100127
kerry@wfa.africa
www.wfa.africa

Annex B5

Comments and Responses Report

Name	Surname	Organisation	Comment	Comment Received	Response
Stanely	Tshitwamulomoni	DEA: Biodiversity Conservation	The Directorate Biodiversity Conservation reviewed and evaluated the aforementioned report including its specialist studies and following recommendations must be implemented during the final scoping phase:	21 November 2018	
			A detailed Terrestrial Ecological Impact Assessment Report must be compiled and submitted for review,		A Terrestrial Ecological Impact Assessment will be compiled by a suitably qualified terrestrial specialist and will be attached to the Draft Environmental Impact Assessment Report (DEIR).
			A Wetland Delineation must be undertaken in order to properly determine the boundaries of wetlands, channels and riparian areas on site,		The study area does not include areas of permanent or temporary waterlogged areas Therefore it is our opinion that the occurrence of a wetland in this area is highly unlikely.
			All species listed in terms of TOPs and Red Data list must not be disturbed or removed without a permit from relevant authorities		This will be adhered to, the botanical specialist will describe appropriate measure in which to avoid disturbing these species.
			The overall biodiversity objective is to minimise loss of biodiversity as possible, in order to achieve this objective the above mentioned recommendations must be adhered to.		Comment Noted.
Kerry	Purnell	Wilderness Foundation Africa	Thank you for allowing us the opportunity to submit our comments to you today as discussed with Ben-Jon Dreyer.	19 December 2018	Comment Noted.
			The National vegetation types according to Mucina and Rutherford (2006) which will be possibly impacted by the direct mining of the new proposed area are Bushmanland Inselberg Shrubland (SKr18), Aggenys Gravel Vygieveld (SKr 19), Bushmanland Sandy Grassland (NKb4) and Bushmanland Arid Grassland (NKb3). In future Scoping reports it would be useful to have a map indicating the National Vegetation types in relation to the impact areas. Also a section mentioning the threat status of the impacted vegetation type and conservation status and targets, which will ultimately impact the design of the mine and the possible offsets required.		Comment Noted. Vegetation type maps, and conservation status data will be included in the draft EIA Report.

			<p>If we are interpreting the maps correctly, it seems as if the greatest area of impact will fall within Bushmanland Inselberg Shrubland, this vegetation type is a unit of Succulent Karoo embedded within a transitional winter/summer rainfall regime of Bushmanland Arid Grassland. Due to the unique substrate of the Inselbergs in this area, there is a dominance of dwarf succulent flora, which is of great conservation importance. None of the Bushmanland Inselberg Shrubland vegetation is conserved in statutory conservation areas yet, which places it an even greater risk. We would like to point out that should any of this vegetation type be impacted it may be necessary to set aside areas of this vegetation for conservation to prevent South Africa not being able to reach its National Conservation target for this vegetation type of 34%.</p>		<p>The potential impacts on this vegetation type will be assessed in the botanical study, to be conducted and attached to the EIA Report. Any mitigation measures to reduce these impacts will be described in the environmental management plan (EMP).</p>
			<p>At the information meeting which two of our staff members attended, Ben-Jon Dreyer and D'Reull De Beer, it was mentioned that Mariaan Strobach would be undertaking the botanical assessments and Simon Todd the faunal assessments. We would like to recommended that you consider involving botanists with in depth knowledge on local dwarf succulents (Conophytum and Lithops genera in particular) as the area is known for these plants specifically. Please feel free to contact us should you need any recommendations.</p>		<p>It is ERM's belief that Simon Todd has adequate experience, and knowledge of the botany of the region in order to complete the botanical assessment sufficiently.</p>
			<p>National Government has recently published the National Protected Area Expansion Strategy for public comment (see attached), please consider this document as well as it indicates the country's conservation expansion areas and should be taken into consideration. Please also refer to the Northern Cape Critical Biodiversity Areas (2017) database , please contact Enrico Oosthuizen from DENC directly on enricooosthuizen@gmail.com for this data, should any areas fall within a CBA 1 area they should be reconsidered or alternative layouts sought.</p>		<p>The study area does falls within the Northern Cape Critical Biodiversity Areas (2017) – CBA 1. The Study area falls within the area proposed under the National Protected Area Expansion Strategy. However, the proposed expansion site falls within the existing mining right area. The impacts of the proposed expansion on these areas will be examined during the specialist studies, and discussed during the EIA phase of the Project.</p>
			<p>As in all mining design we would like to see that the layouts have considered using areas already impacted by mining for potential waste dump sites and other high impact areas.</p>		

			Should an offset be required for this mine, the management costs of the new Protected Area will need to be taken into account at least for life of mine if not longer.		Noted.
			As mentioned in your report the mine falls within the Orange River Gorge (28) freshwater priority area, you have also mentioned that historic mining activities have impacted groundwater quantity and quality in the Project area. Groundwater water quality is characterized by elevated calcium, magnesium, sodium, chloride, fluoride, manganese, iron and lead concentrations. Any further impact on freshwater in this area needs to be mitigated or prevented.		Noted. Measures to prevent any further freshwater impacts will be set out in the EMP, which is to form part of the EIA Report.
			I have sent a previous email requesting that we are registered as an Interested and Affected party and look forward to receiving all communication regards the progress of the EIA.		Comment noted, you have been added to the stakeholder database.

Annex B6

Acknowledgement of Receipt - Draft Scoping Report

Pofadder Public Library, Pofadder


Acknowledgement of Receipt

Black Mountain Mining (Pty) Ltd.

Notification of Availability of Draft Scoping Report

ERM 0472502

Received by: Erana van Stadler

Signed: 

Date: 08 November 2018

Stamp



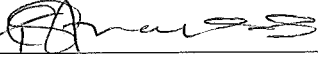
Aggeneys Public Library, Aggeneys

Acknowledgement of Receipt

Black Mountain Mining (Pty) Ltd.

Notification of Availability of Draft
Scoping Report

ERM 0472502

Received by: _____
Signed: <u></u>
Date: 08 November 2018 <u>9/11/18</u>
Stamp



Pella Public Library, Pella

Acknowledgement of Receipt

Black Mountain Mining (Pty) Ltd.

Notification of Availability of Draft Scoping Report

ERM 0472502

Received by: <u>Shalet Fredericks</u>
Signed: <u>Fredericks</u>
Date: 19 November 2018
Stamp




Department of Mineral Resources, Springbok

Acknowledgement of Receipt

Black Mountain Mining (Pty) Ltd.

Proof of submission of Draft Scoping
Report

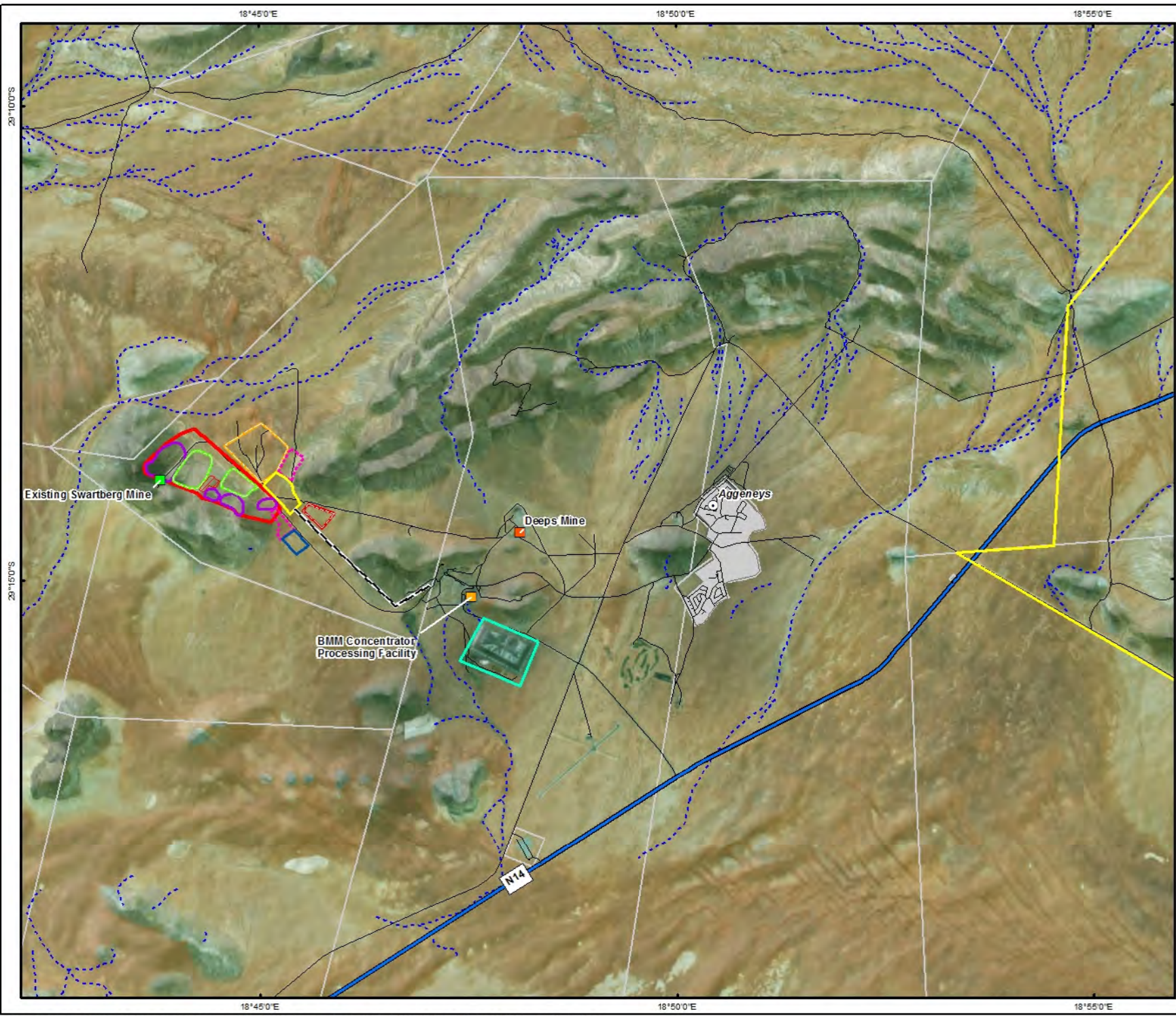
ERM 0472502

Received by: <u>ANN PHILAUER</u>					
Signed: <u></u>					
Date: 08 November 2018					
<table border="1"><tr><td>DEPARTMENT OF MINERAL RESOURCES</td></tr><tr><td>PRIVATE BAG X14 SPRINGBOK 8240</td></tr><tr><td>2018 -11- 08</td></tr><tr><td>RECEPTION RISK</td></tr><tr><td>DEPARTMENT OF MINERAL RESOURCES</td></tr></table>	DEPARTMENT OF MINERAL RESOURCES	PRIVATE BAG X14 SPRINGBOK 8240	2018 -11- 08	RECEPTION RISK	DEPARTMENT OF MINERAL RESOURCES
DEPARTMENT OF MINERAL RESOURCES					
PRIVATE BAG X14 SPRINGBOK 8240					
2018 -11- 08					
RECEPTION RISK					
DEPARTMENT OF MINERAL RESOURCES					
Stamp					

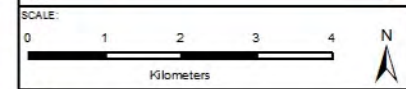


Annex C

Layout Plans and Maps



- Legend**
- █ Swartberg Mine Expansion Area
 - █ Contractor Laydown Area
 - █ Crusher and Stock pile
 - █ Existing Tailings Storage Facility
 - █ Mine Infrastructure Area
 - Overland Conveyor
 - █ Proposed Open Pits
 - █ Underground Ventilation
 - █ Waste Rock Dump Option A
 - █ Waste Rock Dump Option B
 - █ Waste Rock Dump Option C
-
- █ Existing Swartberg Mine
 - █ Existing BMM Deeps Mine
 - █ Existing BMM Concentrator Processing Facility
 - Town
-
- Motorway
 - Tertiary Road
 - - - Drainage Lines
 - Gamsberg Mine Boundary
-
- █ Aggeneys Town
 - █ Farm Portion Boundary



TITLE:
Project Locality Map of Swartberg Mine Expansion, Aggeneys, Northern Cape

CLIENT:
Black Mountain Mining (Pty) Ltd

DATE: Mar 2019	CHECKED: BS	PROJECT: 0472502
DRAWN: AT	APPROVED: PJ	SCALE: 1 : 100 000

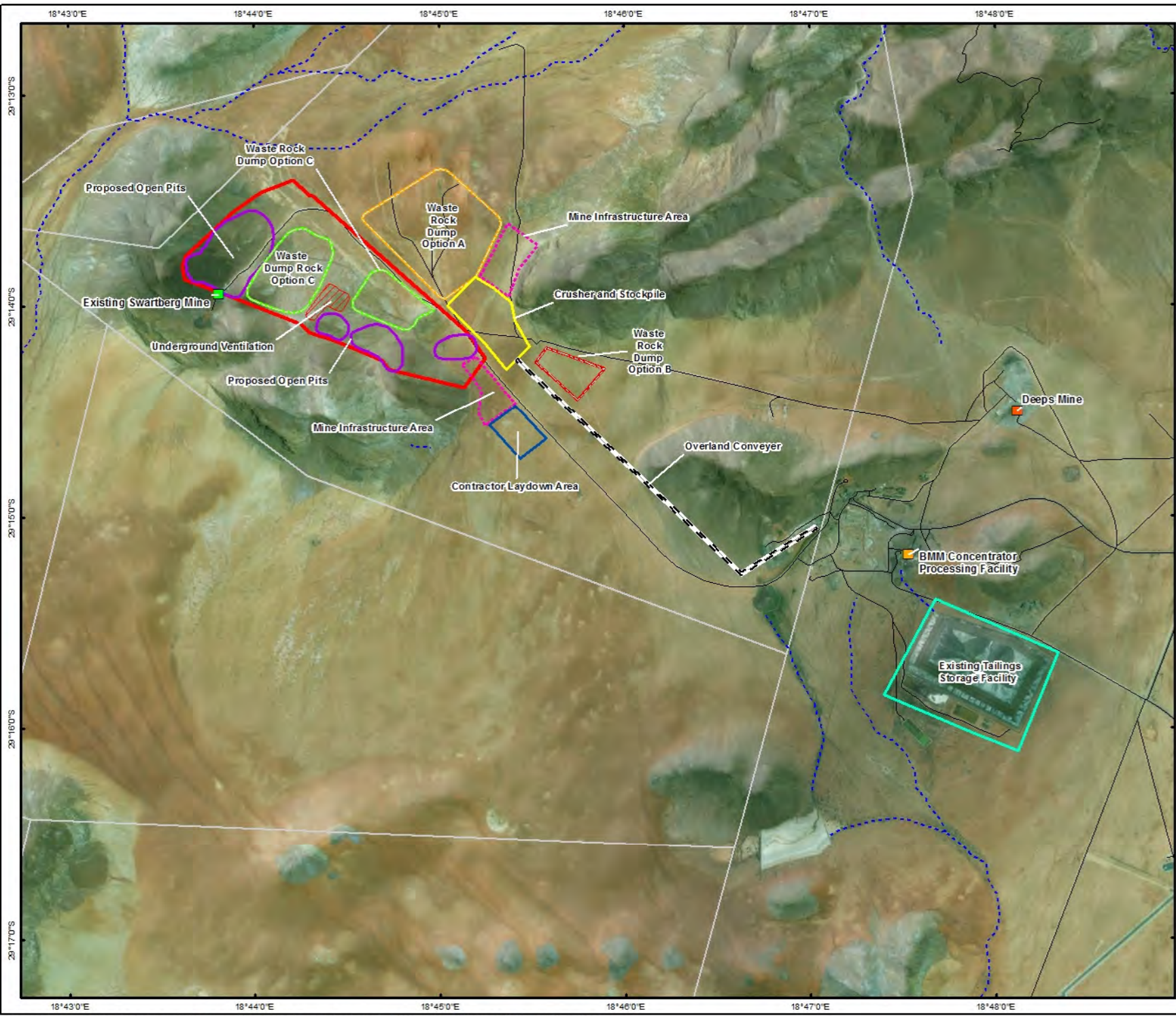
DRAWING: PROJECT_LOCATION_REV 1.mxd	REV: 0
--	-----------

ERM
 Building 32,
 The Woodlands,
 Woodlands Drive,
 Woodmead, 2148
 Johannesburg, South Africa
 Tel: +27 11 798 4300
 Fax: +27 11 804 2289

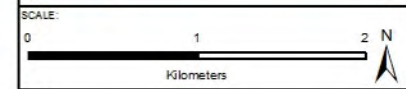


Projection: Transverse Mercator CM: 19 Datum :WGS 84
 Source: Chief Directorate National Geo-Spatial Information,
 Image: ESRI World Imagery - DG 2016
 Inset: ESRI Data and Maps

SIZE:
A4



- ### Legend
- Swartberg Mine Expansion Area
 - Contractor Laydown Area
 - Crusher and Stockpile
 - Existing Tailings Storage Facility
 - Mine Infrastructure Area
 - Overland Conveyer
 - Proposed Open Pits
 - Underground Ventilation
 - Waste Rock Dump Option A
 - Waste Rock Dump Option B
 - Waste Rock Dump Option C
-
- Existing Swartberg Mine
 - Existing BMM Deeps Mine
 - Existing BMM Concentrator Processing Facility
-
- Tertiary Road
 - Drainage Lines
 - Farm Portion Boundary



TITLE:
Mine Layout Map of Swartberg Mine Expansion, Aggeneys, Northern Cape

CLIENT:
Black Mountain Mining (Pty) Ltd

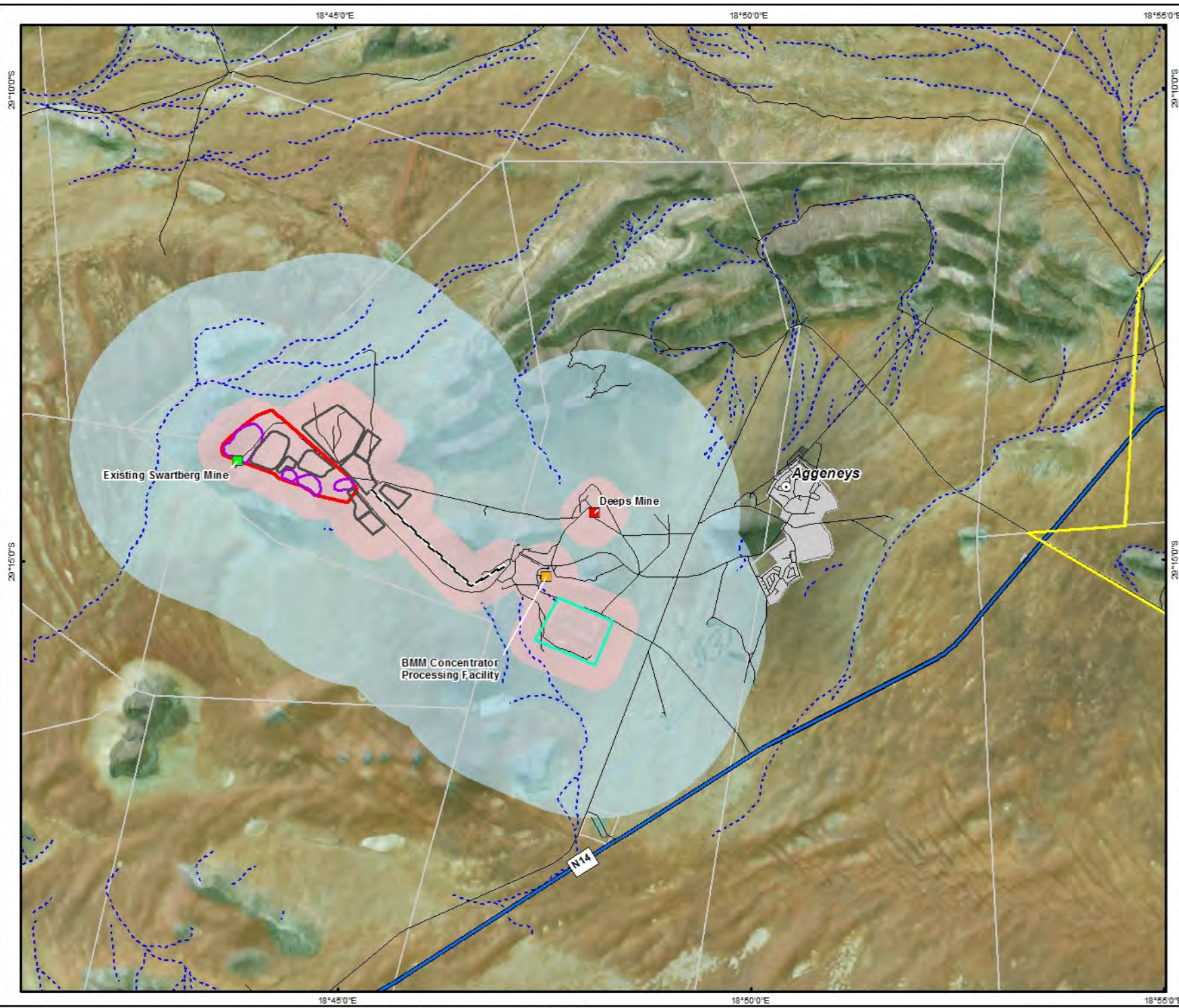
DATE: Mar 2019	CHECKED: BS	PROJECT: 0472502
DRAWN: AT	APPROVED: PJ	SCALE: 1 : 45 000

DRAWING: MINE_LAYOUT_REV1.mxd	REV: 0
----------------------------------	-----------

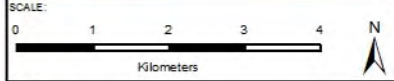
ERM
 Building 32,
 The Woodlands,
 Woodlands Drive,
 Woodmead, 2148
 Johannesburg, South Africa
 Tel: +27 11 798 4300
 Fax: +27 11 804 2289

Projection: Transverse Mercator CM: 19 Datum: WGS 84
 Source: Chief Directorate National Geo-Spatial Information,
 Image: ESRI World Imagery - DG 2016
 Inset: ESRI Data and Maps

SIZE:
A4



- Legend**
- Swartberg Mine Expansion Area
 - Proposed Open Pits
 - Proposed Infrastructure
 - Overland Conveyor
 - Existing Tailings Storage Facility
 - Direct Area of Influence
 - Indirect Area of Influence
 - Existing Swartberg Mine
 - Existing BMM Deeps Mine
 - Existing BMM Concentrator Processing Facility
 - Town
 - Motorway
 - Tertiary Road
 - Gamsberg Mine Boundary
 - - - Drainage Lines
 - Aggeneys Town
 - Farm Portion Boundary



TITLE:
Areas of Direct and Indirect Influence around Swartberg Mine Expansion, Aggeneys, Northern Cape

CLIENT:
Black Mountain Mining (Pty) Ltd

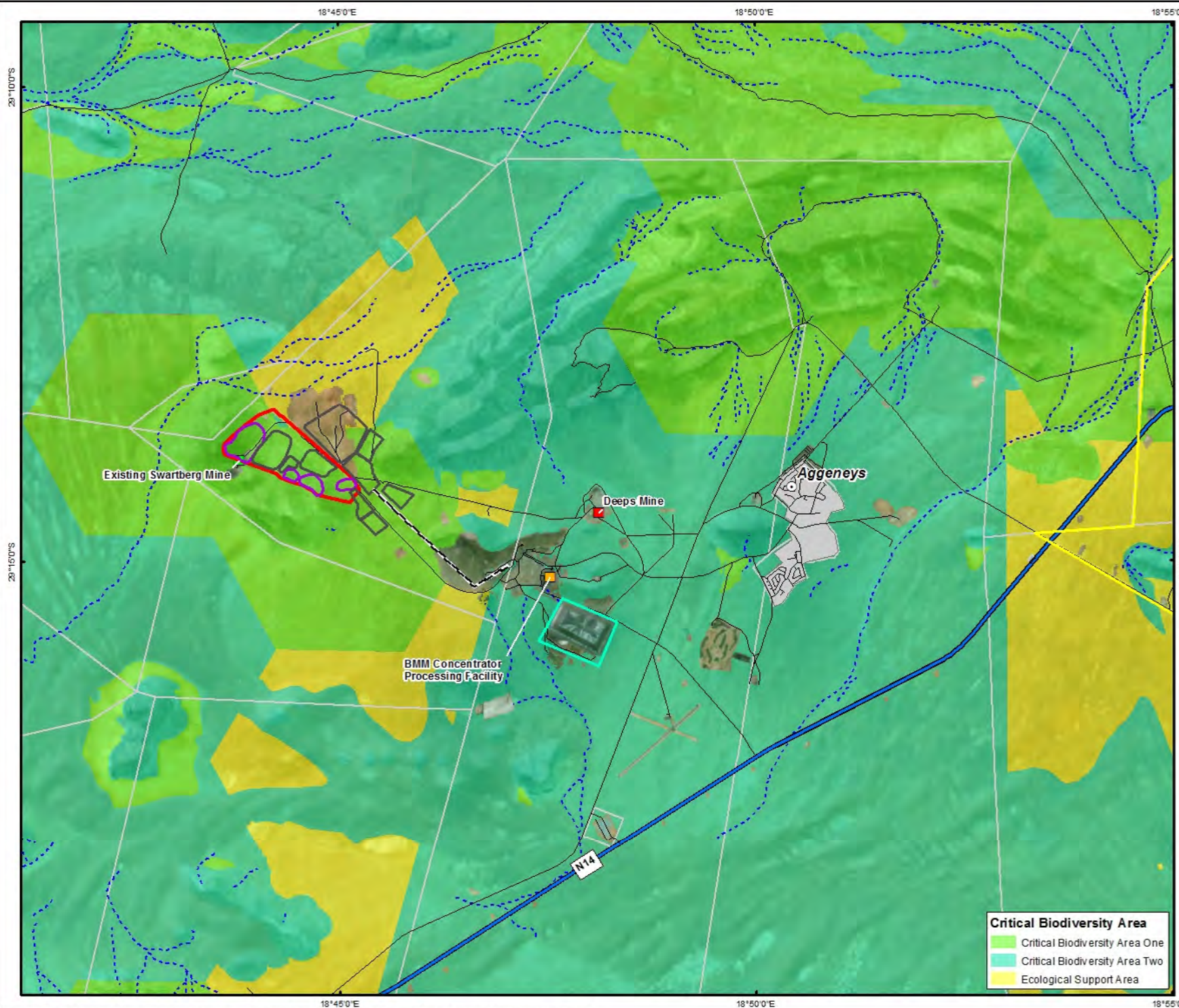
DATE: Mar 2019	CHECKED: BS	PROJECT: 0472502
DRAWN: AT	APPROVED: PJ	SCALE: 1 : 125 000

DRAWING: AREAS_INFLUENCE_REV 1.mxd	REV: 0
---------------------------------------	-----------

ERM
 Building 32,
 The Woodlands,
 Woodlands Drive,
 Woodmead, 2148
 Johannesburg, South Africa
 Tel: +27 11 798 4300
 Fax: +27 11 804 2289

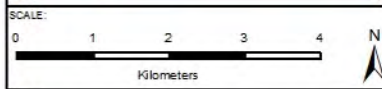
Projection: Transverse Mercator CM: 19 Datum: WGS 84
 Source: Chief Directorate National Geo-Spatial Information,
 Image: ESRI World Imagery - DG 2016
 Res: ESRI Data and Maps

SIZE:
A4



Legend

- Proposed BMM Extension**
- Swartberg Mine Expansion Area
 - Proposed Open Pits
 - Proposed Infrastructure
 - Overland Conveyor
 - Existing Tailings Storage Facility
- Existing Swartberg Mine**
- Existing Swartberg Mine
 - Existing BMM Deeps Mine
 - Existing BMM Concentrator Processing Facility
 - Town
- Infrastructure**
- Motorway
 - Tertiary Road
 - Gamsberg Mine Boundary
 - - - Drainage Lines
- Boundaries**
- Aggeneys Town
 - Farm Portion Boundary



TITLE:
Critical Biodiversity Areas around Swartberg Mine Expansion, Aggeneys, Northern Cape

CLIENT:
Black Mountain Mining (Pty) Ltd

DATE: Mar 2019	CHECKED: BS	PROJECT: 0472502
DRAWN: AT	APPROVED: PJ	SCALE: 1 : 125 000
DRAWING: CBA_AREAS_REV1.mxd		REV: 0

Critical Biodiversity Area

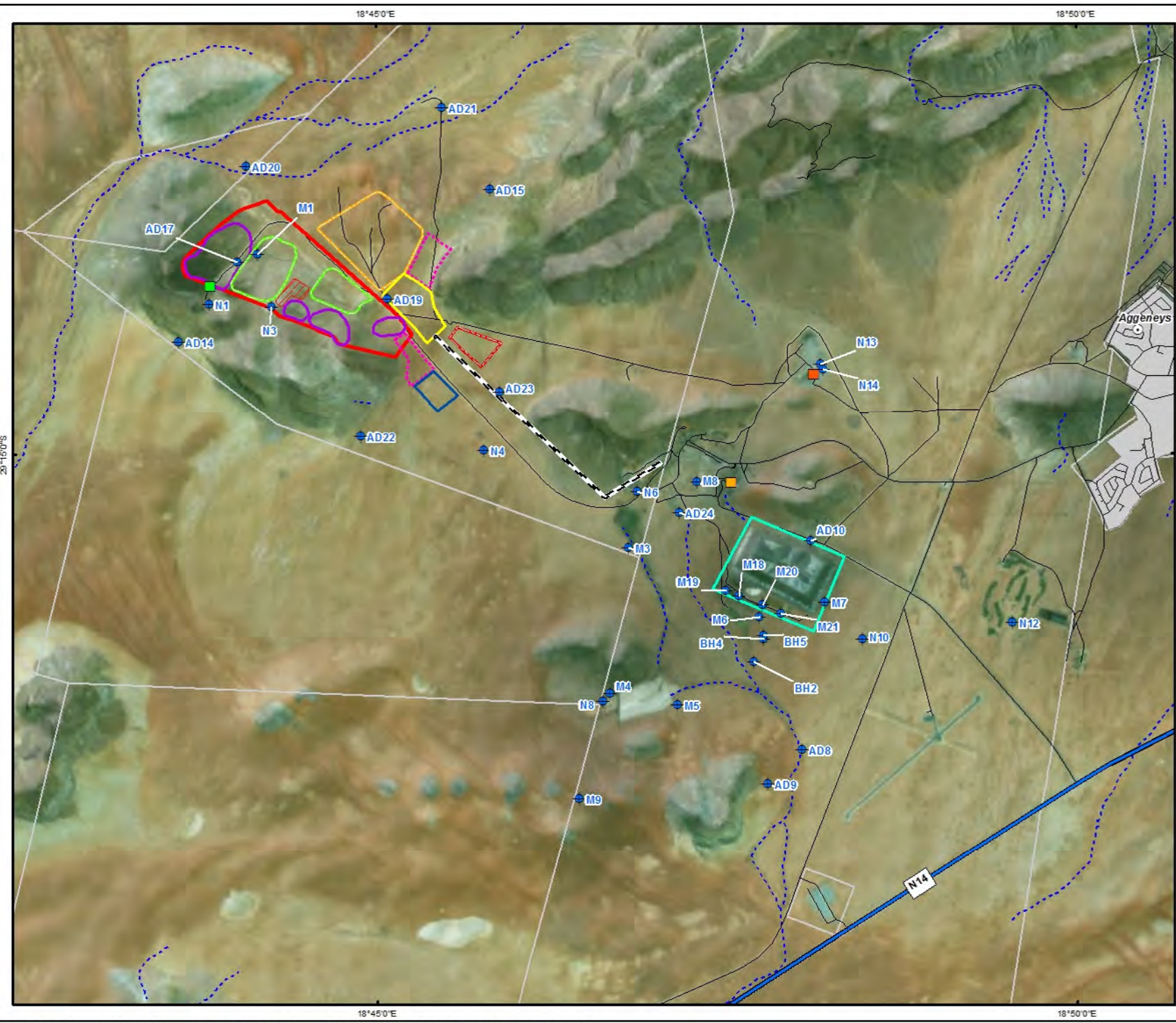
- Critical Biodiversity Area One
- Critical Biodiversity Area Two
- Ecological Support Area

ERM
 Building 32,
 The Woodlands,
 Woodlands Drive,
 Woodmead, 2148
 Johannesburg, South Africa
 Tel: +27 11 798 4300
 Fax: +27 11 604 2289

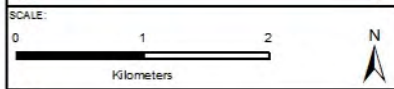


Projection: Transverse Mercator CM: 19 Datum: WGS 84
 Source: Citer Directorate National Geo-Spatial Information,
 Image: ESRI World Imagery - DG 2016
 Res: ESRI Data and Maps

SIZE:
A4



- Legend**
- ◆ BMM Monitoring Boreholes
 - ▭ Swartberg Mine Expansion Area
 - ▭ Contractor Laydown Area
 - ▭ Crusher and Stockpile
 - ▭ Existing Tailings Storage Facility
 - ▭ Mine Infrastructure Area
 - Overland Conveyor
 - ▭ Proposed Open Pits
 - ▨ Underground Ventilation
 - ▭ Waste Rock Dump Option A
 - ▭ Waste Rock Dump Option B
 - ▭ Waste Rock Dump Option C
 - Existing Swartberg Mine
 - Existing BMM Deeps Mine
 - Existing BMM Concentrator
 - Processing Facility
 - Town
 - Motorway
 - Tertiary Road
 - - - Drainage Lines
 - ▭ Aggeneys Town
 - - - Farm Portion Boundary



TITLE:
BMM Monitoring Boreholes Map of Swartberg Mine Expansion, Aggeneys, Northern Cape

CLIENT:
Black Mountain Mining (Pty) Ltd

DATE: Mar 2019	CHECKED: BS	PROJECT: 0472502
DRAWN: AT	APPROVED: PJ	SCALE: 1 : 60 000

DRAWING: BMM_BOREHOLES_REV1.mxd	REV: 0
------------------------------------	-----------

ERM
 Building 32,
 The Woodlands,
 Woodlands Drive,
 Woodmead, 2148
 Johannesburg, South Africa
 Tel: +27 11 798 4300
 Fax: +27 11 604 2289

Projection: Transverse Mercator CM: 19 Datum: WGS 84
 Source: Vector Client
 Image: ESRI World Imagery - DG 2016
 Inset: ESRI Data and Maps

C:\B\PROJECTS\BMM_SWARTBERG\MPP\BMM_SWARTBERG\MON\BOREHOLES_REV1.MXD

Annex D

Pre Application Meeting

Memo

To	Deidre Karsten
Copied to	Pieter David Venter, Philip Johnson
From	Brendon Solik
ERM Project number	0472502
Subject	Black Mountain Mining-Pre Application Meeting for the Swartberg EIA
Location	Department of Mineral Resources, Springbok
Date	10/10/2018
Present	Pieter David Venter, Deidre Karsten, Brendon Solik (via conference call), Philip Johnson (via conference call)



***BLACK MOUNTAIN MINING SWARTBERG EIA- PRE APPLICATION MEETING
MINUTES FROM WEDNESDAY 10 OCTOBER 2018***

Introduction

Pieter Venter (BMM) kicked off the meeting by introducing the ERM Project team. Following this Pieter gave a brief explanation of the Proposed Project.

Brendon Solik described the purpose of the meeting and highlighted the following items for discussion:

- Project triggers.
- Project schedule.
- Specialist studies.
- Commenting authorities.

Meeting

The points below summarise the key points of the meeting:

- Deidre suggested that Mine health and safety should be briefly discussed in the EIA documents, with specific details on how mine health and safety will be documented in the Mine Works Plan. Question was raised whether this should be referenced in the Scoping Report and EIA Report. Deidre will liaise internally with colleagues to confirm the above.
- Deidre reiterated that a thorough analysis of the project description and listed activities should take place prior to the submission of the Application form. It is important to include all potential listed activities to avoid amending the Project at a later date.

Memo

- BMM and ERM propose to submit the application form and draft scoping report at the beginning of November to complete the 30-day commenting period prior to shut down period from the middle of December. This was noted.
- The DMR will comment on application documents at the required time and not beforehand.

Closing

After all items had been discussed, the participants thanked each other for the meeting and the meeting was closed.

Annex E

Previous Environmental Authorisations



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

DMR 10

Private Bag X 14, Springbok, 8240, Tel: 027 712 8160, Fax: 086 590 9711
Hopley Building, Van der Stel Street, Springbok, 8240

Enquiries: Ms D. A. Karsten **Ref:** NCS30/5/1/2/3/2/1 (517) EM
E-Mail Address: Deidre.Karsten@dmr.gov.za
Sub-Directorate: Mine Environmental Management

REGISTERED MAIL

The Manager
Black Mountain Mining (Pty) Ltd
Private Bag x01
AGGENEYS
8893

Attention: Mr. Pieter Venter

email: PVenter@vedentaresources.co.za

ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) AS AMENDED (NEMA) AND NATIONAL ENVIRONMENTAL MANAGEMENT: THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REGULATIONS, 2014 ON REMAINDER OF AGGENEYS NO 56, PORTION 4 OF ZUURWATER NO 62, REMAINDER OF ROZYNENBOSCH NO 41 AND PORTION 4 OF KOERIS NO 54 WITHIN THE MAGISTERIAL DISTRICT OF NAMAQUALAND: NORTHERN CAPE REGION.

With reference to the abovementioned application, please be advised that the Department has decided to **grant** an environmental authorisation in terms of Section 24 L of the National Environmental Management Act (Act 107 of 1998). The environmental authorisation and reasons for the decision are attached herewith.

In terms of regulation 4 (2) of the Environmental Impact Assessment Regulations of 2014, you are instructed to notify all registered interested and affected parties, in writing within 14 (Fourteen) calendar days, from the date of the Department's decision in respect of your application and the relevant provisions regarding the lodgement of appeal must be provided for in terms of the National Appeal Regulations of 2014.

Should you wish to appeal any aspect of the decision, you must submit the appeal to the Minister of Environmental Affairs and a copy of such appeal to the Department of Mineral Resources (Northern Cape Regional Office), within 20 days from the date of notification, and such appeal must be lodged as prescribed in by Chapter 2 of the National Appeal Regulations of 2014, by means of the methods as per prescribed below.

Appeal to the Department of Environmental Affairs

Attention : Directorate Appeals and Legal Review
Email : appealsdirector@environment.gov.za
By post : Private Bag X 447, **PRETORIA**, 0001
By hand : Environmental House, Corner Steve Biko and Soutpansberg Street, Arcadia, **Pretoria**, 0083

Copy of the lodged appeal to the Department of Mineral Resources

Attention : Regional Manager: Northern Cape Region
By facsimile : (053) 807 1700
E-mail : Pieter.Swart@dmr.gov.za
By post : Private Bag X 6093, **KIMBERLEY**, 8300
By hand : Perm Building, 65 Phakamile Mabija Street, **Kimberley**, 8300

Should you decide to appeal, you must comply with the National Appeal Regulation of 2014 in relation to notification of all registered interested and affected, and a copy of the official appeal form can be obtained from the Department of Environmental Affairs.

Kind Regards

.....
REGIONAL MANAGER: MINERAL REGULATION
NORTHERN CAPE REGIONAL OFFICE
DATE: 20/10/17



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

Private Bag X14, Springbok, 8240,
Tel:(027) 712 8163/8163,Fax:(027)712 1959
First Floor. Hopley Building, van der Stel Street, Springbok 8241

From: Directorate Mineral Regulation: Northern Cape
Enquiries: Mrs D.A. Karsten Email:deidre.karsten @dmr.gov.za
Sub Directorate: Mine Environmental Management **Ref:** (NCS) 30/5/1/2/3/2/1(517)MR

REGISTERED MAIL

The Director
Black Mountain Mining (Pty) Ltd
Private Bag x1
AGGENEYS
8893

Dear Sir/Madam

APPROVAL OF AMENDMENT TO THE APPROVED ENVIRONMENTAL MANAGEMENT PROGRAMME IN TERMS OF SECTION 102 OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) ON PORTION 1 OF THE FAMRM KOERIS NO 54, PORTION 4 OF THE FARM ZUURWATER NO 62, REMAINDER AND PORTION 1 OF THE FARM AGGENEYS NO 56 SITUATED IN THE MAGISTERIAL DISTRICT NAMAQUALAND NORTHERN CAPE REGION BY BLACK MOUNTAIN MINING (PTY) LTD

Please find your approved Revised Environmental Management Programme for your attention and appropriate action. Kindly note that the Environmental Management Programme stipulates Environmental Management and has been approved under the following conditions:

1. This approval doesn't purport to absolve **Black Mountain Mining (Pty) Ltd** (the company) from their common law obligations towards the owner(s) of the surface of land affected.

2. Mining activities must conform to all legislation and such other conditions as may be imposed by the Regional Manager or any other official of this office, duly authorized thereto.
3. The company is responsible for all surface disturbances on the mining area, which includes all historical surface disturbances.
4. The financial provision provided in terms of section 41 and Regulation 53 of the Act must be annually reviewed and adjusted (Regulation 54 (2) refers) to conform to the above-mentioned mining activities.
5. Note that a copy of the approved Environmental Management Plan must always be available on the mining site for inspection by duly authorized officers.
6. Performance assessment report as contemplated in regulation 55 (1) (c) must be submitted every 2 (two) years (from the date on which the mining authorization was issued) to the Regional Manager: Mineral Regulation.

Regards,



.....
REGIONAL MANAGER

NORTHERN CAPE REGION

DATE: 08/02/2016

ECA PERMIT B33/2/450/12/P146

DEPARTMENT OF WATER AFFAIRS & FORESTRY LETTERHEAD

LA EICHSTADE

(021) 45-7330

B33/2/450/12/S

1995-01-23

PERMIT NUMBER : B33/2/450/12/p146
CLASS : G:S:B
WASTE DISPOSAL SITE : BLACK MOUNTAIN MINERAL DEVELOPMENT CORPORATION
LOCATION : PORTION OF PORTION 4 OF THE FARM ZUURWATER 62,
DISTRICT OF NAMAQUALAND.
PERMIT HOLDER : BLACK MOUNTAIN MINERAL DEVELOPMENT CO. PTY. LTD
ADDRESS : PRIVATE BAG X01, AGGENEYS 8893.

PERMIT IN TERMS OF SECTION 20 OF THE ENVIRONMENT CONSERVATION ACT, 1989 (ACT 73 OF 1989)

By virtue of the powers delegated to me by the Minister of Water Affairs and Forestry (hereinafter referred to as "the Minister"), I, Wouter van der Merwe, in my capacity as Manager: Scientific Services in the Department of Water Affairs and Forestry (hereinafter referred to as "the Department"), hereby, in terms of section 20(1) of the Environment Conservation Act, 1989 (Act 73 of 1989), authorise the abovementioned Permit Holder to establish, develop and operate the abovementioned waste disposal site, subject to the conditions specified herein.

PERMIT CONDITIONS

In this Permit, "**Regional Director**" means the Regional Director:

Western Cape of the Department who may be contacted at the address below:

Regional Director: Western Cape

Department of Water Affairs and Forestry

Private Bag X9075

CAPE TOWN

8000

1. LOCATION

This Permit authorises the development and operation of a waste disposal site on a Portion of Portion 4 of the farm Zuurwater 62, District of Namaqualand (hereinafter referred to as "the Site").

The location of the Site shall be according to the coordinates indicated on the permit application form, submitted by the Permit Holder.

2. PERMISSIBLE WASTE

2.1 The Site may be used for the disposal of all waste types, excluding those listed in Annexure I and excluding those where specific control has been established in terms of the Nuclear Energy Act, 1982 (Act 92 of 1982). Waste types controlled in terms of

the Minerals Act, 1991 (Act 50 of 1991) and the Electricity Act, 1987 (Act 41 of 1987) are also excluded from disposal on the Site unless written permission has been obtained from the Regional Director.

- 2.2 The Permit Holder shall take all reasonable steps to ensure that —
- 2.2.1 no medical waste be disposed of on the Site~ and
 - 2.2.2 no scheduled pharmaceutical products registered in terms of the Medicines and Related Substances Control Act, 1965 (Act 101 of 1965) or associated containers be disposed of on the Site.

3. CONSTRUCTION

- 3.1 The Site or any portion thereof may only be used for the disposal of permissible waste if the Site or any such portion has been constructed or developed according to condition 3 of this Permit.
- 3.2 Further development within the Site shall be done under the supervision of a suitably qualified person proposed by the Permit Holder and approved by the Regional Director.
- 3.3 After further development within the Site, the Permit Holder shall notify the Regional Director and the person referred to in condition 3.2 shall submit a certificate or alternatively a letter to the Regional Director that the construction of the Site or further development within the Site, as proposed by the Permit Holder and approved by the Regional Director, is in accordance with recognised civil engineering practice before disposal may commence on the Site. The completed construction works of the Site shall be inspected by an official of the Department and the person referred to in condition 3.2. If the Regional Director is satisfied with the construction of the Site or any further development within the Site and has given written permission, the Permit Holder may use the Site or any further development within the Site for the disposal of waste.
- 3.4 The Permit Holder shall take all reasonable steps, such as suitable zoning and/or written agreements with adjacent landowners, to prevent the development of further residential and/or light industrial areas closer to the Site than any existing residential areas during the operative life of the Site. Heavy industries or industries which may create nuisance conditions may be permitted within the buffer zone in terms of the appropriate legislation.
- 3.5 Works shall be constructed and maintained on a continuous basis by the Permit Holder to divert and drain from the Site in a legal manner, all runoff water arising on land adjacent to the Site, which could be expected as a result of the estimated maximum precipitation during a period of 24 hours with an average frequency of once in fifty years (hereinafter referred to as the "estimated maximum precipitation"). Such works shall, under the said rainfall event, maintain a freeboard of half a metre.
- 3.6 Works shall be constructed and maintained on a continuous basis by the Permit Holder to divert and drain from the working face of the Site, all runoff water arising on the Site, which could be expected as a result of the estimated maximum precipitation and to prevent such runoff water from coming into contact with leachate from the Site. Such works shall, under the said rainfall event, maintain a freeboard of half a metre. -
- 3.7 Runoff -water referred to in condition 3.6 shall comply with the quality requirements of the General Standard, prescribed in terms of section 21(1)(a) of the Water Act, 1956 as published in Government Notice 991 of 18 May 1984, or with such quality requirements as may from time -to time be determined by the Minister and shall be drained from the Site in a legal manner.

- 3.8 Runoff water referred to in condition 3.6 which does not comply with the quality requirements applicable in terms of condition 3.7 and any leachate from the Site shall, by means of works which shall be constructed and maintained on a continuous basis by the Permit Holder —
- 3.8.1 be treated to comply with the aforementioned standard and discharged in a legal manner; and/or, with the written approval of the Regional Director be evaporated in dams and/or be evaporated by spraying over those portions of the Site which comply with the requirements set in terms of condition 3.1.
- 3.8.2 with the written approval of the Regional Director be evaporated in dams and/or be evaporated by spraying over those portions of the Site which comply with the requirements set in terms of condition 3.1.
- 3.9 The Site shall be constructed in accordance with recognised civil engineering practice to ensure that it remains stable.
- 3.10 The maximum height of the Site above ground level shall not exceed 1 metre.
- 3.11 The slope of the sides of the Site shall be constructed in such a manner that little or no erosion occurs.
- 3.12 The Permit Holder shall make provision for adequate sanitation facilities on the Site.

4. ACCESS CONTROL

- 4.1 Weatherproof, durable and legible notices in the official languages applicable in the area, shall be displayed at each entrance to the Site. These notices shall prohibit unauthorised entry and state the hours of operation, the name, address and telephone number of the Permit Holder and the person responsible for the operation of the Site.
- 4.2 The Site shall be fenced to a minimum height of 1,8 metres, with gates of the same height at all entrances, to reasonably prevent unauthorised entry and curtail the spreading of wind-blown paper and plastic materials.
- 4.3 The Permit Holder shall take all reasonable steps to maintain service roads in a condition which ensures unimpeded access to the Site for vehicles transporting waste and to keep the roads free of waste.
- 4.4 The Permit Holder shall ensure that all entrance gates are manned during the hours of operation and locked outside the hours of operation.
- 4.5 The Permit Holder shall ensure effective access control.
- 4.6 The Permit Holder shall take all reasonable steps to prevent the disposal of waste on the Site for which the Site has not been approved.

5. OPERATION

- 5.1 If waste is burned on the Site, it shall take place under supervision and in a controlled manner. No smouldering waste shall be left overnight. Ashes and any unburned material shall be covered as often as possible and at least on a weekly basis with a minimum of 150 millimetres of soil or other material approved by the Regional Director.
- 5.2 The Permit Holder shall take all reasonable steps to ensure that the Site is operated in a manner that shall prevent the creation of nuisance conditions or health hazards.
- 5.3 The Permit Holder shall make use of moveable fences to control wind-blown waste.
- 5.4 The Permit Holder shall apply sufficient dust control measures to prevent wind-blown dust from causing nuisance conditions or health hazards.
- 5.5 Waste disposed of on the Site may be reclaimed. The reclamation activity shall not

interfere with the daily operational activities of the Site.

- 5.6 The Permit Holder shall keep a record of the volume and nature of the waste materials which are reclaimed and report this on an annual basis to the Regional Director.

6. MONITORING

6.1 Surface water monitoring for the water quality variables listed in Annexure II shall be performed in all stormwater drains on and adjacent to the Site at locations selected in conjunction with the Regional Director and at a frequency as determined by the Regional Director.

6.2 The Permit Holder shall keep a record of and update all the information referred to in Annexure III on an annual basis.

7. METHODS OF ANALYSIS

7.1 The Permit Holder shall carry out all tests in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), referred to in the Standards Act, 1982 (Act 30 of 1982), to analyse the samples taken under the monitoring programmes specified in condition 6.

7.2 The Permit Holder shall only use another method of analysis if written proof that the method is equivalent to the SABS method, is submitted to the Regional Director.

8. RECORDING

8.1 The Permit Holder shall record all chemical analyses in the format depicted in Annexure III.

9. REPORTING

The information required in terms of condition 6.1 shall be submitted to the Regional Director within a period of 30 days following the analysis of the said samples. The information required in terms of condition 6.2 shall be submitted to the Regional Director within a period of one year from the date of issuing of this Permit and annually thereafter.

10. REHABILITATION AND CLOSURE OF THE SITE

10.1 The Permit Holder shall, at least 60 days prior to the intended closure of the Site, notify the Regional Director by registered mail of such closure and submit final rehabilitation plans for his approval.

10.2 Immediately following the cessation of operations with the intention to close the Site, the surface of the Site shall be covered in such a way -that —

10.2.1 the formation of pools due to rain is prevented;

10.2.2 free surface runoff of rain-water is ensured; and

10.2.3 no objects or materials which may hamper the rehabilitation of the Site are present.

10.3 The Permit Holder shall rehabilitate the Site in accordance with a rehabilitation plan which shall be submitted by the Permit Holder and which shall be to the satisfaction of the Regional Director.

11. LEASING AND ALIENATION OF THE SITE

11.1 Should the Permit Holder want to alienate or lease the Site, he shall notify the Regional Director in writing of such an intention at least 60 days prior to the said transaction.

12. GENERAL

- 12.1 This Permit shall not be transferable.
- 12.2 This Permit shall not be construed as exempting the Permit Holder from compliance with the provisions of the Health Act, 1977 (Act 63 of 1977), the Water Act, 1956 (Act 54 of 1956) or any other -applicable act, ordinance, regulation or by—law.

MANAGER **SCIENTIFIC SERVICES**
p.p. **MINISTER OF WATER AFFAIRS AND FORESTRY**
DATE 1995.01.17

ECA PERMIT B33/2/450/12/P145

DEPARTMENT OF WATER AFFAIRS & FORESTRY LETTERHEAD

LA EICHSTADE

(021) 45-7330

B33/2/450/12/S

1995-01-30

PERMIT NUMBER : B33/2/450/12/p145
CLASS : G:S:B
WASTE DISPOSAL SITE : BLACK MOUNTAIN MINERAL DEVELOPMENT CORPORATION
LOCATION : PORTION OF THE REMAINDER OF PORTION 1 OF THE FARM
AGGENEYS 56, DISTRICT OF NAMAQUALAND.
PERMIT HOLDER : BLACK MOUNTAIN MINERAL DEVELOPMENT CO. PTY. LTD
ADDRESS : PRIVATE BAG X01, AGGENEYS 8893.

PERMIT IN TERMS OF SECTION 20 OF THE ENVIRONMENT CONSERVATION ACT, 1989 (ACT 73 OF 1989)

By virtue of the powers delegated to me by the Minister of Water Affairs and Forestry (hereinafter referred to as "the Minister"), I, Wouter van der Merwe, in my capacity as Manager: Scientific Services in the Department of Water Affairs and Forestry (hereinafter referred to as "the Department"), hereby, in terms of section 20(1) of the Environment Conservation Act, 1989 (Act 73 of 1989), authorise the abovementioned Permit Holder to establish, develop and operate the abovementioned waste disposal site, subject to the conditions specified herein.

PERMIT CONDITIONS

In this Permit, "**Regional Director**" means the Regional Director:

Western Cape of the Department who may be contacted at the address below:

Regional Director: Western Cape

Department of Water Affairs and Forestry

Private Bag X9075

CAPE TOWN

8000

1. LOCATION

This Permit authorises the development and operation of a waste disposal site on a Portion of Portion 4 of the farm Zuurwater 62, District of Namaqualand (hereinafter referred to as "the Site").

The location of the Site shall be according to the coordinates indicated on the permit application form, submitted by the Permit Holder.

2. PERMISSIBLE WASTE

2.1 The Site may be used for the disposal of all waste types, excluding those listed in Annexure I and excluding those where specific control has been established in terms of the Nuclear Energy Act, 1982 (Act 92 of 1982). Waste types controlled in terms of

the Minerals Act, 1991 (Act 50 of 1991) and the Electricity Act, 1987 (Act 41 of 1987) are also excluded from disposal on the Site unless written permission has been obtained from the Regional Director.

- 2.2 The Permit Holder shall take all reasonable steps to ensure that —
- 2.2.1 no medical waste be disposed of on the Site~ and
 - 2.2.2 no scheduled pharmaceutical products registered in terms of the Medicines and Related Substances Control Act, 1965 (Act 101 of 1965) or associated containers be disposed of on the Site.

3. CONSTRUCTION

- 3.1 The Site or any portion thereof may only be used for the disposal of permissible waste if the Site or any such portion has been constructed or developed according to condition 3 of this Permit.
- 3.2 Further development within the Site shall be done under the supervision of a suitably qualified person proposed by the Permit Holder and approved by the Regional Director.
- 3.3 After further development within the Site, the Permit Holder shall notify the Regional Director and the person referred to in condition 3.2 shall submit a certificate or alternatively a letter to the Regional Director that the construction of the Site or further development within the Site, as proposed by the Permit Holder and approved by the Regional Director, is in accordance with recognised civil engineering practice before disposal may commence on the Site. The completed construction works of the Site shall be inspected by an official of the Department and the person referred to in condition 3.2. If the Regional Director is satisfied with the construction of the Site or any further development within the Site and has given written permission, the Permit Holder may use the Site or any further development within the Site for the disposal of waste.
- 3.4 The Permit Holder shall take all reasonable steps, such as suitable zoning and/or written agreements with adjacent landowners, to prevent the development of further residential and/or light industrial areas closer to the Site than any existing residential areas during the operative life of the Site. Heavy industries or industries which may create nuisance conditions may be permitted within the buffer zone in terms of the appropriate legislation.
- 3.5 Works shall be constructed and maintained on a continuous basis by the Permit Holder to divert and drain from the Site in a legal manner, all runoff water arising on land adjacent to the Site, which could be expected as a result of the estimated maximum precipitation during a period of 24 hours with an average frequency of once in fifty years (hereinafter referred to as the "estimated maximum precipitation"). Such works shall, under the said rainfall event, maintain a freeboard of half a metre.
- 3.6 Works shall be constructed and maintained on a continuous basis by the Permit Holder to divert and drain from the working face of the Site, all runoff water arising on the Site, which could be expected as a result of the estimated maximum precipitation and to prevent such runoff water from coming into contact with leachate from the Site. Such works shall, under the said rainfall event, maintain a freeboard of half a metre. -
- 3.7 Runoff -water referred to in condition 3.6 shall comply with the quality requirements of the General Standard, prescribed in terms of section 21(1)(a) of the Water Act, 1956 as published in Government Notice 991 of 18 May 1984, or with such quality requirements as may from time -to time be determined by the Minister and shall be drained from the Site in a legal manner.

- 3.8 Runoff water referred to in condition 3.6 which does not comply with the quality requirements applicable in terms of condition 3.7 and any leachate from the Site shall, by means of works which shall be constructed and maintained on a continuous basis by the Permit Holder —
- 3.8.1 be treated to comply with the aforementioned standard and discharged in a legal manner; and/or, with the written approval of the Regional Director be evaporated in dams and/or be evaporated by spraying over those portions of the Site which comply with the requirements set in terms of condition 3.1.
- 3.9 The Site shall be constructed in accordance with recognised civil engineering practice to ensure that it remains stable.
- 3.10 The maximum height of the Site above ground level shall not exceed 1 metre.
- 3.11 The slope of the sides of the Site shall be constructed in such a manner that little or no erosion occurs.
- 3.12 The Permit Holder shall make provision for adequate sanitation facilities on the Site.

4. ACCESS CONTROL

- 4.1 Weatherproof, durable and legible notices in the official languages applicable in the area, shall be displayed at each entrance to the Site. These notices shall prohibit unauthorised entry and state the hours of operation, the name, address and telephone number of the Permit Holder and the person responsible for the operation of the Site.
- 4.2 The Site- shall be fenced to a minimum height of 1,8 metres, with gates of the same height at all entrances, to reasonably prevent unauthorised entry and curtail the spreading of wind-blown paper and plastic materials.
- 4.3 The Permit Holder shall take all reasonable steps to maintain service roads in a condition which ensures unimpeded access to the Site for vehicles transporting waste and to keep the roads free of waste.
- 4.4 The Permit Holder shall ensure that all entrance gates are manned during the hours of operation and locked outside the hours of operation.
- 4.5 The Permit Holder shall ensure effective access control.
- 4.6 The Permit Holder shall take all reasonable steps to prevent the disposal of waste on the Site for which the Site has not been approved.

5. OPERATION

- 5.1 If waste is burned on the Site, it shall take place under supervision and in a controlled manner. No smouldering waste shall be left overnight. Ashes and any unburned material shall be covered as often as possible and at least on a weekly basis with a minimum of 150 millimetres of soil or other material approved by the Regional Director.
- 5.2 The Permit Holder shall take all reasonable steps to ensure that the Site is operated in a manner that shall prevent the creation of nuisance conditions or health hazards.
- 5.3 The Permit Holder shall make use of moveable fences to control wind—blown waste.
The Permit Holder shall apply sufficient dust control measures to prevent wind—blown dust from causing nuisance conditions or health hazards.
- 5.5 Waste disposed of on the Site may be reclaimed. The reclamation activity shall not interfere with the daily operational activities of the Site.
- 5.6 The Permit Holder shall keep a record of the volume and nature of the waste materials which are reclaimed and report this on an annual basis to the Regional

Director.

6. MONITORING

- 6.1 Surface water monitoring for the water quality variables listed in Annexure II shall be performed in all stormwater drains on and adjacent to the Site at locations selected in conjunction with the Regional Director and at a frequency as determined by the Regional Director.
- 6.2 The Permit Holder shall keep a record of and update all the information referred to in Annexure III on an annual basis.

7. METHODS OF ANALYSIS

- 7.1 The Permit Holder shall carry out all tests in accordance with methods prescribed by and obtainable from the South African Bureau of Standards (SABS), referred to in the Standards Act, 1982 (Act 30 of 1982), to analyse the samples taken under the monitoring programmes specified in condition
- 7.2 The Permit Holder shall only use another method of analysis if written proof that the method is equivalent to the SABS method, is submitted to the Regional Director.

8. RECORDING

- 8.1 The Permit Holder shall record all chemical analyses in the format depicted in Annexure III.

9. REPORTING

The information required in terms of condition 6.1 shall be submitted to the Regional Director within a period of 30 days following the analysis of the said samples. The information required in terms of condition 6.2 shall be submitted to the Regional Director within a period of one year from the date of issuing of this Permit and annually thereafter.

10. REHABILITATION AND CLOSURE OF THE SITE

- 10.1 The Permit Holder shall, at least 60 days prior to the intended closure of the Site, notify the Regional Director by registered mail of such closure and submit final rehabilitation plans for his approval.
- 10.2 Immediately following the cessation of operations with the intention to close the Site, the surface of the Site shall be covered in such a way -that –
 - 10.2.1 the formation of pools due to rain is prevented;
 - 10.2.2 free surface runoff of rain—water is ensured; and
 - 10.2.3 no objects or materials which may hamper the rehabilitation of the Site are present.
- 10.3 The Permit Holder shall rehabilitate the Site in accordance with a rehabilitation plan which shall be submitted by the Permit Holder and which shall be to the satisfaction of the Regional Director.

11. LEASING AND ALIENATION OF THE SITE

- 11.1 Should the Permit Holder want to alienate or lease the Site, he shall notify the Regional Director in writing of such an intention at least 60 days prior to the said transaction.

12. GENERAL

- 12.1 This Permit shall not be transferable.
- 12.2 This Permit shall not be construed as exempting the Permit Holder from compliance with the provisions of the Health Act, 1977 (Act 63 of 1977), the Water Act, 1956 (Act

54 of 1956) or any other -applicable act, ordinance, regulation or by—law.

MANAGER : **SCIENTIFIC SERVICES**

p.p. **MINISTER OF WATER AFFAIRS AND FORESTRY**

DATE **:** 1995.01.17

ANNEXURE I

LIST OF HAZARDOUS OR TOXIC MATERIALS WHICH MAY NOT BE DISPOSED OF ON A GENERAL WASTE DISPOSAL SITE

Acids and alkalis
Antimony and antimony compounds
Arsenic compounds
Asbestos (fibrous and dusty asbestos)
Barium compounds
Beryllium and beryllium compounds
Biocides and phyt~pharmaceutical substances
Boron compounds
Cadmium and cadmium compounds
Chromium compounds
Copper compounds
Hazardous heterocyclic organic compounds containing oxygen, nitrogen or sulphur
Hazardous oxygen, nitrogen and sulphur compounds of hydrocarbons
Inorganic cyanides
Inorganic halogen-containing compounds
Inorganic sulphur-containing compounds
Laboratory chemicals
Lead compounds
Medical wastes (tissues, blood, swabs, needles, etc)
Mercury compounds
Nickel and nickel compounds
Organic halogen compounds, excluding inert polymeric materials
Paints and paint sludges
Peroxides, chlorates, perchlorates and azides
Pesticides and insecticides
Pharmaceutical and veterinary compounds except as in 2.2
Phosphorus and phosphorus compounds
Selenium and selenium compounds
Silver compounds
Tarry materials from refining and tar residues from distilling, including petroleum

products

Tellurium and tellurium compounds

Thallium and thallium compounds

Vanadium compounds

Zinc compounds

Waste with a flashpoint, as measured by the closed cup method, below 60°C

ANNEXURE II

WATER QUALITY VARIABLES REOUTRED FOR DETECTION MONITORING: CONDITION 6.1

(a) Alkalinity (P.Alk)

Chemical oxygen demand (COD)

pH

Total dissolved solids (TDS)

Chlorides (Cl)

Nitrate (NO₃-N) -

Potassium (K)

Annually for electrical conductivity (EC), calcium (Ca), magnesium (Mg), sodium (Na), sulphate (SO₄) and fluoride (F).

ANNEXURE



INFORMATION WHICH SHALL BE SUBMITTED ON AN ANNUAL BASIS CONDITION 6.2

Y Y Y Y M M D D

1. NAME OF SITE: DATE OF REPORT

--	--	--	--	--	--	--	--

Registered owner(s) of property on which disposal site is situated:

Name

Postal Address Telephone Code & No.

..... Fax Code & No.

..... Postal Code Telefax No.

2. Name of Operator in control of disposal site:

.....

Telephone code & number After Hours

Identity Number

Educational Qualifications (*)	std 6	<input type="checkbox"/>	diploma	<input type="checkbox"/>
	std 8	<input type="checkbox"/>	higher diploma	<input type="checkbox"/>
	matric	<input type="checkbox"/>	degree	<input type="checkbox"/>

other (specify)

3. (a) Latest estimated lifetime of the disposal site yrs

(b) Indicate the type of waste and approximate quantities of waste disposed during the year

Type of Waste	Quantity (m3 annum)	Compacted (C)	Uncompacted (D)
<u>Non-Hazardous Waste</u>			
Household	<input type="checkbox"/>	<input type="checkbox"/>
Industrial (not hazardous)	<input type="checkbox"/>	<input type="checkbox"/>
- (specify)	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL	<input type="checkbox"/>	<input type="checkbox"/>
<u>Hazardous Waste</u>			
- Flammable Solids	<input type="checkbox"/>	<input type="checkbox"/>
- Oxidising agents	<input type="checkbox"/>	<input type="checkbox"/>
- Toxic Waste	<input type="checkbox"/>	<input type="checkbox"/>
- Corrosive Wastes	<input type="checkbox"/>	<input type="checkbox"/>
- Hospital and Infectious wastes	<input type="checkbox"/>	<input type="checkbox"/>
- (specify)	<input type="checkbox"/>	<input type="checkbox"/>
TOTAL	<input type="checkbox"/>	<input type="checkbox"/>

~~CONFIDENTIAL~~

INFORMATION WHICH SHALL BE SUBMITTED ON AN ANNUAL BASIS: CONDITION 6.2

NAME OF SITE: _____ DATE OF REPORT

Y	Y	Y	Y	M	M	D	D

1. Registered owner(s) of property on which disposal site is situated:

Name.....

Postal Address..... Telephone Code & No

..... Fax Code & No.....

..... Postal Code..... Telax No.....

2. Name of Operator in control of disposal site:

.....

Telephone code & numberAfter hours

Identity number.....

Educational qualifications (*). std 6 diploma

 std 8 higher diploma

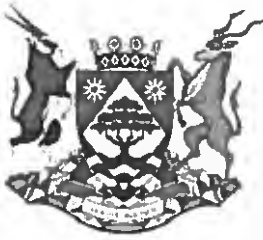
 matric degree

 other(specify).....

3. (a) Latest estimated lifetime of the disposal siteyrs

(b) Indicate the type of waste and approximate quantities of waste disposed during the year.

Type of waste	Quantity (m ³ annum ⁻¹)	Compacted (C)	Uncompacted (U)
<u>Non-hazardous waste</u>			
Household		<input type="checkbox"/>	<input type="checkbox"/>
Garden refuse		<input type="checkbox"/>	<input type="checkbox"/>
Building rubble		<input type="checkbox"/>	<input type="checkbox"/>
Industrial (not hazardous)			
- (specify)		<input type="checkbox"/>	<input type="checkbox"/>
.....		<input type="checkbox"/>	<input type="checkbox"/>
TOTAL			
<u>Hazardous waste</u>			
- Flammable solids		<input type="checkbox"/>	<input type="checkbox"/>
- Flammable liquids		<input type="checkbox"/>	<input type="checkbox"/>
- Oxidising agents		<input type="checkbox"/>	<input type="checkbox"/>
- Toxic wastes		<input type="checkbox"/>	<input type="checkbox"/>
- Corrosive wastes		<input type="checkbox"/>	<input type="checkbox"/>
- Hospital and infectious wastes			
- (specify)		<input type="checkbox"/>	<input type="checkbox"/>
.....		<input type="checkbox"/>	<input type="checkbox"/>
TOTAL			



the denc

Department.
Environment & Nature Conservation
NORTHERN CAPE PROVINCE
REPUBLIC OF SOUTH AFRICA

Private Bag X6102, Kimberley, 8300, MetLife Towers, T Floor, Tel 053 807 7300, Fax 053 807 7328

Equities
Dipatlisiso
Navrae
Imbuzo
Reference
Tshupelo
Verwysing
Isalathiso

Ms Onwabile Ndzumo

NC/EIA/02/NAM/KHA/AGG1/2014

Date :
Letlha : 16TH October 2015
Datum :
Umhla :

Black Mountain Mining Pty Ltd
Mr. P Venter
Private Bag X01
Aggeneys
8893

054 – 983 9353
mukwevhol@pbworld.com

Dear Sir/Madam

THE GRANTING OF THE ENVIRONMENTAL AUTHORISATION FOR GN.R544: ACTIVITY: 9(i), 13, 18(i), 26, 6, 15, & GN.R546: ACTIVITIES: 12, 13 ii (cc), 14, 16 (iv) (ii) (ff), 19 (ii) (ee): THE RE-ESTABLISHMENT OF THE SWARTBERG OPEN – PIT MINE FOR THE LEAD, COPPER AND ZINC FOR EXPORT PURPOSE , APPROXIMATELY 13KM WEST OF AGGENEYS, KHAI-MA LOCAL MUNICIPALITY, NAMAKWA DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE.

By virtue of the powers conferred to me by the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Regulations, 2010, **THE DEPARTMENT HEREBY GRANTS THE ENVIRONMENTAL AUTHORISATION FOR GN.R544: ACTIVITY: 9(i), 13, 18(i), 26, 6, 15, & GN.R546: ACTIVITIES: 12, 13 ii (cc), 14, 16 (iv) (ii) (ff), 19 (ii) (ee): THE RE-ESTABLISHMENT OF THE SWARTBERG OPEN – PIT MINE FOR THE LEAD, COPPER AND ZINC FOR EXPORT PURPOSE , APPROXIMATELY 13KM WEST OF AGGENEYS, KHAI-MA LOCAL MUNICIPALITY, NAMAKWA DISTRICT MUNICIPALITY, NORTHERN CAPE PROVINCE.** A detailed description of the activity is given in the **Final Environmental Impact Assessment Report dated May 2015**, subject to the conditions listed in the environmental authorisation and reasons for the decision are attached herewith. In terms of regulation 10(2) of the Environmental Impact Assessment Regulations, 2010, you are instructed to notify all registered interested and affected parties, in writing and within twelve (12) calendar days of receiving of this letter, of the Department's decision in respect of your application as well as the provisions regarding the making of appeals that are provided for in the regulations.

Permit 29/2015

Your attention is drawn to Chapter 7 of the Regulations which regulates appeal procedures. Should you / any person affected by this decision wish to appeal any aspect of the decision, you or a person affected by this decision must, *inter alia*, lodge a notice of intention to appeal, as prescribed in regulation 62 of Environmental Impact Assessment Regulations, 2010, with the Member of the Executive Council, Ministry of Environment and Nature Conservation within 20 days of receiving this letter, by means of one of the following methods:

By facsimile: (053) 832 1026;
By post: Private Bag x 6102, Kimberley, 8300 or
By hand: T-Floor, Metlife Towers, Kimberley, 8300.

Should you decide to appeal, you must serve a copy of your notice of intention to appeal on all registered interested and affected parties as well as a notice indicating where, and for what period, the appeal submission will be available for inspection.

Yours faithfully



**Mr. B Fisher – Director
Environmental Quality Management
Department of Environment and Nature Conservation**

DATE OF DECISIONS: 21 October 2015

Cc: Parsons Brickerhoff Africa (Pty) Ltd
Mukwevho Livhuwani
Mukwevho@pbworld.com
011 – 463 5351

Permit 29/2015



ENVIRONMENTAL AUTHORISATION
in terms of National Environmental Management Act, 1998 (Act No. 107 of 1998) and
the Environmental Impact Assessment Regulations, 2010

**Authorisation Register
Number:**

Permit 29/2015

Reference Number:

NC/EIA/02/NAM/KHA/AGG1/2014

Last Amended:

N/A

Holder of Authorisation:

Black Mountain Mining (Pty) Ltd.

Location of activity:

The proposed mine will be located
approximately 13km west of Aggeneys, Khai-
Ma Local Municipality, Namakwa District
Municipality.

DEFINITIONS

Activity, means an activity identified in Government Notice No. R. 544, R. 545 and No. R. 546 of 2010 as a listed activity.

Applicant, means a person who submitted an application.

Application, means an application for an environmental authorization in terms of chapter 3 of the 2010 Environmental Impact Assessment regulations.

EIA, means a systematic process of identifying, assessing and reporting environmental impacts associated with an activity and includes basic assessment and S &EIR.

EAP, means an Environmental Assessment Practitioner as defined in section 1 of the Act.

TDF, Tailings dam facility

EMI, Environmental Management Inspectors

Environmental Management Plan, means an Environmental Management Plan in relation to identified or specified activities envisaged in chapter 5 of the Act and described in regulation 33 of the 2010 Environmental Impact Assessment regulations.

Environmental Authorisation", when used in Chapter 5, means the authorisation by a competent authority of a listed activity or specified activity in terms of this Act, and includes a similar authorisation contemplated in a specific environmental management Act;

Interested and Affected Parties, means an Interested and Affected Party contemplated in section 24(4)(d) of the Act, and which in terms of that section includes

- Any person, group of persons or organisation interested in or affected by an activity, and
- Any organ or state that may have jurisdiction over any aspect of the activity

Public Participation Process, means the process in which potential interested and affected parties are given an opportunity to comment on, or rare issues relevant to specific activity.

Department, means the Northern Cape Department of Environment and Nature Conservation.

The Act, means the National Environmental Management Act, 1998 (Act No. 107 of 1998).

Commence, when used in Chapter 5, means the start of any physical activity, including site preparation and any other activity on the site in furtherance of a listed activity or specified activity, but does not include any activity required for the purposes of an investigation or feasibility study as long as such investigation or feasibility study does not constitute a listed activity or specified activity.

DECISION

The Department is satisfied, on the basis of information available to it and subject to compliance with conditions of this environmental authorisation, that the applicant should be authorised to undertake the activity specified below.

Details regarding the basis on which the Department reached this decision are set out in Annexure 1.

ACTIVITIES AUTHORISED

By virtue of the powers conferred on it by the National Environmental Management Act, 1998 (Act No. 107 of 1998) and the Environmental Impact Assessment Regulations, 2010 the Department hereby authorises –

Black Mountain Mining Pty Ltd
with the following contact details –

Mr P.D Venter
Private Bag X 01
AGGENEYS
8893

Tel: 054 983 9256
Fax: 054 983 9353

To undertake the following activities (hereafter referred to as “the activities”) in terms of the scheduled activities listed below.

Re – establishment of the Swartberg Open Pit Mine for the mining of Lead, Copper and Zinc.

Activity 9 of GNR 544 of 18 June 2010

The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water –

- (i) with an internal diameter of 0,36 metres or more; or
- (ii) with a peak throughput of 120 litres per second or more,

excluding where: (a) such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or (b) where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.

Activity 13 of GNR 544 of 18 June 2010

The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres;

Activity 18 of GNR 544 of 18 June 2010

The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from:

- (i) a watercourse

but excluding where such infilling, depositing, dredging, excavation, removal or moving; (a) is for maintenance purposes undertaken in accordance with a management plan agreed to by the relevant environmental authority; or (b) occurs behind the development setback line.

Activity 26 of GNR 544 of 18 June 2010

Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).

Activity 6 of GNR 545 of 18 June 2010

The construction of facilities or infrastructure for the bulk transportation of dangerous goods - **(ii) in liquid form, outside an industrial complex, using pipelines, exceeding 1000 metres in length, with a throughput capacity more than 50 cubic metres per day;**

Activity 15 of GNR 545 of 18 June 2010

Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more;

except where such physical alteration takes place for:

- (i) linear development activities; or
- (ii) agriculture or afforestation where activity 16 in this Schedule will apply.

Activity 12 of GNR 546 of 18 June 2010

The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.

- (b) Within critical biodiversity areas identified in bioregional plans;

Activity 13 of GNR 546 of 18 June 2010

The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:

(1) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), in which case the activity is regarded to be excluded from this list.

(2) the undertaking of a linear activity falling below the thresholds mentioned in Listing Notice 1 in terms of GN No. 544 of 2010

Northern Cape ii. Outside urban areas, the following: (cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;

Activity 14 of GNR 546 of 18 June 2010

The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:

(1) purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes;

(2) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from this list; (3) the undertaking of a linear activity falling below the thresholds in Notice 544 of 2010

(a) In Northern Cape: (i) All areas outside urban areas.

Activity 16 of GNR 546 of 18 June 2010

The construction of: (iv) infrastructure covering 10 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

(a) In Northern Cape: (ii) Outside urban areas, in: (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.

Activity 19 of GNR 546 of 18 June 2010

The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. (a) In Northern Cape provinces: ii. Outside urban areas, in: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans.

At approximately 13km west of Aggeneys, which falls within the Khai-Ma Local Municipality in Namakwa District Municipality, Northern Cape Province, hereafter referred to as "the property".

The granting of this Environmental Authorisation is subject to the conditions set out below.

CONDITIONS

Scope of authorisation:

1. Authorisation of the activity is subject to the conditions contained in this authorisation, which conditions form part of the environmental authorisation and are binding on the holder of the authorisation.
2. The holder of the authorisation must be responsible for ensuring compliance with the conditions by any person acting on his or her behalf, including but not limited to, an agent, sub-contractor, employee or person rendering a service to the holder of the authorisation.
3. The activity(s) authorised must only be carried out at the property indicated above.
4. Any changes to, or deviations from, the project description set out in this authorisation must be approved, in writing, by the Department before such changes or deviations may be effected. In assessing whether to grant such approval or not, the Department may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder of the authorisation to apply for further authorisation in terms of the regulations.
5. This authorisation does not negate the holder of the authorisation's responsibility to comply with any other statutory requirements that may be applicable to the undertaking of the activity.

General conditions:

6. A copy of this authorisation must be kept at the property where the activities will be undertaken. The authorisation must be produced to any authorised official of the Department who requests to see it and must be made available for inspection by any employee or agent of the holder of the authorisation who works or undertakes work at the property.
7. Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/ or telephonic

details, the applicant must notify the Department as soon as the new details become known to the applicant.

8. In all other cases, the holder of the authorisation must notify the Department, in writing within seven (7) days if a condition of this authorisation is not adhered to. Any notification in terms of this condition must be accompanied by reasons for the non-compliance.
9. Non-compliance with a condition of this authorisation will result in criminal prosecution or other actions provided for in the National Environmental Management Act, 1998 and the regulations.
10. This authorization is subject to the approval by the relevant local authorities i.e. in terms of any relevant legislation administered by those local authorities.
11. The activity must not commence without the necessary permits/licenses/approvals and/or service agreements, where it is relevant, from or with the relevant regulatory authorities whether national, provincial or local (these include but are not limited to Department of Water and sanitation, Department of Environmental Affairs, Department of Cooperative Governance and Human Settlement, Department of Roads & Public Works, Department of Transport, Department of agriculture, forestry and fisheries, Department of Mineral Resource, South African Heritage Resources Agency).
12. The activity, including site preparation, must not commence before the thirty (30) day appeal period expires or until such time as the Department has considered any appeals that have been lodged.
 - a. One week's written notice must be given to the Department before commencement with the activity.
 - b. Such notice must make clear reference to the site location details and the reference number given above.
 - c. The said notice must also include proof of compliance with the following conditions described herein:
 - i. Conditions: 11 and 23
13. The applicable conditions of this authorization must form part of all contractors' and sub-contractors' conditions of contract. A performance-based

requirement with regard to environmental impact management must be included in all contracts related to any aspect of this authorization.

14. The applicant must carry out regular environmental audits to establish compliance with the conditions of this authorization and contracts.
15. Records relating to the compliance/non-compliance with the conditions of the authorization and contracts must be kept in good order. Such records must be made available to the Department within 7 (seven) days of receipt of a written request by the Department for such records.
16. Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the complaint. A complaints register must be kept up to date for inspection by the Department.
17. Environmental Management Inspectors (EMI) employed by the Department must be given access to the property as described above (see detailed description of the property) for the purposes of assessing and monitoring compliance with the conditions contained in this Environmental Authorisation. Where the activity is located on a third party's property the applicant must be responsible to arrange access for departmental officials.
18. This Department may add to, change and/or amend any of the conditions in this authorization if, in the opinion of the Department, the addition, change of amendment is environmentally justified. In event that such impacts exceed its significance as predicted in the independent consultant's environmental scoping report and supporting documentation, the authorization may be withdrawn after proper procedures were followed.
19. In the event of any dispute concerning the significance of a particular impact, the opinion of this department in respect of its significance will prevail.
20. This Department and any national department, provincial department, local authorities or committees appointed in terms of the conditions of this application or any other public authority or organization must not be held responsible for any damage or losses suffered by the applicant or his successor in title in any instance where construction or operation subsequent to construction be temporarily or permanently stopped for reasons of non-

compliance by the applicant with the conditions of approval as set out in this document or any other subsequent document emanating from these conditions of approval.

21. The applicant must be responsible for all costs necessary to comply with the above conditions unless otherwise specified.
22. The applicant must apply the principle of best practicable environmental option for all technologies used/ implemented during decommissioning phase.

Appeal of authorisation:

23. The holder of the authorisation must notify every registered interested and affected party, in writing and within 12 (twelve) days, of receiving notice of the Department's decision to authorise the activity.
24. The notification referred to in 23 must –
 - specify the date on which the authorisation was issued;
 - inform the interested and affected party of the appeal procedure provided for in Chapter 7 of the regulations; and
 - advise the interested and affected party that a copy of the authorisation and reasons for the decision will be furnished on request.
25. If the applicant should appeal against this Environmental Authorisation, the applicant/appellant must provide each person and organ of state which was a registered interested and affected party in relation to the applicant's application, within 10 days of having submitted a notice to appeal with a copy of the notice to appeal indicating that the appeal submission will be made available on the day of lodging it with the Minister or MEC, where and for what period the appeal submission will be available for inspection by such person or organ of state.

Management of activity:

26. The Environmental Management Programme ("EMPr") submitted as part of the application for environmental authorisation must be used as an on-site reference document during all phases of the project. The holder of this authorisation must be held responsible for transgression of this EMPr and

conditions of this authorisation and be held responsible for any rehabilitation or remediation that may need to be undertaken.

27. The EMPr must be considered as a live document which must be updated at any time when the need arises, to ensure that its provisions remain current and effective.
28. The EMPr provisions and the implementation must also consider the changes in the legislation, as well as conditions of other environmental permits or licenses.
29. A life cycle impact assessment must be done to understand and evaluate the magnitude and significance of the potential environmental impacts.
30. The application of Engineering controls, Administrative controls and Personal protective equipment must be used in the control of hazards.
31. Re-use and recycling must be used as the first option in the control of waste and the disposal to a registered landfill site as a last resort.
32. All reasonable measures must be taken to avoid the generation of waste and where such generation cannot be avoided, to minimise the toxicity and amounts of waste generated, ensure that the waste is treated and disposed of in a manner that does not endanger health or the environment or cause nuisance.
33. All hazardous waste must be disposed of at a registered hazardous landfill site, if it cannot be treated to minimise its toxicity.
34. Stringent erosion and dust control practices must be developed and implemented and all areas susceptible to erosion must be protected.
35. Gravel roads must be well drained in order to limit soil erosion as frequently required.
36. Topsoil conservation must be prioritized and stockpiles not exceed 2m in height to maintain its viability.
37. In the event of oil spillages and contamination of soil by hazardous substances that contaminated area must be cleaned up immediately by

removing the contaminated soil and disposing it off into designated hazardous skip bins for correct disposal.

38. Monitoring of ground water at the tailings facility, waste rock dumps and the open pit must be done quarterly. The monitoring must start before the construction phase, thereafter continue for all phases of the mine.
39. All recommendations and mitigation measures as stipulated in the various specialists reports attached as Appendix G1-G9 forms part of this EA and are binding and must be adhered to.
40. Proper toilets must be available for workers on site, sewage waste must be disposed of at the Municipal sewage plant on regular basis. No "long drop" toilets will be allowed. No open space or surrounding bush must be used as toilet facility under any circumstances.
41. Concrete mixers must be used for mixing concrete and must be placed on drip trays to prevent accidental spillages.
42. Cleaning of equipment and flushing of mixers must not result in pollution of the surrounding environment.

Monitoring:

43. Monitoring of environmental performance must consider the effectiveness of the measures in the EMPr to ensure protection of the environment.
44. The Department reserves the right to amend the EMPr should any impacts that were not anticipated or covered in Final EIAR dated May 2015 prevails.
45. An institute monitoring programme must be in place to detect alien invasive species before they become established and release seeds, once detected eradication programme must be implemented.
46. Strict control must be implemented over materials brought onto site to prevent Alien Invasive Species spreading from other contaminated sites.
47. Proper fire breaks must be maintained around the development footprint and continuous educational awareness of employees regarding fire risks must be maintained.

48. Monitoring of water quality and TDFs for leakages remains the responsibility of the holder of this authorisation for 10 years after the closure certificate has been obtained.

Recording and Reporting to the Department:

49. The holder of this authorisation must keep all records relating to monitoring and auditing on site and make it available for inspection to any relevant and competent authority in respect of this development.
50. All documentation such as audit, monitoring or compliance reports and notifications, required to be submitted to the Department in terms of this authorisation, must be submitted to the Director: Compliance Monitoring at this Department.
51. Records relating to compliance or non-compliance with any condition of this authorization must be kept in good order. Such records must be made available to any official from Compliance and Enforcement section of this Department within seven (7) days of written request by the said officer.
52. Any complaints regarding the said development must be brought to the attention of the Department within 24 hours after receiving the complaints; register must be kept up to date for inspection by the Department. Where any of the applicant's contact details change, including the name of the responsible person, the physical or postal address and/or telephonic details, the applicant must notify the Department as soon as the new details become known to the applicant.

Environmental Control Officer (ECO) duties

53. The holder of this authorisation must appoint an independent Environmental Control Officer (ECO) with experience or expertise in the field for the project and must remain employed till the project is complete. The ECO will have the responsibility to ensure that the conditions referred to in this authorisation are implemented and to ensure compliance with the provisions of the EMPr.
54. The ECO must be appointed before commencement of any authorised activity.

55. The ECO must meet with the contractors to discuss the conditions of the EA and the contents of the EMPr prior to any site clearing occurring.
56. Once appointed, the name and contact details of the ECO must be submitted to the Director: Compliance and Enforcement of the Department.
57. The ECO must:
- keep record of all activities on site, problems identified, transgressions noted and schedule of tasks undertaken by the ECO.
 - keep and maintain a detailed incident (including spillage of bitumen, fuels, chemicals or any other material) and complaint register on site indicating how these issues were addressed, what rehabilitation measures were taken and what preventative measures were implemented to avoid re-occurrence of incidents/complaints.
 - keep and maintain a daily site diary
 - keep copies of all reports submitted to the Department
 - keep and maintain a schedule of current site activities including the monitoring of such activities.
 - obtain and keep record of all documentation, permits, licences and authorisations such as waste disposal certificates, hazardous waste landfill site licences
 - compile monthly monitoring reports

Environmental Audit Report

58. The holder of this Authorisation must submit an environmental audit report to the Department within 30 days of completion of the decommissioning phase and within 30 days of completion of rehabilitation activities.
59. The Environmental audit report must:
- Be compiled by an independent environmental auditor;
 - Indicate the date of the audit, the name of the auditor and the outcome of the audit in terms of compliance with the environmental authorisation conditions as well as the requirements of the EMPr.
 - Include measures to be implemented to attend to any non-compliance.
 - Include copies of any approvals granted by other authorities relevant to the department for the reporting period.

- Highlight any outstanding environmental issues that must be addressed, along with recommendations for ensuring that they are appropriately addressed.
- Include evidence of adherence to the conditions of this authorisation and the EMPr where relevant.

Commencement of the activity:

60. Fourteen (14) days written notice must be given to the Department that the activity will commence. Commencement for the purposes of this condition includes site preparation. The notice must include a date on which it is anticipated that the activity will commence.
61. Should you be notified by the minister of a suspension of the authorisation pending appeal procedures, you shall not commence with the activity unless authorised by the minister in writing.
62. The waste rock and the soil must be replaced as the mine progresses in the voids where the ore has been removed to facilitate rehabilitation.

Operation of the activity

63. The location of the re-establishment of the Swartberg open pit mine for the Lead, Copper, and Zinc for export purposes approximately 13km west of Aggeneys which falls within the Khai-ma Local Municipality in Namakwa District must remain at the co-ordinates Lat: 29° 13' 57.4854" S Long: 19° 43' 48.9828" E referred to as "the property".
64. The proposed mine must conform to the mine layout in figure 2 drawing number: 7770-PBA-B020100-EM-D14-0001 and the Mine Infrastructure must conform to figure 4 drawing number: 7770-PBA-H000000-CV-D16-0002 both dated 22/04/2015 in the Final EIA Report dated May 2015.
65. The TDF's must be shaped so that the side slopes are articulated to form natural shapes and blend with the environment as far as possible.
66. The design of the tailings dam must be in such a way that it will minimize potential seepage of tailings into the groundwater.

67. On-going consultation and engagement with the surrounding communities must be done throughout the lifespan of the mine as to ensure that they are not adversely affected by mining operations.
68. No indigenous faunal species must be removed from site without the necessary permits from DENC, as all indigenous faunal species are protected under NCNCA 9 of 2009.
69. Rescued plants must only be transported and transplanted to an adjacent site of similar ecological character nearest to the site from where plants have been removed. A suitable qualified ECO or specialist must oversee this process to guide on the proper extraction of plants to limit excessive damage to plants and implement proper transplants.
70. Permits for removal and translocation of listed plant species must be obtained from the Northern Cape Department Environment and Nature Conservation (DENC).
71. A permit for the removal of protected tree species must be obtained from the Department of Agriculture, Forestry and Fisheries.
72. A proper plant species list must be compiled for the specific sites (such as the mining area, waste rock dumps and tailings dam) before construction commences and must be submitted to DENC for approval.
73. No animals (including snakes, bats, mammals) must hunted (poached), trapped, injured or removed (transported) in any way without the necessary permits, this includes the removal of bird nest, especially of raptor species (not during construction phase or thereafter) animals must only be collected to save the animal and place it out of the way of construction activities and the incident must be reported to DENC.
74. A detailed site investigation and ground-truthing must be conducted by a botanical specialist for the mountain ranges, rocky outcrops and quartz patches located within the study sites.
75. Establish and maintain ecological corridors and buffer zones (50 meters around water resources outside the development footprint).

76. Storm water management plan must be implemented to effectively mitigate potential surface water pollution.
77. No activity must be allowed to encroach into a water resource without a water use license being in place from the Department of Water and Sanitation.
78. The recommendations of the groundwater management plan and groundwater monitoring network must be implemented as attached in the G7 as a Geo-hydrological specialist report.
79. Equipment, calibration and measurement procedures must comply with the requirements of SANS 10103:2008.
80. The holder of this authorisation must ensure that all equipment and machinery are well maintained and equipped with silencers.
81. A prior warning must be given to the surrounding communities when a noisy activity such as blasting is going to take place.
82. Environmental noise and vibration monitoring must be performed annually along the site boundaries and at selected location within the farm houses closest to the mine by an independent specialist.
83. Equipment noise audits must be done for early detection of equipment deterioration which could lead to an increase in the noise impact.
84. At night travelling must be avoided or limited to minimum.
85. Light sources must be directed inward and not have bright sources directed outward into the natural environment.
86. Internal lighting must be shielded to prevent light spillage to the surrounding environment.
87. Regular environmental training must be provided for workers.
88. An environmental forum must be established to give feedback to affected communities four times a year regarding environmental aspects.

89. The applicant must ensure that the Occupational Health and Safety Act (Act no. 85 of 1993) is implemented by an independent Health and Safety Officer.
90. Hazardous substances must be stored on an impervious surface protected from rainfall and storm-water run-off.
91. Storage Facilities for harmful substances must be constructed so as to prevent spillage on the soil and must be in compliance with the applicable regulations and safety standards.
92. All vehicles must be inspected weekly for oil and fuel leaks.
93. Adequate scavenger proof dust bins must be provided and be visible.
94. An integrated waste management approach must be implemented that is based on waste minimization and must incorporate reduction, recycling and re-use options where appropriate.
95. Controlled blasting techniques must ensure that there is minimum dust generation.
96. Constant backfilling of trenches must be practiced and backfill material must only be obtained from authorized or permitted sites.
97. Loud sound emissions from machinery must be damped.
98. Wet suppressors must be used regularly on stockpiles, unpaved roads and material handling activities.
99. Speed limit must not exceed 40 km/h on haul roads.
100. Ambient PM10 monitoring must be used to investigate PM10 concentrations prior to the mine operations and must continue throughout the operations of the mine.
101. Wet suppressors must be used to reduce particulate emissions by the mine boundary near the waste rock dump and open cast pit area.
102. Dust fallout monitoring must be conducted during the operational phase of the mine.

103. A proper dust suppression plan must be developed to guide against the dust generation not to exceed the limit close to the sensitive receptors.
104. Blasting must take into consideration the meteorological conditions such as low wind speed to minimize the impacts of dust generation.
105. Should any archaeological remains be found on site, the South African Heritage Agency (SAHRA) must be contacted and all works must cease immediately in that area, failure to do so constitute an offence in terms of the National Heritage Resource Act, Act 25 of 1999 as amended.
106. All the necessary permits must be obtained from SAHRA before commencement of the activity.
107. All earthworks must be closely monitored by a qualified archaeologist for the possible change of density stone tools.
108. All the recommendations made by a professional archaeologist attached as Appendix G4 must be adhered to and are binding.

Decommissioning of the Activity

109. Should the proposed activity ever cease or become redundant, the applicant shall undertake the required actions as prescribed by legislation at the time and comply with all relevant legal requirements administered by any relevant and competent authority at that time.
110. The pit walls must be made safe and the waste rock must be landscaped.
111. After landscaping to a safe shape, the top soil must be replaced, it must be treated by a fertiliser, liming and sowing to pastures as this plays a vital role in re-vegetation and contributes significantly to erosion control.
112. Permits for seed harvesting for rehabilitation must be applied for and obtained from DENC.

DURATION AND PERIOD OF VALIDITY

This activity(s) must commence within a period of three (3) years from the date of issue. If commencement of the activity (s) does not occur within that period and the intention is to extend the validity period of the authorization, an application for amendment to extend the validity period must be launched at least three (3) months before the validity period lapses. If commencement of the activity does not occur within that period, the authorisation lapses and a new application for environmental authorisation must be made in order for the activity to be undertaken.

APPEAL

In terms of Chapter 7 of Environmental Impact Assessment Regulations, 2010, if the applicant or a person affected by this Decision wishes to appeal this decision, a notice of intention to appeal must be lodged within Twenty (20) days after date of the decision, and an appeal must **be lodged within thirty (30) days after lapsing of 20 days contemplated in regulation 60 (1)** of lodging of the notice to appeal to:

The Member of the Executive Council
Ministry of Environment & Nature Conservation
Private Bag X6102
Kimberley
8300
Fax: (053) 832 1026

Appeals must comply with the provisions of Chapter 7 of Environmental Impact Assessment Regulations, 2010 Government Notice No. R. 543 of 18 June 2010.



MR. B. FISHER

**DIRECTOR: ENVIRONMENTAL QUALITY MANAGEMENT
DEPARTMENT OF ENVIRONMENT & NATURE CONSERVATION**

DATE OF ENVIRONMENTAL AUTHORISATION: 21 October 2015

ANNEXURE 1: REASONS FOR DECISION

1. Background

The applicant, **Black Mountain Mining Pty Ltd** applied for authorization to carry on the following activities –

Re – establishment of the Swartberg Open Pit Mine for the mining of Lead, Copper and Zinc.

Activity 9 of GNR 544 of 18 June 2010

The construction of facilities or infrastructure exceeding 1000 metres in length for the bulk transportation of water, sewage or storm water –

- (i) with an internal diameter of 0,36 metres or more; or
- (ii) with a peak throughput of 120 litres per second or more,

excluding where: (a) such facilities or infrastructure are for bulk transportation of water, sewage or storm water or storm water drainage inside a road reserve; or (b) where such construction will occur within urban areas but further than 32 metres from a watercourse, measured from the edge of the watercourse.

Activity 13 of GNR 544 of 18 June 2010

The construction of facilities or infrastructure for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 but not exceeding 500 cubic metres;

Activity 18 of GNR 544 of 18 June 2010

The infilling or depositing of any material of more than 5 cubic metres into, or the dredging, excavation, removal or moving of soil, sand, shells, shell grit, pebbles or rock of more than 5 cubic metres from:

- (i) a watercourse

but excluding where such infilling, depositing, dredging, excavation, removal or moving; (a) is for maintenance purposes undertaken in accordance with a

management plan agreed to by the relevant environmental authority; or (b) occurs behind the development setback line.

Activity 26 of GNR 544 of 18 June 2010

Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).

Activity 6 of GNR 545 of 18 June 2010

The construction of facilities or infrastructure for the bulk transportation of dangerous goods - **(ii) in liquid form, outside an industrial complex, using pipelines, exceeding 1000 metres in length, with a throughput capacity more than 50 cubic metres per day;**

Activity 15 of GNR 545 of 18 June 2010

Physical alteration of undeveloped, vacant or derelict land for residential, retail, commercial, recreational, industrial or institutional use where the total area to be transformed is 20 hectares or more;

except where such physical alteration takes place for:

- (i) linear development activities; or
- (ii) agriculture or afforestation where activity 16 in this Schedule will apply.

Activity 12 of GNR 546 of 18 June 2010

The clearance of an area of 300 square metres or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation.

- (b) Within critical biodiversity areas identified in bioregional plans;

Activity 13 of GNR 546 of 18 June 2010

The clearance of an area of 1 hectare or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:

- (1) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), in which case the activity is regarded to be excluded from this list.

(2) the undertaking of a linear activity falling below the thresholds mentioned in Listing Notice 1 in terms of GN No. 544 of 2010

Northern Cape ii. Outside urban areas, the following: (cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority;

Activity 14 of GNR 546 of 18 June 2010

The clearance of an area of 5 hectares or more of vegetation where 75% or more of the vegetative cover constitutes indigenous vegetation, except where such removal of vegetation is required for:

(1) purposes of agriculture or afforestation inside areas identified in spatial instruments adopted by the competent authority for agriculture or afforestation purposes;

(2) the undertaking of a process or activity included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the activity is regarded to be excluded from this list; (3) the undertaking of a linear activity falling below the thresholds in Notice 544 of 2010

(a) In Northern Cape: (i) All areas outside urban areas.

Activity 16 of GNR 546 of 18 June 2010

The construction of: (iv) infrastructure covering 10 square metres or more where such construction occurs within a watercourse or within 32 metres of a watercourse, measured from the edge of a watercourse, excluding where such construction will occur behind the development setback line.

(a) In Northern Cape: (ii) Outside urban areas, in: (ff) Critical biodiversity areas or ecosystem service areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;

Activity 19 of GNR 546 of 18 June 2010

The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. (a) In Northern Cape provinces: ii. Outside urban areas,

in: (ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans;

At approximately 13km west of Aggeneys, which falls within the Khai-Ma Local Municipality in Namakwa District Municipality, Northern Cape Province, on the following Geographical Co-ordinate: Lat: 29° 13' 57.4854" S Long: 19° 43' 48.9828" E referred to as "the property".

- a) The applicant appointed Parsons Brickerhoff (Pty) Ltd to undertake a Scoping and Environmental Impact Assessment process in terms of the EIA Regulations of 2010.
- b) The Environmental Assessment Practitioner complied with Regulation 22 of 18 June, 2010.
- c) Public participation complied with Regulation 54 of 18 June, 2010 and proof was submitted together with the Final EIA Report dated May 2015.

2. Information considered in making the decision

In reaching its decision, the Department took, *inter alia*, the following into consideration -

- a) The information contained in the final Environmental Impact Assessment Report and EMPr dated May 2015.
- b) The objectives and requirements of relevant legislation, policies and guidelines, including section 2 of the National Environmental Management Act, 1998 (Act No. 107 of 1998).
- c) The findings of the site visit undertaken by Ms. O. Ndzumo on 21/05/2014 and a joint site visit undertaken with Mr. P Cloete on the 06th June 2015.

3. Key factors considered in making the decision

All information presented to the Department was taken into account in the Department's consideration of the application. A summary of the issues which, in the Department's view, were of the most significance is set out below.

- a) The legal and procedural requirements have been complied with and the information contained in the final Environmental Impact Assessment, represents the information on the ground.
- b) Final comments received from DENC Research and Scientific Services unit.

- c) The Environmental Assessment Practitioner who prepared the Environmental Impact Assessment Report has demonstrated the relevant expertise to carry out the Environmental Impact Assessment procedures.
- d) Comments received from Interested and Affected parties and the response of the EAP from the comments.
- e) Findings and recommendations of all the specialist studies conducted.

4. Findings

After consideration of the information and factors listed above, the Department made the following findings -

- a) The environmental impacts associated with the proposed project can be reduced to acceptable levels if properly managed with the conditions of this Authorisation and mitigation measures of the EMPr.
- b) The information contained in the EIAR dated May 2015 is deemed to be accurate and credible.
- c) An adequate public participation process was undertaken and the application has met the minimum requirements as prescribed in the EIA regulations, 2010.

In view of the above, the Department is satisfied that, subject to compliance with the conditions contained in the environmental authorization, the proposed activity will not conflict with the general objectives of integrated environmental management laid down in Chapter 5 of the National Environmental Management Act, 1998 and that any potentially detrimental environmental impacts resulting from the proposed activity can be mitigated to acceptable levels. The application is accordingly granted.

Annex F

Acknowledgement of
Application Form and
Submission of Draft
Scoping Report from DMR



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

Private Bag X 14 Springbok, 8240; Tel: 0277128160; Fax: 0277121959
Van der Stel Street, 1st Floor Hopley Building, Springbok 8240

Enquiries: Deidre Karsten Ref No: NCS 30/5/1/2/2/ (517) MR
E-mail address: deidre.karsten@dmr.gov.za
Mine Environmental Management

BY REGISTERED MAIL

Black Mountain Mining (Pty) Ltd

Private Bag x1

AGGENEYS

8893

Attention: Brendon Solik

email: brendon.solik@erm.com

ACKNOWLEDGEMENT OF AN APPLICATION TO AMEND AN ENVIRONMENTAL AUTHORISATION LODGED IN TERMS OF SECTION 24 OF NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) READ WITH REGULATION 31 OF THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA) REGULATIONS, 2014 FOR THE MINING RIGHT AND RELATED INFRASTRUCTURAL ACTIVITIES ON PORTION 4 OF THE FARM ZUURWATER NO 62, SITUATED IN THE MAGISTERIAL DISTRICT OF NAMAQUALAND NORTHERN CAPE REGION.

1. I refer to the abovementioned matter and confirm that your application for an Environmental Authorisation herein referred to as "EA" lodged on **13 November 2018** is hereby acknowledged.
2. You are advised to submit a final scoping report within 44 days from the date that you have lodged this application which has been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received. Your forty four (44) days will lapse on **18 January 2019**. Please note that this inclusive of weekends but exclusive of public holidays and the period between the 15th December 2018 and the 5th January 2019.

Acknowledgement of application for Environmental Authorisation: Ref No NCS 30/5/1/2/2/ (517) MR- Amendment (Swartberg Mine Expansion)

3. Acknowledgement of your application does not grant you permission to commence with mining activities. Commencement of a listed activity without an environmental authorisation constitutes an offence in terms of Section 49A (1) (a) of NEMA, 1998 (Act 107 of 1998) as amended and upon conviction for such an offence, a person is liable to a fine not exceeding R10 million or to imprisonment for a period not exceeding ten years, or to both such fine and such imprisonment.
4. NB: Regulation 45 of 2014 EIA Regulations stipulates that "an application in terms of these Regulations lapses and a competent authority will deem the application as having lapsed, if the applicant fails to meet any of the time-frames prescribed in terms of these Regulations, unless extension has been granted in terms of regulation 3(7)."

Hope that this letter will receive your utmost attention.


.....

REGIONAL MANAGER: MINERAL REGULATION

NORTHERN CAPE REGION

DATE.....27/11/2018.....

Please quote this office file number for any correspondence as reference

Annex G

Acceptance of Final Scoping Report from DMR



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

Private Bag X 14, Springbok, 8240, Cnr Van der Stel & Van Riebeeck, Hopley Centre Building, Springbok, 8240
Tel: 027 712 8175 Fax: 027 712 1959 Email: Deidre.Karsten@dmr.gov.za, Ref: 30/5/1/1/3/2/1(517) MR

From: Mineral Regulation **Enquiries:** Deidre Karsten

Black Mountain Mining (Pty) Ltd

Private Bag x1

AGGENEYS

8893

Attention: Brendon Solik

email: Brendon.solik@erm.co.za

CONSIDERATION OF SCOPING REPORT IN TERMS OF REGULATION 22 OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 OF 1998) (AS AMENDED) REGARDING THE ENVIRONMENTAL AUTHORISATION APPLICATION FOR MINING ACTIVITIES ON PORTION 4 OF THE FARM ZUURWATER NO 62, IN THE MAGISTERIAL DISTRICT OF NAMAQUALAND

1. Your scoping report was examined by the relevant authorities and found that it meets the requirements stated in the National Environmental Management Act, 1998 regulations.
2. Therefore, you are advised to continue with the tasks contemplated in the plan of study for environmental impact assessment.
3. In addition to this, you must within 106 days (**28th June 2019**) of the acceptance of the scoping report submit an environmental impact report inclusive of any specialist reports, and an environmental management programme, which must have been subjected to a public participation process of at least 30 days and which reflects the incorporation of comments received, including any comments of the competent authority.

4. You must include the local government departments in Springbok i.e The Department of Environment and Nature Conservation in Springbok and The Department of Water and Sanitation in Upington.

5. In a case where there are significant changes in the information that was previously submitted; you will need to notify the Department in writing of such changes within the 106 days stated above and submit an environmental impact report within 156 days of acceptance of the scoping report by the Department.

Yours faithfully



.....
REGIONAL MANAGER: MINERAL REGULATION

NORTHERN CAPE REGION

DATE.....11/03/2019.....

Annex H

Environmental Management Programme



EIA for the Swartberg Mine Expansion

Environmental Management Programme Report (EMPr)

8 April 2019

Project No.: 0472502

Document details	The details entered below are automatically shown on the cover and the main page footer. PLEASE NOTE: This table must NOT be removed from this document.
Document title	EIA for the Swartberg Mine Expansion
Document subtitle	Environmental Management Programme Report (EMPr)
Project No.	0472502
Date	8 April 2019
Version	1.0
Author	Brendon Solik, Amy Barclay
Client Name	Black Mountain Mining Pty Ltd

Document history

Version	Revision	Author	Reviewed by	ERM approval to issue		Comments
				Name	Date	
Draft	01	Brendon Solik	Philip Johnson	Philip Johnson	5 April 2019	

Signature Page

8 April 2019

EIA for the Swartberg Mine Expansion

Environmental Management Programme Report (EMPr)



Philip Johnson
Partner

ERM Southern Africa (Pty) Ltd

1st Floor Great Westerford

240 Main Road

Rondebosch 7700

Cape Town South Africa

© Copyright 2019 by ERM Worldwide Group Ltd and / or its affiliates ("ERM").
All rights reserved. No part of this work may be reproduced or transmitted in any form,
or by any means, without the prior written permission of ERM.

CONTENTS

1. INTRODUCTION	1
1.1 Purpose of this EMPr	1
1.2 Legal Requirements of EMPs	1
1.2.1 National Environmental Management Act (107 of 1998) (NEMA)	2
1.2.2 Mineral and Petroleum Resources Development Act (No. 28 of 2002)	3
2. PROJECT EAP AND PROPONENT	5
2.1 Expertise of Environmental Assessment Practitioners	5
2.2 Project Proponent	5
3. PROJECT DESCRIPTION	6
3.1 Background	6
3.2 Project Location	6
4. ENVIRONMENTAL MANAGEMENT PROGRAMME	8
4.1 Existing Environmental Management System	8
4.2 Management Plans	9
4.3 Mitigation and Monitoring Measures	10
5. IMPLEMENTATION OF THE EMPr	29
5.1 Proponent Roles and Responsibilities	29
5.2 Training and Environmental Awareness on Site	32
5.3 Recordkeeping	33
5.4 Grievance Mechanism	33
5.5 Monitoring Programme	33
5.6 Auditing	33
5.7 Corrective Action	34
5.8 Reporting	34

List of Tables

Table 1.1 Contents of a draft EMPr	2
Table 1.2 EMPr requirements of Section 39 of the MPRDA	4
Table 2.1 The EIA Team	5
Table 3.1 Property Details	6
Table 4.1 Construction Environmental Management Measures	11
Table 4.2 Operational Environmental Management Measures	20
Table 4.3 Decommissioning Environmental Management Measures	25
Table 5.1 BMM Roles and Responsibilities	29
Table 5.2 Business Partner Roles and Responsibilities	31

List of Figures

Figure 3.1 Project Location Map	7
---------------------------------------	---

Acronyms and Abbreviations

Name	Description
BMM	Black Mountain Mining
CBA	Critical Biodiversity Area
DAoI	Direct Area of Influence
DEA	Department of Environmental Affairs
DEA&DP	Department of Environmental Affairs and Development Planning
DM	District Municipality
DMA	District Management Area
DMR	Department of Mineral Resources
DSR	Draft Scoping Report
DWA	Department of Water Affairs
EAP	Environmental Assessment Practitioner
EC	Electrical Conductivity
EIA	Environmental Impact Assessment
EIR	Environmental Impact Report
EMPr	Environmental Management Program
EPC	Engineering Procurement Construction
ERM	Environmental Resources Management
GDP	Gross Domestic Product
GNR	Government Notice Regulation
HDPE	High density polyethylene
IAoI	Indirect Area of Influence
I&AP's	Interested and Affected Parties
IDP	Integrated Development Plan
IRP	Integrated Regional Plan
ktpa	kilo tonnes per annum
LED	Local Economic Development
LHOS	Long-hole open stoping
LM	Local Municipality
LOM	Life of Mine
MAE	Mean annual evaporation
MAMSL	Metres above mean sea level
MBGL	Meters below ground level
MF	Monitoring Forum
MRPDA	Mineral and Petroleum Resources Development Act
MR	Mining Right
Mtpa	Million tonnes per annum
Mt	Million tonnes
NCDM	Northern Cape District Municipality
NCPGDS	Northern Cape Provincial Growth and Development Strategy
NDM	Namakwa District Municipality
NDP	National Development Plan
NEMA	National Environmental Management Act
NEMBA	National Environmental Management: Biodiversity Act
NEMPAA	National Environmental Management: Protected Areas Act
NEMWA	National Environmental Management: Waste Act
NEMAQA	National Environmental Management: Air Quality Act
NFEPA	National Freshwater Ecosystem Priority Areas
NHRA	National Heritage Resources Act
NID	Notice of Intent to Develop
NWA	National Water Act
OCHSA	Occupational Health and Safety Act
PPE	Personal Protective Equipment
PPP	Public Participation Process
SAHRA	South African Heritage Resources Agency
SANS	South African National Standards
SDF	Spatial Development Framework
S&EIR	Scoping and Environmental Impact Report
WML	Waste Management Licence
WRD	Waste Rock Dump
WUL	Water Use Licence

1. INTRODUCTION

The following Environmental Management Programme (EMPr) has been prepared by Environmental Resources Management Southern Africa (Pty) Ltd (ERM), for Black Mountain Mining (Pty) Ltd (herein referred to as BMM), part of the global Vedanta Resources Plc.. BMM intends to expand the Swartberg mine at the existing Black Mountain Mine, located 10 km west of the town of Aggeneys, Northern Cape Province. It should be noted that the footprint of the existing Black Mountain Mine will not be expanded.

The current Swartberg mine is authorised through a previous Authorisation from the Department of Mineral Resources (NCS 30/5/1/2/3/2/1/517 EM). An approval for the development of a decline and the establishment of an open pit with associated workshops and infrastructure is included in this existing Authorisation. The proposed expansion of the Swartberg mine includes the expansion of the decline and the development of three more open pits (the Project).

The Project site is located in the Northern Cape Province of South Africa, approximately 10 km west of the town of Aggeneys, between the existing towns of Pofadder and Springbok. The Project site falls within the Black Mountain Mine, which is owned by BMM.

1.1 Purpose of this EMPr

The aim of the Environmental Management Programme report (EMPr) is to provide a set of guidelines and actions aimed at addressing potential biophysical and socio-economic impacts associated with the construction, operation and decommissioning phases of the project, and will be included in contract documentation between BMM and its Business partners.

The EMPr also provides assurance to regulators and stakeholders that their requirements with respect to biophysical and socio-economic performance will be met, and provides a framework for compliance auditing and inspection programs. It becomes a legally binding document should the Project receive Environmental Authorisation.

1.2 Legal Requirements of EMPs

In light of the nature of the Project, the following legislation are identified to be applicable:

- National Environmental Management Act (107 of 1998) (NEMA);
- Minerals and Petroleum Resources Development Act (28 of 2002) (MPRDA);
- National Heritage Resources Act (25 of 1999) (NHRA);
- Mine Health and Safety Act (29 of 1996);
- Noise Control Regulations under the Environmental Conservation Act (73 of 1989);
- Major Hazard Installation Regulations (GNR. 692 of 30 July 2001);
- Hazardous Substances Act (56 of 1973);
- Explosives Act (15 of 2003);
- National Environmental Management: Air Quality Act (39 of 2008) (NEM:AQA);
- National Environmental Management Act: Biodiversity Act (10 of 2004) (NEM:BA);
- National Environmental Management: Waste Act (59 of 2008) (NEM:WA); and
- National Water Act (36 of 1998) (NWA).

Despite the applicability of a suite of legislation, the NEMA and MPRDA are the primary pieces of legislation that govern the content, structure and approach to this EMPr. However, specific mitigation and management requirements in terms of the remaining aforementioned pieces of legislation will be met in this EMPr as well. The specific legal requirements for an EMPr, as per the NEMA and MPRDA, are presented below, for ease of reference.

1.2.1 National Environmental Management Act (107 of 1998) (NEMA)

In terms of Section 24 (n) of the NEMA, an EMPr is required. Appendix 4 of the EIA Regulation GNR 326 (2017) outlines specific requirements for the compilation of an EMPr. The specific requirements in terms of the EIA Regulation GNR 326 are as follows:

Table 1.1 Contents of a draft EMPr

Requirements	Section
An EMPr must comply with section 24N of the Act and include—	
(a) details of –	
(i) the EAP who prepared the EMPr; and	Section 3
(ii) the expertise of that EAP to prepare an EMPr, including a curriculum vitae;	Section 3
(b) a detailed description of the aspects of the activity that are covered by the EMPr as identified by the project description;	Section 4
(c) a map at an appropriate scale which superimposes the proposed activity, its associated structures, and infrastructure on the environmental sensitivities of the preferred site, indicating any areas that should be avoided, including buffers;	Section 2
(d) a description of the impact management outcomes, including management statements, identifying the impacts and risks that need to be avoided, managed and mitigated as identified through the environmental impact assessment process for all phases of the development including—	
(i) planning and design;	Section 5
(ii) pre-construction activities	Section 5
(iii) construction activities;	Section 5
(iv) rehabilitation of the environment after construction and where applicable post closure; and	Section 5
(v) where relevant, operation activities;	Section 5
(e) a description and identification of impact management outcome required for the aspects contemplated in paragraph (d)	Section 5
(f) a description of proposed impact management actions, identifying the manner in which the impact management objectives and outcomes contemplated in paragraph (d) and (e) will be achieved, and must, where applicable, include actions to —	
(i) avoid, modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;	Section 6
(ii) comply with any prescribed environmental management standards or practices;	Section 6
(iii) comply with any applicable provisions of the Act regarding closure, where applicable; and	Section 6
(iv) comply with any provisions of the Act regarding financial provision for rehabilitation, where applicable;	Section 6
(g) the method of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 6
(h) the frequency of monitoring the implementation of the impact management actions contemplated in paragraph (f);	Section 6
(i) an indication of the persons who will be responsible for the implementation of the impact management actions;	Section 6
(j) the time periods within which the impact management actions contemplated in paragraph (f) must be implemented;	Section 6

Requirements	Section
(k) the mechanism for monitoring compliance with the impact management actions contemplated in paragraph (f);	Section 6
(l) a program for reporting on compliance, taking into account the requirements as prescribed by the Regulations;	Section 6
(m) an environmental awareness plan describing the manner in which—	
(i) the applicant intends to inform his or her employees of any environmental risk which may result from their work; and	Section 6
(iii) risks must be dealt with in order to avoid pollution or the degradation of the environment; and	Section 6
(n) any specific information that may be required by the competent authority.	Section 6
(2) Where a government notice gazetted by the Minister provides for a generic EMPr, such generic EMPr as indicated in such notice will apply.	

1.2.2 Mineral and Petroleum Resources Development Act (No. 28 of 2002)

The objectives of the MPRDA, *inter alia*, is to promote equitable access to South Africa's minerals and petroleum resources, expand opportunities for previously disadvantaged individuals, promote economic growth and mineral and petroleum resources development (objective), employment opportunities, and ensure that the holders of the mining right contribute to the socio-economic development on the surrounding communities.

The MPRDA identifies the state as the official custodian of South Africa's Mineral and Petroleum Resources. Therefore, all activities relating to reconnaissance, prospecting rights, mining rights, mining permits and retention permits are regulated by the State. An application must be submitted and approved by the National Department of Mineral Resources, before proceeding with such activities.

Black Mountain Mining (Pty) Ltd already has an existing mining right and approved EMPr for the mining activities that are currently being undertaken within the Project area. The subject of the present application for Environmental Authorisation is to obtain approval for the proposed Swartberg Mine expansion and amendment of the existing mining right to include the proposed activities covered by this application. In terms of Section 102 of the MPRDA, amendments to an approved EMPr requires an EIA process to be undertaken in terms of NEMA.

In addition, Section 39 of Regulation 527 of the MPRDA outlines specific information requirements for an EMPr, *inter alia*, are as follows.

Table 1.2 EMPr requirements of Section 39 of the MPRDA

Requirements
39 (1) Every person who has applied for a mining right in terms of section 22 must conduct an environmental impact assessment and submit an environmental management programme within 180 days of the date on which he or she is notified by the Regional Manager to do so.
(2) Any person who applies for a reconnaissance permission, prospecting right or mining permit must submit an environmental management plan as prescribed.
(3) An applicant who prepares an environmental management programme or an environmental management plan must-
(a) establish baseline information concerning the affected environment to determine protection, remedial measures and environmental management objectives;
(b) investigate, assess and evaluate the impact of his or her proposed prospecting or mining operations on-
(i) the environment;
(ii) the socio-economic conditions of any person who might be directly affected by the prospecting or mining operation; and
(iii) any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), with the exception of the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act;
(c) develop an environmental awareness plan describing the manner in which the applicant intends to inform his or her employees of any environmental risks which may result from their work and the manner in which the risks must be dealt with in order to avoid pollution or the degradation of the environment; and
(d) describe the manner in which he or she intends to--
(i) modify, remedy, control or stop any action, activity or process which causes pollution or environmental degradation;
(ii) contain or remedy the cause of pollution or degradation and migration of pollutants; and
(iii) comply with any prescribed waste standard or management standards or practices

2. PROJECT EAP AND PROPONENT

2.1 Expertise of Environmental Assessment Practitioners

ERM is a global environmental consulting organisation employing over 5,000 people in over 150 offices in more than 40 countries. ERM Southern Africa employs over 150 environmental consultants across three offices: Johannesburg, Durban and Cape Town. The requirement for environmental consultants to act independently and objectively is a well-established principle in South African law. The EIA regulations (GN R.326), specifically state: *“that an EAP (environmental assessment practitioner) (must have) no business, financial, personal or other interest in the activity, application or appeal in respect of which that EAP is appointed in terms of these Regulations other than fair remuneration for work performed in connection with that activity; or that there are no circumstances that may compromise the objectivity of that EAP in performing such work.”*

ERM is a privately owned company registered in South Africa. ERM has no financial ties to, nor is ERM a subsidiary, legally or financially, of BMM. Remuneration for the services by the Proponent in relation to this EIA is not linked to an approval by the decision-making authority. Furthermore, ERM has no secondary or downstream interest in the development. The role of the environmental consultants is to provide credible, objective and accessible information to government and other stakeholders, so that an informed decision can be made about whether the project should proceed or not. The ERM team selected for this Project possess the relevant expertise and experience to undertake this EIA. As such, ERM has signed the legally required declaration of independence to function as an objective Environmental Assessment Practitioner (EAP). The contact details of the EAP for the application are presented in *Box 2.1* and the core EIA team members involved in this EIA are listed in *Table 2.1*.

Box 2.1 Contact Details of the EAP

Environmental Resources Management Southern Africa (Pty) Ltd.
Stephanie Gopaul
Address: Postnet Suite 90, Private Bag X12, Tokai, 7966, Cape Town, South Africa
Tel: +27 21 681 5400, Fax: +27 21 686 0736 Email: Stephanie.gopaul@erm.com

Table 2.1 The EIA Team

Name	Role	Qualifications, Experience
Philip Johnson	Partner in Charge	BSc. (Hons), MSc, PIEMA, 14 years
Brendon Solik	Project Manager	B Soc Sci (hons), MSc 5 years
Stephanie Gopaul	Technical Specialist	BSc, MSc, 12 years

2.2 Project Proponent

BMM engages in mining operations in South Africa and produces primarily zinc concentrates, as well as lead, copper, and silver concentrates. BMM operates the Gamsberg, Swartberg, and Deeps mines and currently employ 1,667 individuals through direct employment and business partners. The contact details for the applicant are presented below:

Box 2.2 Contact Details of Project Proponent

Black Mountain Mining Company (Pty) Ltd
Pieter David Venter (Environmental Manager)
Address: Penge Rd, Aggeneys, 8893
Tel: +27 54 983 9802 Email: PVenter@vedantaresources.co.za

3. PROJECT DESCRIPTION

3.1 Background

BMM is a producer of Copper, Lead and Zinc concentrates in the Northern Cape. BMM currently produces ore from two underground mines; the Deeps mine and the Swartberg mine (both located on the Black Mountain Mine). Extensive exploration in the vicinity of Swartberg to determine the extent of the orebody, has opened up the possibility of expanding the existing underground mine and establishing new open pits at Swartberg to levels on par with, or exceeding, the current Deeps mine. A pre-feasibility study completed in April 2017 concluded that the mining of the identified orebody at Swartberg is financially viable.

The bulk of the current ore production, approximately 1.3 million tonnes per annum (Mtpa), is produced from Deeps mine, and 400 kilo tonnes per annum (ktpa) from the Swartberg operations. The Black Mountain Mine also includes an existing ore processing plant, mine offices, maintenance facilities and other associated services and infrastructure necessary to sustain the existing underground operations. The Deeps Life of Mine (LOM) is scheduled to extend to March 2021. To secure the future of mining at BMM, it is proposed to ramp-up ore production from Swartberg mine to a minimum of 1.7 Mtpa before Deeps mine is mined out. The expansion will advance the Swartberg life of mine within the existing Mining Right Area (MR 517) by at least 19 years.

The expansion of Swartberg mine will consist of the expansion of the current underground mine and three new open pit mines, and a total of 150,000,000 tons of ore mined from the Swartberg over the 19 year LOM. Of this expected tonnage, approximately 18,000,000 tons of lead and copper concentrate will be extracted. Lead and copper concentrate will be transported via existing rail and/or road networks and exported via the Port of Saldahna in the Western Cape.

BMM has a long-term view to mine additional resources to ensure mining at Black Mountain Mine continues.

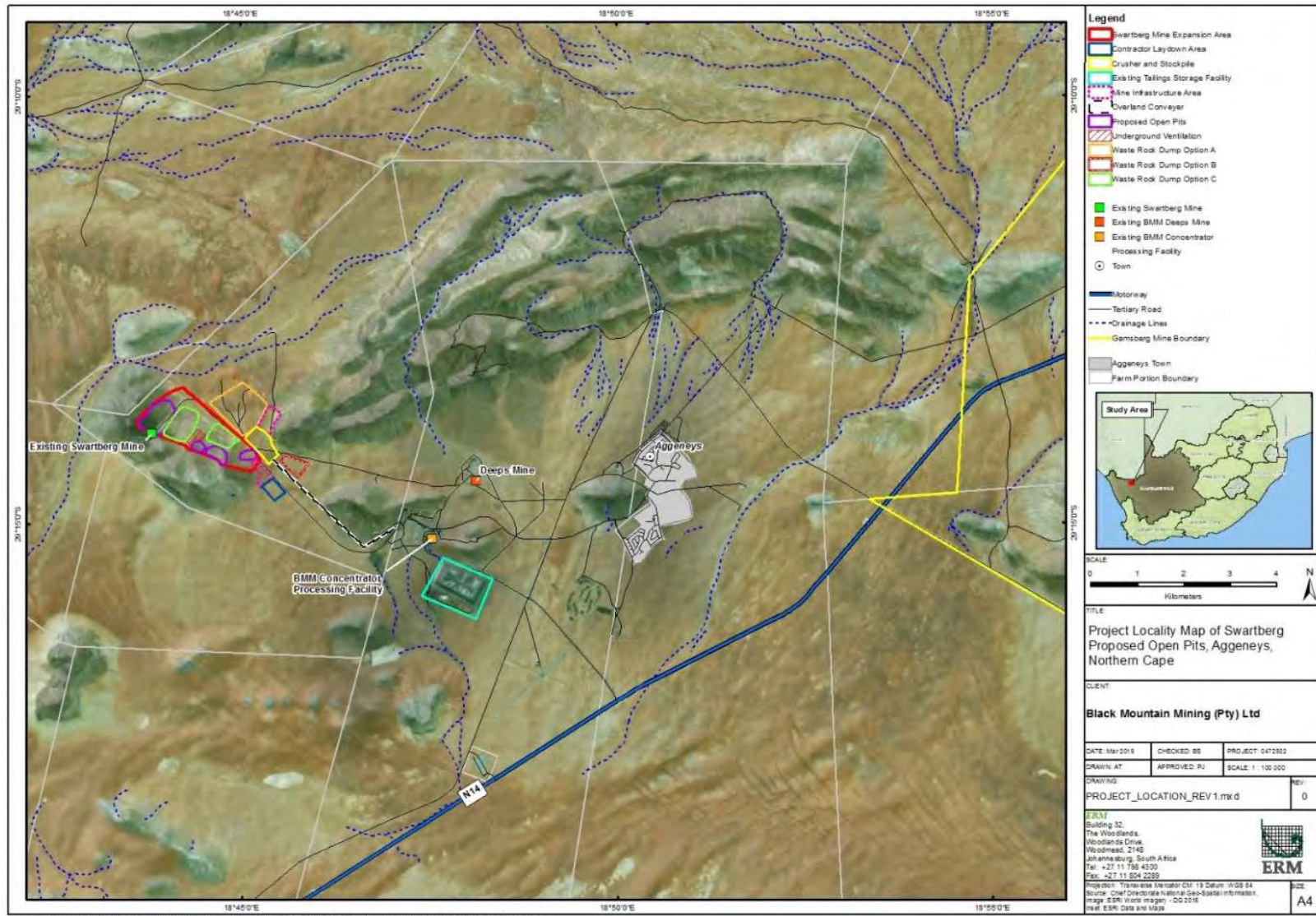
3.2 Project Location

The Project site is located in the Northern Cape Province of South Africa, approximately 10 km west of the town of Aggeneys, between the existing towns of Pofadder and Springbok. The Project site falls within the Black Mountain Mine, which is owned by BMM. Table 2.1 shows the details of the property where the Project will be located and Figure 3.1 illustrates the Project Location.

Table 3.1 Property Details

Farm Name	Zuurwater 62
Portion Number	Portion 4
SG21 Code	C0530000000006200004
Local Municipality	Khai-Ma Local Municipality
Magisterial District	Namaqualand [C053]
District Municipality	Namakwa District Municipality

Figure 3.1 Project Location Map



4. ENVIRONMENTAL MANAGEMENT PROGRAMME

This section covers the environmental specifications and recommendations required during the following phases of the Project:

- Construction Phase;
- Operational Phase; and
- Decommissioning Phase.

The EMPr outlines the following:

- Potential impact to the receptor;
- Objective;
- Proposed mitigation / management and monitoring measures;
- Parameters for monitoring;
- Timing/frequency for implementation of mitigation / management and monitoring measures; and
- Responsibility for implementation.

4.1 Existing Environmental Management System

BMM has an Environmental Management System (EMS) that is certified to the ISO14001:2015 International Environmental Management Standard. This International Standard, as per *SANAS ISO14001: 2015 Edition , Environmental Management Systems - Requirements with guidance for use*, states that the Standard “*specifies requirements for an environmental management system to enable an organisation to develop and implement a policy and objectives which take into account legal requirements and other requirements to which the organisation subscribes, and information about significant environmental aspects. It applies to those environmental aspects that the organisation identifies as those which it can control and those which it can influence. The system enables an organisation to develop an environmental policy, establish objectives and processes to achieve the policy commitments, take action as needed to improve its performance and demonstrate the conformity of the system to the requirements of the ISO14001 International Standard*”.

“The ISO14001 Standard is based on the methodology known as Plan-Do-Check-Act, which is described as follows:

- Plan: establish the objectives and processes necessary to deliver results in accordance with the organisation’s environmental policy;
- Do: implement the processes;
- Check: monitor and measure processes against environmental policy, objectives, targets, legal and other requirements, and report the results; and
- Act: take actions to continually improve performance of the environmental management system.”
(SANAS ISO14001: 2004 Edition 2, Environmental Management Systems - Requirements with guidance for use)

The EMS is subjected to annual internal and external audits by competent, independent assessors. External assessors are accredited to the South African National Accreditation System (SANAS) which is an EMS certification body, and adjudicate whether or not the mine meets the minimum requirements of the ISO14001 Standard.

4.2 Management Plans

In addition to this EMPr the following standalone management plans will be developed or existing plans amended for the Expansion:

- Water Management Plan;
- Water Management Plan;
- Emergency Response Plan;
- Hazardous Spill Response Plan;
- Air Quality Management Plan;
- Biodiversity Management Plan;
- Construction Management Plan;
- Traffic and Transportation Management Plan;
- Closure Plan;
- Mine Health and Safety Management Plan;
- Environmental Competence & Awareness (STD026);
- Environmental Aspects (STD027);
- Air Quality Monitoring (STD028);
- Communication & Environmental Reporting (STD031);
- Emergency Preparedness and Response (STD033);
- Environmental Management Systems Manual (STD034);
- Environmental Audits (STD035);
- Environmental Document Control & Record Keeping (STD036);
- Exploration Drilling (STD037);
- Hydrocarbon Management (STD038);
- Handling of Chemical Spillages (STD039);
- Handling, Storage and Disposal of Waste (STD040);
- Environmental Incident & Non-conformance (STD041);
- Legal Register & Compliance (STD042);
- Management of Domestic and Garden Refuse Dumps (STD043);
- Management Review Procedure (STD044);
- Management of Oxidation ponds (STD045);
- Setting of Objectives and Targets (STD046);
- Operating and Managing the Salvage Yard (STD048);
- Correct Storage of Hazardous Material (STD052); and
- Handling, Storage and Disposal of Medical Waste (STD053)

4.3 Mitigation and Monitoring Measures

Mitigation and monitoring measures presented in the tables below have been prescribed by the EIA and specialist studies. The EMPr will require updating with conditions of the Environmental Authorisation and on the basis of the results of any monitoring programmes

Table 4.1 Construction Environmental Management Measures

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Air Quality						
Decreased Local Ambient Air Quality due to Dust Emissions	Control and/or avoidance of dust emissions during establishment.	<ul style="list-style-type: none"> Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the EO. As far as practically possible, blasting should only be done under low- or no-wind conditions. Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; Vehicles must be kept clean to avoid tracking dirt around and off the site. Vehicles transporting friable materials must be covered. Where feasible, surface binding agents must be used on exposed open earthworks and roads. Vegetation clearance must be phased to minimise the area of exposed soil. Topsoil stockpiles must be planted to bind the soil and minimise dust. The design of stockpiles should be optimised to retain a low profile with no sharp changes in shape. Drop heights of material must be minimised where possible. Where possible, wind breaks should be erected around high- dust generating activities. For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. 	Construction	Visual inspection and photographic record Regular Dust Monitoring South African Emission Standards	Environmental Manager, Environmental Officer	Throughout construction
Noise						
Increased Local Ambient Noise Levels due to Noise Propagation from Establishment Activities	Reduce Project noise levels to acceptable levels.	<ul style="list-style-type: none"> Business Partners must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only. All diesel-powered construction and earth moving equipment must be well maintained. This must include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance. Vendors must be required to guarantee optimised equipment design noise levels. A mechanism to monitor noise levels, record and respond to complaints and mitigate impacts should be developed and implemented. Use of quieter powered mechanical equipment (PME) should be considered, where possible. Use of noise barriers/enclosures should be considered, where possible. Vibrating equipment such as crushers must be installed on vibration isolation mountings. Individual vehicle engine, transmission and body noise/vibration should be minimised through the implementation of an equipment maintenance program. Maintain road surfaces regularly to avoid corrugations, potholes etc. Avoid unnecessary idling times. Minimise the need for trucks/equipment reversing. This will reduce the frequency at which reverse warnings occur. Any complaints received by Business Partners regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers. 	Construction	Noise monitoring at any identified sensitive receptors Complaints Register South African Standards	Environmental Manager, Environmental Officer	Throughout construction
Soils						
Loss of soil resources as a result of site clearance and construction activities	Control soil erosion and compaction and promote soil reinstatement.	<ul style="list-style-type: none"> Develop and implement a Soil Erosion, Control and Reinstatement Plan. Restrict extent of disturbance within the Project Site to the extent practicable. Minimise the period of exposure of the soil surface, including stockpiles, by revegetating temporary-use areas as soon as practicable after construction activities. Stockpiled soil must not be compacted. Stockpiles are to be protected from erosion by keeping the stockpiles as low as possible with gentle gradients, and by planting as soon as possible. Topsoil stockpiles must not exceed 2 m in height. 	Construction	Visual inspection and photographic record	Environmental Manager, Environmental Officer	Throughout construction
Terrestrial Flora						
Loss of habitats of medium and high sensitivity and associated species due to	Minimise the loss of habitats of medium and high sensitivity	<ul style="list-style-type: none"> All stockpiled material must be maintained and kept clear of weeds and alien vegetation growth by undertaking regular weeding and control methods. Where possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. 	Construction	Visual inspection and photographic record Biodiversity Action Plan (BAP) Rehabilitation Plan	Environmental Manager, Environmental Officer	Throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
construction activities		<ul style="list-style-type: none"> • Avoid any direct activities on any surrounding or adjacent areas with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). • Where clearing for access purposes is essential, the maximum width to be cleared within the servitude must be in accordance to distance as agreed between the land owner and the EA holder. • Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area. • Avoid placing the waste rock pad within natural habitats. • Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural areas. • No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. • Avoid and/or minimise the loss of species of conservation concern by conducting a thorough pre-construction survey. • Only a registered pest control operator may apply herbicides on a commercial basis and commercial application must be carried out under the supervision of a registered pest control operator, supervision of a registered pest control operator or is appropriately trained. • A daily register must be kept of all relevant details of herbicide usage. • No herbicides must be used in estuaries. • The pre-construction survey must be followed by implementing the necessary Search and Rescue actions prior to any groundworks taking place, whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern. • Development and implement a detailed Plant Search- and Rescue, and Monitoring Plan in areas where infrastructure development impact on vegetation before any groundworks taking place. • Delineate all permissible areas so that all movement of vehicles and heavy machinery can be restricted to permissible areas, these being designated access roads, maintenance roads, turning points and parking areas. No off-road driving beyond designated areas will be allowed. • Design and create berms to stop runoff from the mining areas and waste-rock dump during/after periodic/ extreme rainfall events from entering directly into existing washes. • Keep the clearing of natural vegetation to a minimum. • Cleared indigenous shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas. • Ensure topsoils, where available, are first removed and correctly stored for rehabilitation purposes. • Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close together as possible (but avoiding the blockage of or increased impact on sensitive habitats), e.g. by using waste rock pad Alternative 2, which is closer to the planned open pits, thus also reducing transport requirements. • Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer (with the necessary storm water control) if oil and fuel spillages are likely to occur. • Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas. • Install adequate drainage structures to ensure that water flows are never concentrated or blocked. • If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing of fill materials. • Areas of high conservation significance in close proximity but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or Business partners. • - Alien invasive vegetation must be removed according to a plan (in line with relevant municipal and provincial procedures, guidelines and recommendations) and disposed of at a recognised waste disposal facility. • Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances. This will also reduce fragmentation due to mining operations. 		Training records		

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> • Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible. This will be according to a Rehabilitation Plan that needs to be compiled by a suitably qualified specialist and complement the current Biodiversity Management Plan (BMP). It will include the following: <ul style="list-style-type: none"> ▪ Installation of erosion control structures. ▪ Re-vegetation measures of disturbed/modified areas using indigenous shrubs and grasses only. ▪ Special attention will be paid to ensuring that critical topography is reconstructed as far as practical. 				
Loss of habitats of medium to low sensitivity and associated species due to construction activities	Minimise the loss of habitats of medium to low sensitivity	<ul style="list-style-type: none"> • Minimise clearing and operations in natural habitats. For the location of waste rock pads, clearing of natural vegetation within at least 50 m of adjacent habitats with high sensitivity should be avoided. • Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). • Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area. • Avoid placing the waste rock pad within natural habitats. • Use existing gravel roads and already disturbed areas to access mining operations as far as possible. • No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. • Conducting a thorough pre-construction survey to avoid and/or minimise the loss of species of conservation concern. • The pre-construction survey must be followed by implementing necessary Search and Rescue actions prior to any groundworks taking place, whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern. • Delineate all permissible areas so that all movement of vehicles and heavy machinery can be restricted to permissible areas, these being designated access roads, maintenance roads, turning points and parking areas. No off-road driving beyond designated areas will be allowed. • Design and create berms to stop runoff from the mining and waste-rock dump during/after periodic extreme rainfall events from entering directly into existing washes. • Keep the clearing of natural vegetation to a minimum. • Cleared indigenous shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas. • Ensure topsoils, where available, are first removed and retained for rehabilitation purposes. Topsoils should not be stored in heaps higher than 1 m, may never be compacted and the growth of natural vegetation on such piles during storage should be encouraged. • Wheels of large machinery should be checked prior to entering topsoil storage sites and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds) to reduce the introduction and spread of alien invasive plants. All such plant material removed must be burnt. • Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close as possible together (but avoiding the blockage of or increased impact on sensitive habitats). • Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer (with the necessary storm water control) if oil and fuel spillages are highly likely to occur. • Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas. • Install adequate drainage structures to ensure that water flows are never concentrated or blocked in any way. • If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing of fill materials. • Areas of high conservation significance in close proximity but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or Business partners. • Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances. • Compilation of a Rehabilitation Plan by a suitably qualified specialist to complement the Biodiversity Management Plan (BMP). It will include the following: <ul style="list-style-type: none"> ▪ Installation of erosion control structures. ▪ Re-vegetation of disturbed/modified areas using indigenous shrubs and grasses only. 	Construction	Monitoring: Visual inspection and photographic record Biodiversity Action Plan (BAP) Rehabilitation Plan Training records	Environmental Manager, Environmental Officer	Throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> ▪ Special attention will be paid to ensuring that critical topography is reconstructed as far as practical. 				
Loss of plant species of conservation concern due to construction activities	Minimise the loss of plant species of conservation concern	<ul style="list-style-type: none"> • If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. In general, minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. • Avoid and/or minimise the loss of species of conservation concern by conducting a thorough pre-construction survey. • The pre-construction survey must be followed by implementing the necessary Search and Rescue actions prior to any groundworks taking place whilst allowing planning that will minimise the destruction of indigenous trees and/or species of conservation concern. • The following activities will be prohibited for staff and Business Partners or any other person that may be present within or have access to the BMM mining concession area: <ul style="list-style-type: none"> ▪ Purchase or transport of any wildlife/indigenous plant products from local communities or passing traders who cannot prove that they have valid permits for having such plants in their possession. ▪ Collection of any plants or plant- products for trade, consumption, medicinal use or cultivation, unless such person has the permission of the mine management as well as a valid permit from the responsible authorities. • Plants of conservation concern that will be directly affected by planned mining operations could be used for research purposes, if this will not critically reduce the viability of natural populations, and only with the necessary permits and permissions from the responsible authorities and BMM management. • Any unauthorised driving to areas not directly affected by the mine, but which may contain species of conservation concern and/or natural habitat within the BMM mining concession, will not be allowed. • Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and continue progressively during all phases of mining. • Where possible, rescued plants can be used as part of the rehabilitation efforts. 	Construction,	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Plant Search- and Rescue, and Monitoring Plan</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout construction
Reduced ecological function and degradation due to altered soil surfaces due to construction activities	Minimise impacts to soils to avoid reduced ecological function	<ul style="list-style-type: none"> • If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. • Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). • Avoid blocking and/or destruction of the washes to the south-east of the study area, and those coming off plains and mountains north-east of the study area. • Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural areas. • Keep the clearing of natural vegetation to a minimum. • Indigenous cleared shrubs and trees can be shredded and used as mulch on top of topsoil stockpiles or on rehabilitated areas. • Reinforce portions of existing access routes that are prone to erosion or seasonal inundation, create structures or low banks to drain the access road rapidly during rainfall events, yet preventing erosion of the track and surrounding areas. • Install adequate drainage structures to ensure that water flows are never concentrated or blocked in any way. • Dust levels from blasting and haulage must be controlled and minimised at all times. <ul style="list-style-type: none"> ▪ As far as practically possible, blasting should only be done under low- or no-wind conditions. ▪ Once the extent of possible dust deposition has been modelled and is known, it will be advisable to search the area affected for plant species of conservation concern. In areas with a high(er) concentration of such species, dust monitoring programmes, coinciding with monitoring programmes of the plants affected should be implemented to advise management if any immediate remedial action will be required, or if possible offset or relocation measures will need to be implemented if affected species start dying off at increased rates due to dust deposition. ▪ Strict speed limits must be set and adhered to in order to reduce dust fall out. • Prior to rehabilitation, landscaping of disturbed areas needs to be undertaken in a way that ensures sufficient surface roughness, but also blends in with natural runoff and drainage patterns, whilst still preventing the start of rill- or gully erosion. • As part of rehabilitation, all compacted soils need to be ripped to a depth of at least 30 cm to prevent soil-surface crusting. • All signs of accelerated erosion after a large rainfall event must be mitigated as soon as possible. 	Construction	<p>Monitoring: Visual inspection and photographic record</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p> <p>Dust monitoring in affected areas</p>	Environmental Manager, Environmental Officer	Throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible. 				
Increase in alien invasive vegetation due to construction activities	Reduce the spread of alien and invasive species below the current rate of infestation. In addition, create awareness about the potential impacts of alien invasive species.	<ul style="list-style-type: none"> Wheels of large machinery should be checked prior to entering the site and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds). All such plant material removed must be burnt. If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing fill materials. Conduct a detailed Alien Invasive Survey within the BMM concession area, and if possible also along approximately 20 -50 km of all major access routes leading to the mine. From this: <ul style="list-style-type: none"> Create and implement a suitable (alien) Invasive Plant Management Plan (following DEA standards for an Alien Management Control Plan). Destruction of regenerative material of cleared alien species by burning in a protected area is encouraged. Be aware of alien species that may be newly introduced to the area and act immediately to eradicate once detected. <p>Rehabilitate:</p> <ul style="list-style-type: none"> Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and progressively during all phases of the mine. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). It will include the following: <ul style="list-style-type: none"> Re-vegetation measures of disturbed/modified areas using indigenous shrubs and grasses only. The selection of species used for rehabilitation may not include any species that are not suitable to the receiving environment (i.e. must occur there naturally), and also no species that are indicative of habitat degradation. 	Construction	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Invasive Plant Management Plan</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout construction
Terrestrial Fauna						
Loss of medium, high and very high sensitivity areas of faunal habitat	Minimise impact on faunal habitat due to construction activities	<ul style="list-style-type: none"> As far as possible, minimize disturbance and habitat loss within the high and very high sensitivity areas such as drainage lines. The final design mine footprint areas should be clearly demarcated and all mining activities restricted to these areas. In the event that the final design differs from that presented in this EIA, an additional walkover of the area to confirm conditions. Any exploration trenches, pits or boreholes that pose a danger to fauna should be filled-in or covered to prevent fauna from falling and becoming trapped. Use existing gravel roads and already disturbed areas to access mining operations as far as possible to avoid the creation of new roads or access routes across natural habitats. No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. There should be waste bins with lids distributed at strategic points across the site to ensure that litter is well-managed. No food waste or other waste that might attract fauna should be left exposed. There should be a preconstruction search and rescue for fauna prior to vegetation clearing within areas where there are identified fauna resident and which might be killed by construction activities. Design and create berms to stop runoff from the mining and waste-rock dump during/after periodic extreme rainfall events from entering directly into existing washes. If the site must be lit at night for security purposes, this should be done with downward-directed low-UV type lights (such as most LEDs), which do not attract insects. Keep the clearing of natural vegetation to a minimum. Reduce fragmentation of natural habitat by keeping long-term or permanently impacted areas as close together as possible (but avoiding the blockage of or increased impact on sensitive habitats). Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer. Areas of high faunal significance in close proximity to, but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or contractors. Efforts will be taken to minimise the footprint of short-duration activities and/or linear infrastructure. Efforts to minimise such footprints will include grouping all infrastructure to the same servitude and/or as close as possible to existing and planned long-term physical disturbances. This will also reduce fragmentation due to mining operations. 	Construction	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and progressively during all phases of the mine. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). No Threatened or Protected species (ToPs) and/or protected fauna as listed according NEMBA (Act No. 10 of 2004) and relevant provincial ordinances may be removed and/or relocated without appropriate authorisations/permits. No poaching must be tolerated under any circumstances. No deliberate or intentional killing of fauna is allowed. 				
Loss of fauna due to mining activities	Minimise impacts on fauna during construction activities	<ul style="list-style-type: none"> Waste bins with lids should be distributed at strategic points across the site to ensure that litter is well-managed. No food waste should be left exposed. A preconstruction search and rescue for fauna prior to vegetation clearing must be undertaken within areas where there are identified fauna resident which might be affected by construction activities. All fauna threatened by mining activities should be removed to safety by an appropriately trained person. All mine staff and contractors should receive an induction highlighting the need to respect the environment, no littering, no persecution of fauna, no illegal hunting, poaching or harvesting of natural products from the environment. All construction vehicles should adhere to a low speed limit (30kph for heavy vehicles and 40kph for light vehicles) to avoid collisions with susceptible species such as snakes and tortoises. All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner. All open water sources such as reservoirs, waste water, evaporation dams etc should be covered with shade cloth, fine mesh or similar to prevent fauna accessing these areas and from falling into the reservoirs and drowning. Provide signage to indicate the right of way of fauna such as tortoises. Any roadkill should be recorded and all areas where repeated events occur should be inspected to see if additional mitigation can be applied. 	Construction,	Visual inspection and photographic record Training records Biodiversity Action Plan (BAP)	Environmental Manager, ECO	Throughout construction
Groundwater						
Impact of contaminants on the groundwater resource	Minimise degradation of the groundwater resource due to contaminants	<ul style="list-style-type: none"> Prior to construction of the WRDs (enlarged foot print area), the ground of the facility's footprint should be prepared to reduce the hydraulic conductivity of the material, ie through means of compaction, so that seepage water is forced out of the facility at ground level rather than infiltrating into groundwater. Toe drains (interception trenches) must be constructed along the base of both WRDs to intercept drainage and convey seepage to a return water dam. The numerical groundwater flow and transport model should be updated/validated as additional information becomes available (ie SEEP/W model results, geophysics results and hydraulic conductivity of WRDs material) prior to construction to ensure assumptions made during the development of the model remain valid. 	Construction	Monitoring: Groundwater quality monitoring must be undertaken in the vicinity of contamination sources and in radially increasing distance from them. The monitoring data should be stored in an appropriate data management tool/database. It is recommended that additional groundwater monitoring boreholes be constructed for the planned WRDs. Effluent quality meeting DWS requirements	Environmental Manager, Environmental Officer	Throughout construction
Socio-Economic						
Employment, skills enhancement and local business opportunities	To build local capacity in the Project-affected communities to enable local recruitment and contracting to be realised and successful.	<ul style="list-style-type: none"> The Mine will establish a Recruitment Policy which prioritises the employment of South African and local residents (originating from the Local Municipality) over foreigners. All contractors will be required to recruit in terms of the Project's Recruitment Policy, where practical. The Khâi-Ma Local Economic Development (LED) Forum should be consulted in the process of unlocking opportunities for local businesses. The Project will advertise job opportunities and criteria for skills and experience needed through local media, at least three months ahead of recruitment. This information should also be provided to all relevant authorities, community representatives and organisations on the interested and affected party database. The Recruitment Policy and Procedure should promote the employment of women as a means of ensuring that gender equality is attained. No employment will take place at the entrance to the site. Only formal channels for employment will be used. 	Construction	Recruitment Policy Social and Labour Plan Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to and during construction
Presence of the workforce and jobseekers	Minimise impacts on the local population due to	<ul style="list-style-type: none"> BMM will ensure that their security personnel work in close collaboration with the police to monitor any illegal activity. 	Construction	Code of Conduct HIV/AIDS Policy	Environmental Manager,	Prior to construction and to be implemented throughout

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
	the presence of the work force and job seekers	<ul style="list-style-type: none"> BMM and its appointed business partners will conform on the current induction programme and Code of Conduct for all workers directly or indirectly employed by the Mine. The Code of Conduct should be available in all relevant languages and at a minimum, English, Afrikaans and Setswana. The Code of Conduct should address the following aspects: <ul style="list-style-type: none"> Respect for all communities and traditions; No unauthorised taking of natural resources; Respect for the natural environment and no littering or illegal dumping; Zero tolerance of illegal activities by Project related employees including: soliciting prostitutes; illegal sale and purchase of alcohol; sale, purchase or consumption drugs; illegal gambling or fighting; and engaging in sexual acts with minors; Compliance with the traffic regulations on site and all road traffic regulations; and Description of disciplinary measures for infringement of the Code of Conduct and company rules. The Mine will follow the current grievance procedure that is easily accessible to the local community, through which complaints related to business partner or employee behaviour can be lodged and responded to. The Mine will respond in a serious manner to any such complaints. The BMM HIV/AIDS Policy and information document for all workers directly related to the Project will apply. The information document will address factual health issues as well as behaviour change issues around the transmission and infection of HIV/AIDS. 		<p>Stakeholder Engagement Records</p> <p>Training records</p> <p>Grievance mechanism records</p>	Community Relations Officer	construction, operations and decommissioning
Pressure on Social Infrastructure and Services	To ensure pressure is not exerted on the local social amenities which will reduce the availability and access of services to the local community.	<p>The Project will implement a grievance procedure that is easily accessible to the local community, through which complaints related to business partner or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. Key steps include:</p> <ul style="list-style-type: none"> Development of an Employment Management Plan. Regular Engagement with Khai Ma Municipality to understand impact to the social infrastructure. Circulation of contact details of 'grievance officer' or other key Project contact. Awareness raising among the local community regarding the grievance procedure and how it works. Establishment of a grievance register to be updated and maintained by the Project. 	Construction	<p>Employment Management Plan</p> <p>Stakeholder Engagement Records</p> <p>Training records</p> <p>Grievance mechanism records</p>	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Impact on human health due to air emissions and dust generation	To reduce the health impact on Project-affected communities to the lowest possible level.	<ul style="list-style-type: none"> The Mine will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner. 	Construction	Grievance mechanism records	Environmental Manager, Community Relations Officer, Environmental Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Risk to workers' health and safety due to hazardous construction activities	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> The Mine will implement a rigorous induction programme for all employees outlining health and safety risks. The Project will comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workman's compensation for loss of income resulting from an onsite incident. As part of the business partner and supplier selection process, the Project will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law and the Project's policies. The Mine will provide support to business partners and sub-business partners to ensure that labour and working conditions are in line with South African law through capacity building. Workers will be provided with primary health care and basic first aid at construction camps /worksites. Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place. In line with the worker code of conduct, employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment. The Project will provide of Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits. The Project will implement the current BMM Grievance Mechanism to address employee concerns related to the Project in a timely manner. 	Construction	<p>Induction records</p> <p>Training records</p> <p>Grievance mechanism records</p>	Project Manager, Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Increase in traffic volumes	Minimise the impact of the quality of local roads as well as other road users	<ul style="list-style-type: none"> All vehicles will be regularly checked and maintained, including tyre wear. Contact details will be displayed on vehicles to allow other road users to report bad driving at any time. All drivers will be sensitised about potential accident risks to local users and will be periodically checked for alcohol consumption. 	Construction	<p>Traffic Management Plan</p> <p>License record</p>	Environmental Manager, Environmental Officer	Prior to construction and to be implemented throughout construction

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> All driver will be appropriately licensed. BMM will ensure that vehicles are correctly and safely loaded to avoid accidents, and all loads are secured and covered where they pose a risk of windblown dust or material spillage. BMM will work in conjunction with SANRAL to erect appropriate road traffic signage and road markings at the intersections of loop 10 and the Aggeneys access road with the N14. The Mine will develop and implement a Grievance Mechanism to address employee concerns related to the Project in a timely manner. 		Training records Vehicle maintenance records Grievance mechanism		
Archaeology and Cultural Heritage						
Impacts on local archaeology and cultural heritage due to construction activities	To avoid, minimise, manage and mitigate the impact on local archaeology and cultural heritage resources	<ul style="list-style-type: none"> Development of a facility Environmental Management Programme (EMPr) that takes cognizance of heritage resources in the event of any future extensions of roads or other infrastructure. Provision for on-going heritage monitoring in a facility EMPr which also provides guidelines on what to do in the event of any major heritage feature being encountered during any phase of construction/maintenance. A Chance Finds Procedure must be developed to ensure that any heritage resource finds are recorded and reported to the appropriate authorities, and if necessary, all work is stopped until the find can be assessed by a relevant specialist. In addition the relevant Heritage Authority should be contacted by the client. Should the ESA site be threatened it may be recommended that a surface collection be made to preserve a representative sample. Officials from relevant heritage authorities (National and Provincial) must be permitted to inspect the operation at any time in relation to the heritage component of the EMPr. All work must cease immediately, if any human remains and/or other archaeological, palaeontological and historical material are uncovered. Such material, if exposed, must be reported to the nearest museum, archaeologist/ palaeontologist (or the South African Police Services), so that a systematic and professional investigation can be undertaken. Sufficient time must be allowed to remove/collect such material before development recommences. 	Construction	Chance Find Procedure Grievance mechanism records	Environmental Manager, Community Relations Officer, Environmental Officer	Throughout construction, operations and decommissioning
Unplanned Events						
Occupational Health and Safety	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> Development of an Occupational Health and Safety Management Plan (OHSMP). Inductions, training, H&S records and remediating actions, risk assessments of all activities and provision of PPE. The OHSMP should cover all workers on site, including temporary workers and Business partners. Carry out regular monitoring and audits of the OHSMP and update as required. 	Construction	Occupational Health and Safety Management Plan Training records H&S audit records	Environmental Manager, Community Relations Officer	Throughout construction, operations and decommissioning
Accidental spills of equipment fuel, oils, and chemicals	Reduce the risk of accidental spills of equipment fuels and oils.	<ul style="list-style-type: none"> Adhere to best practice principles. Construction equipment should be up to industry standard and serviced regularly to prevent oil spills. A spill response plan should be in place and construction workers should be trained accordingly. On-site storage areas for hydrocarbons and other chemicals should be constructed in a way that potential tank failures can be contained including bunds and surface hardstanding. Hazardous material storage will be constructed on an impermeable surface and the bulk storage facility will be bunded. The Project will restrict storage and handling of hazardous materials and fuels to bunded areas of sufficient capacity to contain a release. Refuelling of equipment and vehicles will be carried out in designated areas on hard standing ground to prevent seepage of any spillages into the ground. Collection systems will be installed in these areas to manage any spills, fuels will be collected and either reused, treated by incineration or removed by a local business partner. Drip trays must be used when refuelling and servicing vehicles or equipment, where it is not on a hardstanding surface. Leaking equipment must be repaired immediately or be removed from site to facilitate repair. The Mine will develop a detailed hazardous material spill response plan, which includes community sensitisation/ notifications when required. The Project will maintain spill clean-up and response capability adequate for addressing spills for all phases of the Expansion. All spills will be immediately contained and cleaned up. Contaminated areas will be remediated and post remediation verification will be carried out. Appropriately sized spill kit kept onsite relevant to the scale of the activity taking place must be available. Maintain an incidents and complaints register in which all incidents or complaints involving the public are logged. 	Construction	Spill Response Plan Training records Equipment maintenance records Incident register	Environmental Manager, Environmental Officer	Throughout construction, operations and decommissioning
Vehicle Accidents	Reduce the risk and potential impact of vehicle accidents on site and for all Project related activities.	<ul style="list-style-type: none"> All new drivers employed throughout the course of the Mine's operations will be required to undergo Defensive Driver Training. Speed limits will be enforced for all vehicles. Speed limits of 40kph will be enforced along all internal roads except haul roads where the limit is 80kph. 	Construction,	Training records Grievance mechanism	Project Manager, Environmental Manager, Environmental Officer	Throughout construction, operations and decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> The Mine will regularly consult with the relevant local and regional government to ensure the roads used are well maintained, and that potential problems or hazards are communicated to the relevant authority timeously. Expansion planning for construction traffic must be done in consultation with the government. The status of the integrity of proposed Project transportation routes with respect to structural properties (load limits, traffic volume limits), functionality (condition of road surface) and safety (signage, markings, and potential public safety hazard areas) must be confirmed. Additional measures required to upgrade transportation routes and minimise traffic congestion must be carried out in consultation with the local authorities. The Project will undertake sensitisation in the local communities, including appropriate warning signs and notifications of the risks of traffic accidents. 				

Table 4.2 Operational Environmental Management Measures

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Air Quality						
Decreased Local Ambient Air Quality due to Dust Emissions	Control and/or avoidance of dust emissions during operations.	<ul style="list-style-type: none"> Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the EO. As far as practically possible, blasting should only be done under low- or no-wind conditions. Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; Vehicles must be kept clean to avoid tracking dirt around and off the site. Vehicles transporting friable materials must be covered. Where feasible, surface binding agents must be used on exposed open earthworks and roads. Vegetation clearance must be phased to minimise the area of exposed soil. Topsoil stockpiles must be planted to bind the soil and minimise dust. The design of stockpiles should be optimised to retain a low profile with no sharp changes in shape. Drop heights of material must be minimised where possible. Where possible, wind breaks should be erected around high- dust generating activities. For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. 	Operations	Visual inspection and photographic record South African Emission Standards	Environmental Manager, Environmental Officer	Throughout operations
Noise						
Increased local ambient noise levels due to noise propagation from operational activities	Reduce Project noise to acceptable levels.	<ul style="list-style-type: none"> Business Partners must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only. All diesel-powered construction and earth moving equipment must be well maintained. This must include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance. Vendors must be required to guarantee optimised equipment design noise levels. A mechanism to monitor noise levels, record and respond to complaints and mitigate impacts should be developed and implemented. Use of quieter powered mechanical equipment (PME) should be considered, where possible. Use of noise barriers/enclosures should be considered, where possible. Vibrating equipment such as crushers must be installed on vibration isolation mountings. Individual vehicle engine, transmission and body noise/vibration should be minimised through the implementation of an equipment maintenance program. Maintain road surfaces regularly to avoid corrugations, potholes etc. Avoid unnecessary idling times. Minimise the need for trucks/equipment reversing. This will reduce the frequency at which reverse warnings occur. Any complaints received by Business Partners regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers. 	Operations	Noise monitoring at any identified sensitive receptors	Environmental Manager, Environmental Officer	Throughout operations
Terrestrial Flora						
Loss of habitats of medium and high sensitivity and associated species due to construction activities	Minimise the loss of habitats of medium and high sensitivity	<ul style="list-style-type: none"> Where possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Avoid any direct activities on any surrounding or adjacent areas with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. Pits should be backfilled as soon as possible (if possible). Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible according to the Rehabilitation Plan 	Operations	Visual inspection and photographic record Biodiversity Action Plan (BAP) Rehabilitation Plan Training records	Environmental Manager, Environmental Officer	Throughout operations
Loss of habitats of medium to low sensitivity and associated species due to	Minimise the loss of habitats of medium to low sensitivity	<ul style="list-style-type: none"> Minimise clearing and operations in natural habitats. Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. 	Operations	Visual inspection and photographic record Biodiversity Action Plan (BAP) Rehabilitation Plan	Environmental Manager, Environmental Officer	Throughout operations

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
operational activities		<ul style="list-style-type: none"> Delineate all permissible areas so that all movement of vehicles and heavy machinery can be restricted to permissible areas, these being designated access roads, maintenance roads, turning points and parking areas. No off-road driving beyond designated areas will be allowed. Wheels of large machinery should be checked prior to entering topsoil storage sites and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds) to reduce the introduction and spread of alien invasive plants. All such plant material removed must be burnt. Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer (with the necessary storm water control) if oil and fuel spillages are highly likely to occur. Maintenance of access routes that are prone to erosion or seasonal inundation. If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing of fill materials. Areas of high conservation significance in close proximity but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or contractors. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible according to the Rehabilitation Plan 		Training records		
Loss of plant species of conservation concern due to operational activities	Minimise the loss of plant species of conservation concern	<ul style="list-style-type: none"> If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. In general, minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. The following activities will be prohibited for staff and contractors or any other person that may be present within or have access to the BMM mining concession area: <ul style="list-style-type: none"> Purchase or transport of any wildlife/indigenous plant products from local communities or passing traders who cannot prove that they have valid permits for having such plants in their possession. Collection of any plants or plant- products for trade, consumption, medicinal use or cultivation, unless such person has the permission of the mine management as well as a valid permit from the responsible authorities. Any unauthorised driving to areas not directly affected by the mine, but which may contain species of conservation concern and/or natural habitat within the BMM mining concession, will not be allowed. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible according to the Rehabilitation Plan 	Operations	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout operations
Reduced ecological function and degradation due to altered soil surfaces due to operational activities	Minimise impacts to soils to avoid reduced ecological function	<ul style="list-style-type: none"> If possible, avoid any physical destruction of the Koppies north of the current Swartberg Decline Access Road. Minimise clearing and operations in habitats with a Very High to Medium-High sensitivity rating. Avoid any direct impacts on any surrounding or adjacent area with sensitive vegetation or any adjacent or nearby riparian habitats (except the clearing of alien invasive species). Maintain existing access routes that are prone to erosion or seasonal inundation. Dust levels from blasting and haulage must be controlled and minimised at all times. <ul style="list-style-type: none"> As far as practically possible, blasting should only be done under low- or no-wind conditions. Speed limits (40kph) must be adhered to in order to reduce dust fall out. All signs of accelerated erosion after a large rainfall event must be mitigated as soon as possible. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible. 	Operations	<p>Visual inspection and photographic record</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p> <p>Dust monitoring in affected areas</p>	Environmental Manager, Environmental Officer	Throughout operations
Increase in alien invasive vegetation due to operational activities	Reduce the spread of alien and invasive species below the current rate of infestation. In addition, create awareness about the potential impacts of alien invasive species.	<ul style="list-style-type: none"> Wheels of large machinery should be checked prior to entering the site and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds). All such plant material removed must be burnt. If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing fill materials. Destruction of regenerative material of cleared alien species by burning in a protected area is encouraged. Be aware of alien species that may be newly introduced to the area and act immediately to eradicate once detected. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible according to the Rehabilitation Plan. 	Operations	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout operations
Terrestrial Fauna						
Loss of medium, high and very high sensitivity areas of faunal habitat	Minimise impact on faunal habitat due to operational activities	<ul style="list-style-type: none"> The mine footprint areas should be clearly demarcated and all mining activities restricted to these areas. Any exploration trenches, pits or boreholes that pose a danger to fauna should be filled-in or covered to prevent fauna from falling and becoming trapped. No open fires may be lit for cooking or any other purposes, unless in specifically designated and secured areas. 	Operations	<p>Monitoring: Visual inspection and photographic record</p> <p>Training records</p>	Environmental Manager, Environmental Officer	Throughout operations

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> There should be waste bins with lids distributed at strategic points across the site to ensure that litter is well-managed. No food waste or other waste that might attract fauna should be left exposed. If the site must be lit at night for security purposes, this should be done with downward-directed low-UV type lights (such as most LEDs), which do not attract insects. Parking and operational areas should be regularly inspected for oil spills and covered with an impermeable or absorbent layer. Areas of high faunal significance in close proximity to, but outside the physical mining footprint need to be clearly demarcated with appropriate barriers and signage to ensure no further encroachment or disturbance. Any infringements will be reported and appropriate penalties are to be enforced on transgressing staff or contractors. Pits should be backfilled as soon as possible, all stockpiles must be, as far as possible, obliterated and/or landscaped to merge into the surroundings. Rehabilitate and revegetate all areas that have been disturbed as soon as practically possible and progressively during all phases of the mine. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). 		<p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>		
Loss of fauna due to mining activities	Minimise impacts on fauna during operational activities	<ul style="list-style-type: none"> Waste bins with lids should be distributed at strategic points across the site to ensure that litter is well-managed. No food waste should be left exposed. All mine staff and contractors should receive an induction highlighting the need to respect the environment, no littering, no persecution of fauna, no illegal hunting, poaching or harvesting of natural products from the environment. All vehicles on-site should adhere to a low speed limit (30kph for heavy vehicles and 40kph for light vehicles) to avoid collisions with susceptible species such as snakes and tortoises All hazardous materials should be stored in the appropriate manner to prevent contamination of the site. Any accidental chemical, fuel and oil spills that occur at the site should be cleaned up in the appropriate manner. All open water sources such as reservoirs, waste water, evaporation dams etc should be covered with shade cloth, fine mesh or similar to prevent fauna accessing these areas and from falling into the reservoirs and drowning. Provide signage to indicate the right of way of fauna such as tortoises. Any roadkill should be recorded and all areas where repeated events occur should be inspected to see if additional mitigation can be applied. 	Operations	<p>Visual inspection and photographic record</p> <p>Training records</p> <p>Biodiversity Action Plan (BAP)</p> <p>Rehabilitation Plan</p>	Environmental Manager, Environmental Officer	Throughout operations
Groundwater						
Impact of contaminants on the groundwater resource	Minimise degradation of the groundwater resource due to contaminants	<ul style="list-style-type: none"> Toe seepage from the WRD's is expected to be contaminated and suitable management measures should be in place to prevent the release of this contaminated water into the environment. It is recommended that as much water as possible should be recycled and re-used. The numerical groundwater flow and transport model should be updated/validated as additional information becomes available (ie SEEP/W model results, geophysics results and hydraulic conductivity of WRDs material) prior to construction to ensure assumptions made during the development of the model remain valid. Pumped water from the pit following heavy rain events is expected to be contaminated and will need to be contained or treated to applicable standards if it is to be released into the environment, in accordance with the Water Use Licence (WUL) requirements. 	Operations	<p>Groundwater quality monitoring in the vicinity of contamination sources and in radially increasing distance from them. The monitoring data should be stored in an appropriate data management tool/database.</p> <p>Effluent quality meeting DWS requirements</p>	Environmental Manager, Environmental Officer	Throughout operations
Impact of contaminants on groundwater users	Minimise the impact on groundwater users due to contamination of the groundwater resource	<ul style="list-style-type: none"> Should monitoring data confirm an impact on private users, the client will compensate affected farmers for their loss or replace the lost water supply source. 	Operations	<p>Groundwater quality should be monitored at the existing (known) private boreholes at regular intervals to confirm modelling results.</p> <p>Effluent quality meeting DWS requirements</p>	Environmental Manager, Environmental Officer	Throughout operations
Impact of drawdown or dewatering on the groundwater resource	Minimise impacts to the groundwater resource due to drawdown or dewatering	<ul style="list-style-type: none"> The monitoring data should be stored in an appropriate data management tool/database. Groundwater models should be validated and updated using the monitoring data such that drawdown predictions can be updated. This will lead to models with a higher confidence level that can be used as management tools throughout the operational phase (ie update predicted impacts in order to be proactive etc) and for planning of the post-closure phase of the project to ensure appropriate provisions are made. 	Operations	<p>Groundwater levels in the vicinity of the pits as well as in each of the known farm boreholes (Witputs BH, Koeris 54BH1 and Koeris 54BH2), must be monitored on a regular basis.</p>	Environmental Manager, Environmental Officer	Throughout operations

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Impact of drawdown or dewatering on groundwater users	Minimise the impact on groundwater users due to drawdown or dewatering of the groundwater resource	<ul style="list-style-type: none"> Should monitoring confirm that any of the private boreholes are affected by lowering of the groundwater table, rendering boreholes unusable (ie loss of water supply source), the client will compensate affected famers for their loss, or replace the lost water supply source. This can be achieved by drilling new boreholes for the affected farmers outside of the drawdown cone, by increasing the depth of the existing boreholes or by providing an alternative good quality water source. 	Operations	Groundwater levels in each of the known farm boreholes must be monitored.	Environmental Manager, Environmental Officer	Throughout operations
Socio-economic						
Employment, skills enhancement and local business opportunities	To build local capacity in the Project-affected communities to enable local recruitment and contracting to be realised and successful.	<ul style="list-style-type: none"> The Mine will establish a Recruitment Policy which prioritises the employment of South African and local residents (originating from the Local Municipality) over foreigners. All contractors will be required to recruit in terms of the Project's Recruitment Policy, where practical. The Khâi-Ma Local Economic Development (LED) Forum should be consulted in the process of unlocking opportunities for local businesses. The Project will advertise job opportunities and criteria for skills and experience needed through local media, at least three months ahead of recruitment. This information should also be provided to all relevant authorities, community representatives and organisations on the interested and affected party database. The Recruitment Policy and Procedure should promote the employment of women as a means of ensuring that gender equality is attained. No employment will take place at the entrance to the site. Only formal channels for employment will be used. 	Operations	Recruitment Policy and Procurement Policy Grievance mechanism records	Environmental Manager, Community Relations Officer	Throughout operations
Presence of the workforce and jobseekers	Minimise impacts on the local population due to the presence of the work force and job seekers	<ul style="list-style-type: none"> BMM will ensure that their security personnel work in close collaboration with the police to monitor any illegal activity. All new employees directly or indirectly employed by the Project to go through the induction programme and a Code of Conduct. The Code of Conduct is to form part of induction of all employees related to the Project and it is to be signed by each employee. The Code of Conduct should be available in all relevant languages and at a minimum, English, Afrikaans and Setswana. Grievance procedure to be in place that is easily accessible to the local community, through which complaints related to contractor or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. 	Operations	Stakeholder Engagement Records Training records Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Pressure on Social Infrastructure and Services	To ensure pressure is not exerted on the local social amenities which will reduce the availability and access of services to the local community.	<ul style="list-style-type: none"> Implementation of the Grievance Mechanism 	Construction, operations and decommissioning	Stakeholder Engagement Records Training records Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Impact on human health due to air emissions	To reduce the health impact on Expansion - affected communities to the lowest possible level.	<ul style="list-style-type: none"> The Project will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner. 	Operations	Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Risk to workers' health and safety due to hazardous operation activities	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> The Mine must comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workman's compensation for loss of income resulting from an onsite incident. As part of the contractor and supplier selection process the Mine will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law and the Project's policies. The Project will provide support to contractors and subcontractors to ensure that labour and working conditions are in line with South African law through capacity building. Workers will be provided with primary health care and basic first aid at construction camps /worksites. Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place. 	Operations	Training records Grievance mechanism records H&S Audits	Project Manager, Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> In line with the worker code of conduct employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment. The Mine will provide Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits. The Mine will develop and implement a Grievance Mechanism to address employee concerns in a timely manner. 				
Increase in traffic volumes	Minimise the impact of traffic on the quality of local roads as well as other road users	<ul style="list-style-type: none"> BMM will develop a Traffic Management Plan to limit the disruption of the roads when high volumes of abnormal freight are expected on the N14 and N7. All vehicles will be regularly checked and maintained, including tyre wear. Contact details will be displayed on project vehicles to allow other road users to report bad driving at any time. All project drivers will be sensitised about potential accident risks to local users and will be periodically checked for alcohol consumption. BMM will ensure that vehicles are correctly and safely loaded to avoid accidents, and all loads are secured and covered where they pose a risk of windblown dust or material spillage. BMM will work in conjunction with SANRAL to erect appropriate road traffic signage and road markings at the intersections of loop 10 and the Aggeneys access road with the N14. The Mine will develop and implement a Grievance Mechanism to address employee concerns related to the Project in a timely manner. 	Operations, decommissioning	Traffic Management Plan Training records Vehicle maintenance records Grievance mechanism	Environmental Manager, Environmental Officer	Throughout operations and decommissioning
Unplanned Events						
Occupational Health and Safety	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> Development or upgrade of an Occupational Health and Safety Management Plan (OHSMP). Inductions, training, H&S records and remediating actions, risk assessments of all activities and provision of PPE. The OHSMP should cover all workers on site, including temporary workers and contractors. Carry out regular monitoring and audits of the OHSMP and update as required. 	Construction, operations and decommissioning	Occupational Health and Safety Management Plan Training records H&S records	Environmental Manager, Community Relations Officer	Throughout construction, operations and decommissioning
Accidental spills of equipment fuel, oils, and chemicals	Reduce the risk of accidental spills of equipment fuels and oils.	<ul style="list-style-type: none"> Adhere to best practice principles. Equipment should be up to standards and serviced regularly to prevent oil spills. A spill response plan should be in place and construction workers should be trained accordingly. On-site storage areas for hydrocarbons and other chemicals should be constructed in a way that potential tank failures can be contained including bunds and surface hardstanding. Hazardous material storage will be constructed on an impermeable surface and the bulk storage facility will be bunded. The Project will restrict storage and handling of hazardous materials and fuels to bunded areas of sufficient capacity to contain a release. Refuelling of equipment and vehicles will be carried out in designated areas on hard standing ground to prevent seepage of any spillages into the ground. Collection systems will be installed in these areas to manage any spills, fuels will be collected and either reused, treated by incineration or removed by a local contractor. Drip trays must be used when refuelling and servicing vehicles or equipment, where it is not on a hardstanding surface. Implement the detailed hazardous material spill response plan, which includes community sensitisation/ notifications when required. The Project will maintain spill clean-up and response capability adequate for addressing spills for all phases of the Project. All spills will be immediately contained and cleaned up. Contaminated areas will be remediated and post remediation verification will be carried out. 	Construction, operations and decommissioning	Spill Response Plan Training records Records of spill clean up and post remediation verification	Environmental Manager, Environmental Officer	Throughout construction, operations and decommissioning
Vehicle Accidents	Reduce the risk and potential impact of vehicle accidents on site and for all Project related activities.	<ul style="list-style-type: none"> All new drivers employed throughout the course of the Project's operations will be required to undergo training. Speed limits will be enforced for all Project vehicles. Speed limits of 30kph (for heavy vehicles and 40kph for light vehicles) will be enforced along all internal roads. The Project will work with the relevant local and regional government to ensure the roads used by Project vehicles are well maintained, and that potential problems or hazards are communicated to the relevant authority timeously. 	Construction, operations and decommissioning	Training records Grievance mechanism	Project Manager, Environmental Manager	Throughout construction, operations and decommissioning

Table 4.3 Decommissioning Environmental Management Measures

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Air Quality						
Decreased local ambient air quality due to dust emissions	Control and/or avoidance of dust emissions during decommissioning.	<ul style="list-style-type: none"> Take all reasonable measures to minimise the generation of dust as a result of project development activities to the satisfaction of the EO. As far as practically possible, blasting should only be done under low- or no-wind conditions. Vehicle speeds must not exceed 40 km/h along dust roads or 20 km/h when traversing unconsolidated and non-vegetated areas; Vehicles must be kept clean to avoid tracking dirt around and off the site. Vehicles transporting friable materials must be covered. Where feasible, surface binding agents must be used on exposed open earthworks and roads. Vegetation clearance must be phased to minimise the area of exposed soil. Topsoil stockpiles must be planted to bind the soil and minimise dust. The design of stockpiles should be optimised to retain a low profile with no sharp changes in shape. Drop heights of material must be minimised where possible. Where possible, wind breaks should be erected around high- dust generating activities. For significant areas of excavation or exposed ground, dust suppression measures must be used to minimise the spread of dust. 	Decommissioning	Visual inspection and photographic record South African Emission Standards	Environmental Manager, Environmental Officer	Throughout decommissioning
Noise						
Increased Local Ambient Noise Levels due to Noise Propagation from Decommissioning Activities	Reduce noise levels to acceptable levels.	<ul style="list-style-type: none"> Business Partners must keep noise level within acceptable limits, Restrict the use of sound amplification equipment for communication and emergency only. All diesel-powered construction and earth moving equipment must be well maintained. This must include the regular inspection and, if necessary, replacement of intake and exhaust silencers. Any change in the noise emission characteristics of equipment must serve as trigger for withdrawing it for maintenance. Vendors must be required to guarantee optimised equipment design noise levels. A mechanism to monitor noise levels, record and respond to complaints and mitigate impacts should be developed and implemented. Use of quieter powered mechanical equipment (PME) should be considered, where possible. Use of noise barriers/enclosures should be considered, where possible. Vibrating equipment such as crushers must be installed on vibration isolation mountings. Individual vehicle engine, transmission and body noise/vibration should be minimised through the implementation of an equipment maintenance program. Maintain road surfaces regularly to avoid corrugations, potholes etc. Avoid unnecessary idling times. Minimise the need for trucks/equipment reversing. This will reduce the frequency at which reverse warnings occur. Any complaints received by Business Partners regarding noise must be recorded and communicated. Where possible or applicable, provide transport to and from the site on a daily basis for construction workers.	Decommissioning	Noise monitoring at/ near identified sensitive receptors Complaints register	Environmental Manager, Environmental Officer	Throughout decommissioning
Terrestrial Flora						
Increase in alien invasive vegetation due to decommissioning activities	Minimise the spread of alien and invasive species post decommissioning and closure	<ul style="list-style-type: none"> Wheels of large machinery should be checked prior to entering the site and cleared of seed or any other plant material (especially of species with spiny or bur-like seeds). All such plant material removed must be burnt. If filling material is to be used, this should be sourced from areas free of invasive species, and alien plant control measures are to be applied to all areas used for sourcing fill materials. Rehabilitate:	Decommissioning, post closure	Visual inspection and photographic record Training records Rehabilitation Plan	Environmental Manager, Environmental Officer	Throughout decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
		<ul style="list-style-type: none"> Rehabilitate and revegetate all areas that have been disturbed. This will be according to a Rehabilitation Plan to be compiled by a suitably qualified specialist and complement a Biodiversity Action Plan (BAP). It will include the following: <ul style="list-style-type: none"> As part of rehabilitation, all compacted soils need to be ripped to a depth of at least 30 cm to prevent soil-surface crusting. Re-vegetation measures of disturbed/modified areas using indigenous shrubs and grasses only. The selection of species used for rehabilitation may not include any species that are not suitable to the receiving environment (i.e. must occur there naturally), and also no species that are indicative of habitat degradation. After decommissioning, if access roads or portions thereof will not be of further use to the landowner(s), remove all foreign material and rip area to a depth of at least 30 cm to facilitate the establishment of vegetation, followed by a suitable revegetation program. 				
Groundwater						
Impact on groundwater quality of the groundwater resource	Minimise degradation of the groundwater resource due to contaminants	<ul style="list-style-type: none"> Operational mitigation measures have to be maintained post closure. Final profiling of the WRDs should be aimed at reducing erosion and minimising further water infiltration. Higher confidence groundwater models (developed/updated using monitoring data collected throughout the construction and operational phases) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring. 	Decommissioning, post closure	<p>It is expected that the DWS Water Use Licence requirements will indicate that the mining site and regionally identified boreholes that are off-site of the project area should be monitored (groundwater levels and water quality) for at least 10 years after mine closure.</p> <p>Indicators: Effluent quality meeting DWS requirements</p>	Environmental Manager; Environmental Officer	Throughout decommissioning and post closure
Impact of contaminants on groundwater users	Minimise the impact on groundwater users due to contamination of the groundwater resource	<ul style="list-style-type: none"> Should monitoring data confirm impact on private users, the client will compensate affected farmers for their loss, or replace the lost water supply source. The numerical groundwater flow and transport model which must have been updated at regular intervals becomes available to ensure assumptions made during the development of the model remain valid and that model predictions remain current. 	Decommissioning, post closure	<p>It is expected that the DWS Water Use Licence requirements will indicate that the mining site and regionally identified boreholes that are off-site of the project area should be monitored (groundwater levels and water quality) for at least 10 years after mine closure.</p> <p>Indicators: Effluent quality meeting DWS requirements</p>	Environmental Manager, Environmental Officer	Throughout decommissioning and post closure
Impact of drawdown or dewatering on the groundwater resource	Minimise impacts to the groundwater resource due to drawdown or dewatering	<ul style="list-style-type: none"> Higher confidence groundwater models (developed/updated using monitoring data collected throughout the operational phase) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring. 	Decommissioning, post closure	<p>It is expected that the DWS Water Use Licence requirements will indicate that the mining site and regionally identified boreholes that are off-site of the project area should be monitored (groundwater levels and water quality) for at least 10 years after mine closure.</p>	Environmental Manager, Environmental Officer	Throughout decommissioning and post closure
Impact of drawdown or dewatering on groundwater users	Minimise the impact on groundwater users due to drawdown or dewatering of the groundwater resource	<ul style="list-style-type: none"> Higher confidence groundwater models (developed/updated using monitoring data collected throughout the construction and operational phases) should be used for post-closure planning and to determine the extent and frequency of post-closure groundwater level monitoring. Should monitoring confirm that any private boreholes are affected by lowering the groundwater table, rendering boreholes unusable (ie loss of water supply source), the client will compensate affected farmers for their loss, replacing the lost water supply source. 	Decommissioning, post closure	<p>It is expected that the DWS Water Use Licence requirements will indicate that the mining site and regionally identified boreholes that are off-site should be monitored for at least 10 years after mine closure.</p>	Environmental Manager, Environmental Officer	Throughout decommissioning and post closure
Socio-economic						
Loss of Employment and Contract Opportunities	To minimise the negative impact of the loss of jobs and termination of contracts due to the	<ul style="list-style-type: none"> The company should develop a Decommissioning Plan for the ultimate closure of the mine to ensure that all social aspects are considered, including human resource management, retrenchment packages, retraining and transferable skills. 	Decommissioning	<p>Decommissioning Plan</p> <p>Grievance mechanism records</p>	Project Manager, Community Relations Officer	Prior to decommissioning

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
	decommissioning and closure of the mine.					
Presence of the workforce and jobseekers	Minimise impacts on the local population due to the presence of the work force and job seekers	<ul style="list-style-type: none"> BMM will ensure that their security personnel work in close collaboration with the police to monitor any illegal activity. All new employees directly or indirectly employed by the Project to go through the induction programme and a Code of Conduct. The Code of Conduct is to form part of induction of all employees related to the Project and it is to be signed by each employee. The Code of Conduct should be available in all relevant languages and at a minimum, English, Afrikaans and Setswana. Grievance procedure to be in place that is easily accessible to the local community, through which complaints related to contractor or employee behaviour can be lodged and responded to. The Project will respond in a serious manner to any such complaints. 	Decommissioning	Stakeholder Engagement Records Training records Grievance mechanism records	Environmental Manager, Community Relations Officer	Prior to construction and to be implemented throughout construction, operations and decommissioning
Pressure on Social Infrastructure and Services	To ensure pressure is not exerted on the local social amenities which will reduce the availability and access of services to the local community.	<ul style="list-style-type: none"> Implementation of the Grievance Mechanism. 	Construction, operations and decommissioning	Stakeholder Engagement Records Training records Grievance mechanism records	Project Manager, Environmental Manager, Community Relations Officer	Throughout Project life
Impact on human health due to air emissions and dust generation	To reduce the health impact on Project-affected communities to the lowest possible level.	<ul style="list-style-type: none"> The Mine will develop and implement a Grievance Mechanism to address stakeholder concerns related to the Project in a timely manner. 	Construction, operations and decommissioning	Grievance mechanism records	Environmental Manager, Community Relations Officer	Throughout Project life
Risk to workers' health and safety due to hazardous Decommissioning activities	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> The Mine will implement a rigorous induction programme for all employees outlining health and safety risks. The Project will comply with all applicable South African legislation in terms of health and safety, and worker rights, which will include access to workman's compensation for loss of income resulting from an onsite incident. As part of the contractor and supplier selection process the Project will take into consideration performance with regard to worker management, worker rights, health and safety as outlined in South African law, international standards and the Project's policies. The Project will provide support to contractors and subcontractors to ensure that labour and working conditions are in line with South African law through capacity building. Workers will be provided with primary health care and basic first aid at construction camps /worksites. Facilities and operations will be developed, planned and maintained such that robust barriers are in place to prevent accidents. All employees have the duty to stop any works if adequate systems to control risks are not in place. In line with the worker code of conduct, employees should not be under the influence of intoxicants which could adversely affect the ability of that employee to perform the work or adversely affect the health and safety of other employees, other persons or the environment. The Project will provide of Personal Protective Equipment (PPE), training and monitoring as well as ongoing safety checks and safety audits. The Project will develop and implement a Grievance Mechanism to address employee concerns related to the Project in a timely manner. 	Decommissioning	Training records Grievance mechanism records H&S Audits	Project Manager, Environmental Manager, Community Relations Officer	Throughout Project life
Unplanned Events						

Aspect, Potential Impact / Issue	Objective	Mitigation and Enhancement Commitments	Applicable Phase	Monitoring and Indicators	Responsible Party	Implementation Time Frame and Frequency
Occupational Health and Safety	To reduce the risk associated with occupational health and safety.	<ul style="list-style-type: none"> Development or upgrade of an Occupational Health and Safety Management Plan (OHSMP). Inductions, training, H&S records and remediating actions, risk assessments of all activities and provision of PPE. The OHSMP should cover all workers on site, including temporary workers and contractors. Carry out regular monitoring and audits of the OHSMP and update as required. 	Construction, operations and decommissioning	Occupational Health and Safety Management Plan Training records H&S Audits	Environmental Manager, Community Relations Officer	Throughout construction, operations and decommissioning
Accidental spills of equipment fuel, oils, and chemicals	Reduce the risk of accidental spills of equipment fuels and oils.	<ul style="list-style-type: none"> Adhere to industry best practice principles. Equipment should be up to standards and serviced regularly to prevent oil spills. A spill response plan should be in place and construction workers should be trained accordingly. On-site storage areas for hydrocarbons and other chemicals should be constructed in a way that potential tank failures can be contained including bunds and surface hardstanding. Hazardous material storage will be constructed on an impermeable surface and the bulk storage facility will be bunded. The Project will restrict storage and handling of hazardous materials and fuels to bunded areas of sufficient capacity to contain a release. Refuelling of equipment and vehicles will be carried out in designated areas on hard standing ground to prevent seepage of any spillages into the ground. Collection systems will be installed in these areas to manage any spills, fuels will be collected and either reused, treated by incineration or removed by a local contractor. Drip trays must be used when refuelling and servicing vehicles or equipment, where it is not on a hardstanding surface. Implement the detailed hazardous material spill response plan, which includes community sensitisation/ notifications when required. The Project will maintain spill clean-up and response capability adequate for addressing spills for all phases of the Project. All spills will be immediately contained and cleaned up. Contaminated areas will be remediated and post remediation verification will be carried out. 	Construction, operations and decommissioning	Spill Response Plan Training records Records of spill clean up and post remediation verification	Environmental Manager, Environmental Officer	Throughout construction, operations and decommissioning
Vehicle Accidents	Reduce the risk and potential impact of vehicle accidents on site and for all Project related activities.	<ul style="list-style-type: none"> All new drivers employed throughout the course of the Project's operations will be required to undergo appropriate levels of training. Speed limits will be enforced for all Project vehicles. Speed limits of 30kph (for heavy vehicles and 40kph for light vehicles) will be enforced along all internal roads. The Mine will work with the relevant local and regional government to ensure the roads used by Project vehicles are well maintained, and that potential problems or hazards are communicated to the relevant authority timeously. 	Construction, operations and decommissioning	Training records Grievance mechanism	Project Manager, Environmental Manager	Throughout construction, operations and decommissioning

5. IMPLEMENTATION OF THE EMPR

5.1 Proponent Roles and Responsibilities

BMM is committed to provide resources essential to the implementation and control of the EMPr. Resources include the appropriate human resources with the necessary skills. BMM has and will have dedicated personnel judged to be competent on the basis of appropriate education, training, and experience to manage and oversee the environmental and social aspects of project operations.

Specific roles and responsibilities of the Proponents key positions are provided in Table 5.1.

Table 5.1 BMM Roles and Responsibilities

Position	Responsibility
Project Manager	<ul style="list-style-type: none">• Oversee the project team and coordinate all activities pertaining to the Project.
Environmental Manager	<ul style="list-style-type: none">• Ensure that the Project and all its Business partners operate in accordance with applicable regulatory requirements and the Project EMPr;• Liaise with regulators on the Project's behalf; and• Oversee programs associated with environmental management.
Site Manager	<ul style="list-style-type: none">• Manage, and ensure the efficient functioning of all site activities by the Project staff and by engineering, procurement, and Business partners and Business partners;• Support the HSE Manager with matters related to HSE compliance and enforcement including implementation of EMPr.
Community Relations Manager	<ul style="list-style-type: none">• Liaise with the communities on the Project's behalf, including in relation to works being carried out by Business partners and Business partners;• Oversee programs associated with local employment and social and community development initiatives;• Maintain the Project's grievance procedure.
Environmental Officer ¹	<ul style="list-style-type: none">• BMM will utilise the current permanent environmental officers for construction and operational phase;• The officers will advise BMM to manage on third party specialist's appointment to undertake monitoring as stipulated in the EMPr. The officers will be responsible to oversee the specialist during their period on site;• The officers will also manage third party services to undertake audits as per the EMPr;• The officers must:<ul style="list-style-type: none">• Be fully knowledgeable with the contents and the conditions of the Environmental Authorisation (s) including all subsequent amendments;• Be fully knowledgeable with the contents of the EMPr(s).• Be fully knowledgeable of all the Expansion licences and permits issued to the site and ensure communication to the relevant personnel on the conditions contained therein;• Be fully knowledgeable with the contents of all relevant environmental legislation, and ensure compliance with them;• Ensure that the contents of this document are communicated to the Business partner site staff and that the Site Manager and Business partner are constantly made aware of the contents through regular discussion;

¹ BMM has indicated that the role typically referred to as ECO is currently fulfilled by the title of Environmental officer at the project site

Position	Responsibility
	<ul style="list-style-type: none"> • Ensure that the compliance of the EMPr (s), EA(s) and legislation is monitored through regular and comprehensive inspection of the site and surrounding areas; • Ensure that the Site Manager has input into the review and acceptance of construction methods and method statements; • Ensure that activities on site comply with all relevant environmental legislation; • Keep record of all environmental activities on site, problems identified, transgressions noted and a task schedule of tasks undertaken; • Ensure that the compilation of progress reports for submission to the Project Company, with input from the Site Manager, takes place on a regular basis, Weekly, Monthly Reports including the Final Post-Construction Audit Report. • Monitor and report on the compliance and performance of the Project with respect to the execution of the EMPr; • Carry out regular on-site inspection; • Monitor and enforce compliance and performance of Business partners and any Business partners;

As a general mitigation strategy, the Environmental officers should be present at the onset, for the site preparation to ensure the correct demarcation of no-go areas, and facilitate environmental induction with construction staff and supervise any flora relocation and faunal rescue activities that may need to take place during the site clearing (i.e. during site establishment).

Thereafter monthly site compliance inspections would probably be sufficient, provided that compliance with the requirements of the EA, EMPr and environmental legislation is maintained. Any Ad-hoc environmental issues which may arise after that will also be dealt with by the site Environmental Officer and Business partners.

In addition, the appointed Business partner will be required to establish and maintain a similar HSE organization.

Business partners are responsible for the overall execution of the activities envisioned in the construction phase including the implementation and compliance with recommendations and conditions of the EMPr and all project permits as stipulated by BMM. It is important that the Business partner is fully aware of the responsibilities in terms of the relevant environmental legislation and the contents of this EMPr.

The Business partner is responsible for informing employees and sub-Business partners of their environmental obligations in terms of the environmental specifications, and for ensuring that employees are adequately experienced and properly trained in order to execute the works in a manner that will minimise environmental impacts.

Table 5.2 Business Partner Roles and Responsibilities

Position	Responsibility
Business Partner Project Manager	<ul style="list-style-type: none"> • Oversee and coordinate all activities; ultimately responsible for HSE compliance of the Business partner; • Be fully knowledgeable with the contents of the EIA Reports and risk management; • Be fully knowledgeable with the contents and conditions of the Environmental Authorisations and related amendments; • Be fully knowledgeable with the contents of the EMPr; • Be fully knowledgeable with the contents of all relevant environmental legislation, and ensure compliance with these; • Have overall responsibility of the EMPr and its implementation; • Ensure that audits are conducted to ensure compliance to the EMPr; • Ensure there is communication with the Project Manager, the ECO, the EO/ Environmental Representative, and relevant discipline engineers on matters concerning environmental compliance; • Be fully knowledgeable with the contents of all Project licences and permits; • Ensure that no actions are taken which will harm or may indirectly cause harm to the environment, and take steps to prevent pollution on the site.
Business Partner Site Manager	<ul style="list-style-type: none"> • Ensure that all work by the Business partner and by all Business partners is done in compliance with applicable regulatory environmental requirements and the Project HSE plans. Responsible for coordination with project Community Relations Manager for all community relations issues including upcoming works. • The Site Manager has the same responsibilities as the Project Manager and is more responsible for the day to day of the EMPr.
Business partner HSE Manager	<ul style="list-style-type: none"> • Ensure that the Business partner organization operates in accordance with applicable regulatory environmental requirements and the Project HSE plans.
Business partner Environmental Officer	<ul style="list-style-type: none"> • The Business partner's EO/ Environmental Representative, employed by the Business partner on a fulltime basis. The EO will be responsible for full day-to-day implementation of this EMPr and should be appointed prior to any commencement of the activities. The Business partner's EO/ Environmental Representative should: • Understand the relevant environmental legislation and processes and the implementation thereof; • Understand the hierarchy of Environmental Compliance Reporting, and the implications of Non-Compliance; • Keep accurate and detailed records of all EMPr-related activities on site. The EO shall keep a daily diary for monitoring the site-specific activities as per project schedule; • The EO is responsible for managing the day-to-day on-site implementation of this EMPr and other Project Permits/ Authorisations; • Train and induct all Business partners employees prior to commencement of any works; • Compilation of Weekly and Monthly Monitoring Reports to be submitted to BMM, and Site Manager; • In addition, the EO/ Environmental Representative must act as project liaison and advisor on all environmental and related issues and ensure that any complaints received from the public are duly recorded and forwarded to the Site Manager, and Business partner.

It is important to note that it is the responsibility of the Business partner (and delegated sub-Business partners) to enforce the day-to-day implementation of the enhancement and mitigation measures for the construction phase specified in this EMP. The Business partner must be contractually required to perform all work in compliance with relevant national HSE legislation and regulations, and the EMP.

5.2 Training and Environmental Awareness on Site

BMM will identify, plan, monitor, and record training needs for personnel whose work may have a significant adverse impact upon the environment or social conditions. BMM recognises that it is important that employees at each relevant function and level are aware of the Project's environmental and social management measures; potential impacts of their activities; and roles and responsibilities in achieving conformance with the commitments and procedures. Training and awareness-raising therefore forms a key element of the EMP.

Key staff will, therefore, be appropriately trained in key areas of environmental and social management and operational control with core skills and competencies being validated on an on-going basis. The identification of training and awareness requirements and expediting of the identified training/awareness events will be the responsibility of the Safety Manager, Environmental Manager and EO.

This will be achieved through a formal training process. Employee training will include awareness and competency with respect to:

- Environmental and social impacts that could potentially arise from their activities;
- Key sensitive no-go areas as identified in the EMPs;
- Legal requirements in relation to environmental and social performance;
- Necessity of conforming to the requirements of the EIA and EMP, in order to avoid or reduce those impacts;
- Activity-specific training on waste management practices, documentation systems and community interactions; and
- Roles and responsibilities to achieve that conformity, including those in respect of change management and emergency response.

The Safety Manager and the Environmental manager for BMM have a responsibility to ensure that their personnel are adequately trained. The BMM training Manager is responsible for coordinating the training, maintaining employee training records, and ensuring that these are monitored and reviewed on a regular basis. The Safety Manager and the Environmental manager for BMM will also periodically verify through discussion and observations that staff are performing competently.

The BMM Training Manager is responsible for coordinating training, maintaining employee-training records, and ensuring that these are monitored and reviewed on a regular basis. The BMM Training Manager will also periodically verify that staff is performing competently through discussion and observation.

The EO is responsible for site environmental awareness training for personnel working on the job sites. The Business partners are also responsible for identification of any additional training requirements to maintain required competency levels.

5.3 Recordkeeping

BMM will control HSE documentation, including management plans; associated procedures; and checklists, forms and reports, through a formal procedure. All records will be kept on site and kept in both hard copy and soft copy formats. The Environmental Manager and Safety Manager is responsible for maintaining a master list of applicable HSE documents.

5.4 Grievance Mechanism

The management of grievances is a vital component of stakeholder management and an important aspect of risk management for the project, since grievances can be an indication of growing stakeholder concerns (real and perceived). Grievances may be verbal or written and are usually either specific claims for damages/injury or complaints or suggestions about construction or operational activities.

When a grievance has been brought to the attention of BMM it will be logged and evaluated. The person or group with the grievance is required to present grounds for making a complaint or claiming loss so that a proper and informed evaluation can be made. Where a complaint or claim is considered to be valid then steps are required to be undertaken to rectify the issue. Where there remains disagreement on the outcome then an arbitration procedure may be required to be overseen by a third party (e.g. government official). Stakeholders will be informed of the grievance procedure.

An existing six-step grievance procedure will be used for the project. These are as follows:

- Step 1: Receive and Log Grievance;
- Step 2: Acknowledge Grievance;
- Step 3: Assess and Prioritise Grievance and Forward to Relevant Department;
- Step 4: Investigate and Resolve Grievance;
- Step 5: Sign-off on Grievance; and
- Step 6: Monitor.

5.5 Monitoring Programme

Monitoring will be conducted to ensure compliance with regulatory requirements as well as to evaluate the effectiveness of operational controls and other measures intended to mitigate potential impacts. Monitoring parameters are included in the EMPr.

5.6 Auditing

Beyond the routine inspection and monitoring activities conducted, audits will be carried out internally by BMM to ensure compliance with regulatory requirements. The audit shall be performed by qualified staff and the results shall be reported to the Site management to be addressed.

The audit will include a review of compliance with the requirements of the EMPr and include, at a minimum, the following:

- Completeness of HSE documentation, including planning documents and inspection records;
- Conformance with monitoring requirements;
- Efficacy of activities to address any non-conformance with monitoring requirements; and
- Training activities and record keeping.

5.7 Corrective Action

Potential impacts and associated risks should be identified. Investigating a 'near miss' or actual incident after it occurs can be used to obtain valuable lessons and information that can be used to prevent similar or more serious occurrences in the future.

BMM will implement a formal non-compliance and corrective action tracking procedure for investigating the causes of, and identifying corrective actions to, accidents or environmental or social non-compliances. This ensures coordinated action between the Site and its Business partners. The BMM Environmental manager is responsible for keeping records of corrective actions and for overseeing the modification of environmental or social protection procedures and/or training programs to avoid repetition of non-conformances and non-compliances.

5.8 Reporting

BMM will provide appropriate documentation of EHS related activities, including internal inspection records, training records, and reports to the DMR as required.

ERM has over 160 offices across the following countries and territories worldwide

Argentina	The Netherlands
Australia	New Zealand
Belgium	Norway
Brazil	Panama
Canada	Peru
Chile	Poland
China	Portugal
Colombia	Puerto Rico
France	Romania
Germany	Russia
Guyana	Singapore
Hong Kong	South Africa
India	South Korea
Indonesia	Spain
Ireland	Sweden
Italy	Switzerland
Japan	Taiwan
Kazakhstan	Tanzania
Kenya	Thailand
Malaysia	UK
Mexico	US
Mozambique	Vietnam
Myanmar	

ERM Cape Town

1st Floor
Great Westerford Building
240 Main Road
Rondebosch
7700
Cape Town
South Africa
T +27 21 681 5400
F +27 21 686 0736

www.erm.com

Annex I

Financial Provision

1. FINANCIAL PROVISION

In order for BMM to satisfy the requirements of the Minerals and Petroleum Resources Development Act (Act No. 28 of 2002) (MPRDA) as amended and the National Environmental Management Act (Act No. 107 of 1998) (NEMA) Financial Provisioning Regulations (GN.1147 of 2015); a quantum of closure related to financial provision must be determined. The financial provision provided at this initial stage must be reviewed periodically and adjusted according to the relevant project activities in order to ensure that accurate rehabilitation costs are accounted for.

The closure and rehabilitation costs of this development must be incorporated into the next annual review of financial quantum provision for BMM and become part of the overall BMM closure plan and financial provisioning.

According to the regulations set out in the Mineral and Petroleum Resources Development Act (Act No. 28 of 2002) (MPRDA) as amended, it is necessary for BMM to compile a closure cost estimate to include the following works:

- The expansion of Swartberg mine which will consist of the expansion of the current underground mine and three new open pit mines (and associated infrastructure), which will result in a total of 150,000,000 tons of ore being mined from the Swartberg over the 19 year LOM.

The financial provision for the environmental rehabilitation and closure of any mine and its associated operations forms an integral part of the MPRDA, and is addressed in Sections 41(1), 41(2), 41(3) and 45 of the Act.

According to Regulation 56 (Principles for Mine Closure) of the MPRDA in the Government Gazette Vol. 466 No. 26275, the holder of a prospecting right, mining right, retention permit or mining permit must ensure that prospecting or mining operations are closed efficiently and cost effectively in accordance with the South African regulations published in terms of the Minerals Act (Act No. 50 of 1991, i.e. regulations 5.16.1 to 5.16.4), which requires the holder of a mining authorisation to:

- Compile EMPr's that indicate adequate financial means in terms of both sufficient and acceptable pecuniary provision to the satisfaction of the DMR; and
- Annually, to the satisfaction of the DMR, and in consultation with an expert, determine the quantum of pecuniary provision.

1.1 Methodology

The calculation of the Black Mountain mine closure quantum is based on the Anglo American PLC (AAplc) Mine Closure Toolbox and the ICMM Mine closure standard, and has been calculated by BMM. This methodology requires that the life cycle of the mine require a more detailed and accurate assessment of the closure liability; in the case of Black Mountain, the required accuracy is 5%. The Closure cost methodology is as follows:

- Obtain accurate and updated layout drawings from the mine. In this regard, BMM managed to obtain the general layout plan showing the mine boundaries and external farms, detailed plans of the plant, workshop and administration buildings as well as the latest aerial photography of the mine. This detailed survey of the infrastructure on site enables calculation of the volume of material in infrastructure and the total surveyed area of disturbed areas. It is compared with the construction plans and bills of quantities to verify the surveys volumes of material and ensure accuracy.
 - All the inventory items were inspected in a sequential manner, based on the assessment zones identified. A special calculation sheet was developed in line with the requirements of the AAplc toolbox and on-site notes were recorded during the survey for each inventory item so identified. The major closure items were identified and on-site measurements were taken to confirm volumes and quantities. Schematic layout drawings of critical areas were also made during the survey to assist with the later calculation and confirmation of the volumes and quantities for each of the closure cost component so identified.
-

- An important part of the on-site survey was to confirm and verify the closure items visible from the latest aerial image against actual on-the-ground buildings and infrastructure. A unique reference number was allocated to each inventory item and this in turn was again linked to a specific assessment zone and layout drawing number. This numbering system is very important and should allow for easy reference and location of any of the closure items so assessed during the survey. The intention is to set a numbering system in place that can easily be located, updated or even amended during future closure assessments.
- The closure items identified for closure by 2021 have been improved to a “Class 2” accuracy (-5% to + 15%) relating to a Final Closure Plan Status based on the “less than 5 years to closure scenario” as this increases the accuracy of the estimates. The Guideline Document for the Evaluation of the Quantum of Closure-Related Financial Provisions by a Mine (Department of Mineral Resources) relates to a more extensive assessment, referred to as the “rules-based approach” route 1 with a route 2 check. What this entails in practical context is that a schedule of quantity calculation is compiled where base rates are used against quantities calculated to obtain a more detailed closure cost estimate.
- The base rates used in the 2014 for the Black Mountain mine (see Annex I 1) were sent to various contracting companies specialising in construction and demolition in the Northern Cape Province, and their inputs were requested to develop new, relevant rates (March 2018) (Annex I 2) that can be used for the Black Mountain Mining area. The base rates obtained were compared to rates from our experience and exposure at various other mines and industries throughout the country. For many of the physical closure items, the average value between the participating contracting companies were used.
- Base rates were determined for demolition, haul, re-sale and/or salvage values and cover the components of steel, concrete, brickwork, timber, cladding and various other mine infrastructure items.
- An itemised closure cost schedule has been compiled by BMM and the complete inventory is included with this report as a stand-alone spreadsheet. This summary spreadsheet is based on measured quantities and base rates applied for each of the closure cost components taken into account in the calculations. The closure cost estimate has been compiled per assessment zone divided further into the various sub-components (buildings, workshop, infrastructure component). The closure cost rate items were identified for each sub-component with a reference to the base rate so used. An indication is further given if that component is hazardous, the unit of measurement, and then the closure cost items allocated in terms of demolition/ rehabilitation and transport cost.

This methodology is considered to deliver a more accurate and higher cost calculation than using the DMR Guideline and will, on average, deliver a more realistic cost calculation which is ~30% higher than using the DMR guideline.

1.2 Closure Cost

The estimated closure cost for the Swartberg expansion is estimated at R63 537 834.35 (*Table 1.1*). *Table 1.1* also describes the closure cost of the existing Swartberg mine (costed under the current assessment). BMM are required to make provision for the estimated closure cost as calculated in *Table 1.1* by means of a Bank Guarantee or via an approved Rehabilitation Trust Fund.

Table 1.1 Closure Costing

DESCRIPTION	DEM & REHAB	TRANSPORT	TOTAL
Overland Conveyor	R1 241 287.15	R31 395.59	R1 272 682.75
Roads	R6 729 972.00		R6 729 972.00
Waste Rock Dumps	R33 957 833.16	R0.00	R33 957 833.16
Mining Area - Workshops	R4 231 544.00	R225 105.00	R4 456 648.70
ROM Area	R3 675 629.76	R91 217.62	R3 766 847.38
Power Lines and Services	R314 580.00		R314 580.00
Biophysical Rehabilitation	R12 818 082.56		R12 818 082.56
Reservoirs	R221 187.00	R7 849.96	R221 187.80
Monitoring Post Closure	R14 689 730.78		R14 689 730.78
Total	R63 190 115.63	R355 568.17	R63 537 834.35

Current Infrastructure costed under current Assessment			
Swartberg Mine Area Current	R292 088.96	R8 857.66	R300 946.61
Swartberg Waste Rock Dump Current	R1 619 044.53	R99 983.30	R1 719 027.84
Main Plant Area	R16 149 237.42	R467 758.93	R16 616 996.35

Source (BMM, 2019)

1.3 Progressive Total

The DMR requires 10 forecasts (one for each of the first 10 years of operation) and the progressive total in the tenth year (excluding concurrent rehabilitation). This however cannot be calculated for the proposed Project at this stage and will be included in the next closure cost calculation (a year from when the environmental authorization is obtained). All activities relating to the proposed Project will occur within the demarcated area (refer to layout map of the EIA report (*Figure 2.1*)).

Annex I 1

BMM Closure Costing

BLACK MOUNTAIN MINE: MINE CLOSURE COSTING

2014

Base Rate Table

Rubble / salvage per unit measurement

Item No	Description	Hazardous (Y/N)	Meas. unit	Demolition base rate	Haul rate/km	Resale / Salvage	Base unit	Base unit per unit	Notes	Rubble / salvage per unit measurement				
										Steel (t)	Cladding (m2)	Concrete (m3)	Bricks (m3)	Rubble (t)
1	Steel								Dismantling and cutting to manageable sizes					
1.1	Large steel structure	N	ton	R 850,00	R 10,00	R 2 000,00	ton	1		1				
1.2	Small steel structure	N	ton	R 800,00	R 10,00	R 2 000,00	ton	1		1				
1.3	Light steel structure	N	ton	R 850,00	R 10,00	R 2 000,00	ton	1		1				
2	Concrete													
2.1	Heavy reinforced concrete	N	m3	R 600,00	R 9,50	R 0,00	m3	1	Breaking down to manageable sizes			1		
2.2	Light reinforced concrete	N	m3	R 550,00	R 9,50	R 0,00	m3	1	Breaking down to manageable sizes			1		
2.3	Non-reinforced concrete	N	m3	R 550,00	R 9,50	R 0,00	m3	1	Breaking down to manageable sizes			1		
2.4	Light duty concrete floor	N	m2	R 110,00	R 1,90	R 0,00	m3	0,1	100mm thick light reinforced			0,1		
2.5	Heavy duty concrete floor	N	m2	R 350,00	R 3,80	R 0,00	m3	0,3	250mm thick heavy reinforced			0,3		
2.6	Strip footing	N	m	R 250,00	R 2,20	R 0,00	m3	0,21	300mm x 700mm strip footing			0,21		
2.7	Heavy column footing	N	No	R 2 350,00	R 23,05	R 0,00	m3	2,4	2000mm x 2000mm x 600mm footing			2,4		
2.8	Suspended concrete floor slab	N	m2	R 250,00	R 2,20	R 0,00	m3	0,2	Approx. 200mm thick slab			0,2		
2.9	Light column footing	N	No	R 65,00	R 1,20	R 0,00	m3	0,06	300 x 300 x 600 mm footing			0,06		
3	Brickwork								Plaster, brickforce, etc. included.					
3.1	General brickwork	N	m3	R 235,00	R 9,50	R 0,00	m3	1					1	
3.2	110mm brick walls	N	m2	R 35,00	R 1,10	R 0,00	m3	0,11					0,11	
3.3	220mm brick walls	N	m2	R 65,00	R 2,40	R 0,00	m3	0,22					0,22	
4	Timber	N	m3	R 250,00	R 2,50	R 50,00								1
5	Cladding	N	m2	R 29,00	R 0,50	R 12,00					1			
6	Glass windows, doors, etc.	N	Sum	R 50,00	R 0,00	R 50,00	Sum	0	All included in other rates					
7	Plant equipment	Varies	ton	R 825,23	R 7,07	R 600,00			Assume all to be scrap metal - no resale of items	0,8				0,2
8	Rubble	Varies	ton	R 230,00	R 7,07	R 0,00								1
9	Paved areas													
9.1	Concrete paving	N	m2	R 95,00	R 1,90	R 0,00			100mm thick non-reinforced concrete			0,1		
9.2	Ashphalt paving	N	m2	R 65,00	R 1,20	R 0,00			All asphalt & tar surfaces				0,08	0,05
9.3	Block paving	N	m2	R 65,00	R 1,90	R 0,00			All block paving (avg. 80mm)					
10	Kerbing	N	m	R 30,00	R 1,50	R 0,00			All types			0,2		
11	Fencing													
11.1	Stock proof fencing	N	m	R 9,00	R 0,00	R 3,00			1.2m high stock proof fencing					0,005
11.2	Diamond mesh fencing	N	m	R 34,00	R 0,00	R 5,00			1.8m high diamond mesh fencing					0,007
11.3	Security fencing	N	m	R 37,00	R 0,00	R 6,00			2.1m high security fencing					0,008
11.4	Steel pallisade	N	m	R 65,00	R 0,40	R 30,00			1.8m steel pallisade fencing	0,02				
11.5	Concrete pallisade	N	m	R 105,00	R 1,50	R 0,00						0,25		
12	Pipes													
12.1	Small dia pipe on surface	N	m	R 22,00	R 0,40	R 30,00			Up to 300mm diameter - steel pipes only - 20kg/m	0,02				
12.2	Large dia pipe on surface	N	m	R 125,00	R 1,00	R 150,00			Over 300mm diameter - steel pipes only - 70kg/m	0,07				
12.3	Small dia pipe below ground	N	m	R 60,00	R 0,40	R 25,00			Up to 300mm diameter - steel pipes only - 20kg/m	0,02				
12.4	Large dia pipe below ground	N	m	R 200,00	R 1,20	R 130,00			Over 300mm diameter - steel pipes only - 70kg/m	0,07				
13	Electricity / Telecommunication								Complete including poles					
13.1	Low voltage electricity	N	m	R 20,00	R 0,30	R 30,00								0,02
13.2	High voltage electricity	N	m	R 30,00	R 0,70	R 120,00								0,05
13.3	Telkom lines	N	m	R 20,00	R 0,30	R 30,00								0,02
13.4	Pantographs	N	m	R 15,00	R 0,30	R 80,00								
13.5	Buried electrical cables	N	m	R 50,00	R 1,00	R 120,00								
14	Railway lines													
14.1	Railway balast	N	m	R 106,10	R 21,22	R 0,00			Assume avg 3 m3/m					5,4
14.2	Railway sleepers	N	m	R 106,10	R 4,72	R 0,00			Assume avg 800mm spacing			0,2		

BLACK MOUNTAIN MINE: MINE CLOSURE COSTING

2014

Base Rate Table

Item No	Description	Hazardous (Y/N)	Meas. unit	Demolition base rate	Haul rate/km	Resale / Salvage	Base unit	Base unit per unit	Notes	Rubble / salvage per unit measurement				
										Steel (t)	Cladding (m2)	Concrete (m3)	Bricks (m3)	Rubble (t)
14.3	Steel rails (x2)	N	m	R 50,00	R 0,80	R 220,00			Assume 22kg/m sections	0,044				

BLACK MOUNTAIN MINE: MINE CLOSURE COSTING

2014

Base Rate Table

Rubble / salvage per unit measurement

Item No	Description	Hazardous (Y/N)	Meas. unit	Demolition base rate	Haul rate/km	Resale / Salvage	Base unit	Base unit per unit	Notes	Rubble / salvage per unit measurement					
										Steel (t)	Cladding (m2)	Concrete (m3)	Bricks (m3)	Rubble (t)	
23	Landfill, Dune Sand & Concentrate Pad Rehabilitation														
23.1	Backfill of Excavated Land with std	N	m3	R 10,89	R 9,50	R 0,00									
23.2	Cover exposed area with topsoil (5	N	t	R 23,82	R 10,00	R 0,00									
23.3	Doming and shaping of dump	N	t	R 3,93	R 0,00	R 0,00									
23.4	Final Rehabilitation of Dune Sand	N	ha	R 37 031,06	R 0,00	R 0,00									
23.5	Amelioration and rehabilitation of r	N	ha	R 94 016,42	R 0,00	R 0,00									
24	Quarries & Open Pits														
24.1	Rehabilitation of open quarry - bas	N	ha	R 99 330,00	R 0,00	R 0,00									
24.2	Quarry rehabilitation (no ameliorat	N	ha	R 22 155,28	R 0,00	R 0,00									
25	Biophysical Rehabilitation														
25.1	Reseeding - Zone 1 (High Sensitiv	N	ha	R 4 252,00	R 0,00	R 0,00									
25.2	Reseeding - Zone 2 (Medium Sens	N	ha	R 3 189,00	R 0,00	R 0,00									
25.3	Reseeding - Zone 3 (Low Sensitivi	N	ha	R 2 126,00	R 0,00	R 0,00									
25.4	Supply of Topsoil @ 375mm/ha	N	ha	R 84 859,00	R 0,00	R 0,00									
25.5	Propagation Transplantation - Zon	N	ha	R 15 241,00	R 0,00	R 0,00									
25.6	Buffer Transplants - Zone 1 & 2	N	ha	R 1 509,00	R 0,00	R 0,00									
25.7	Maintenance - 3 Years	N	ha	R 982,00	R 0,00	R 0,00									
25.8	Monitoring - 5-Years	N	No	R 37 031,06	R 0,00	R 0,00									
26	Monitoring & Maintenance														
26.1	Preparation of Detailed Closure Pl	N	No	R 1 000 000,00	R 0,00	R 0,00									
26.2	Establishment of a GIS Model	N	No	R 200 000,00	R 0,00	R 0,00									
26.3	Geohydrological Study & Model	N	No	R 685 000,00	R 0,00	R 0,00									
26.4	Annual External Monitoring	N	No	R 49 296,00	R 0,00	R 0,00									
26.5	Annual Water Quality Monitoring (N	No	R 500 000,00	R 0,00	R 0,00									
26.6	Annual Monitoring of Vegetation S	N	No	R 78 000,00	R 0,00	R 0,00									
26.7	Annual Monthly Dust Fall-Out Mon	N	No	R 500 000,00	R 0,00	R 0,00									
26.8	Annual Update of the GIS Model	N	No	R 30 500,00	R 0,00	R 0,00									
26.9	Annual update of Geohydrological	N	No	R 40 620,00	R 0,00	R 0,00									
26.10	Annual Climate Survey - 3 x Specif	N	No	R 119 500,00	R 0,00	R 0,00									
26.10	Monitoring of Vegetation Successi	N	No	R 65 000,00	R 0,00	R 0,00									
26.11	Annual Alien Eradication follow-up	N	No	R 65 000,00	R 0,00	R 0,00									
26.12	Annual Maintenance to Tailings	N	No	R 180 000,00	R 0,00	R 0,00									
26.13	Annual Maintenance to Rock Dum	N	No	R 96 000,00	R 0,00	R 0,00									
26.14	Annual Maintenance Supervisor	N	No	R 79 200,00	R 0,00	R 0,00									
26.15	Integration of all assessments	N	No	R 86 063,00	R 0,00	R 0,00									

3. Salvage values are value at salvage yard - off site transport already allowed for in salvage rates

conveyor salvage 80/m
20% resale van conveyors teen 2500/ton
conveyor approx 150ka/m

Annex I 2

BMM Closure Costing

BLACK MOUNTAIN MINE: MINE CLOSURE COSTING

2018

Base Rate Table

Item No	Description	Hazardous	Meas. unit	Demolition base rate	Haul rate/km	Resale / Salvage	Base unit	Base unit per unit	Notes	Rubble / salvage per unit measurement				
										Steel (t)	Cladding (m2)	Concrete (m3)	Bricks (m3)	Rubble (t)
1	Steel								Dismantling and cutting to manageable sizes					
1.1	Large steel structure	N	ton	R 1 486,67	R 20,00	R 2 996,10	ton	1		1				
1.2	Small steel structure	N	ton	R 1 164,22	R 20,00	R 2 996,10	ton	1		1				
1.3	Light steel structure	N	ton	R 1 201,67	R 20,00	R 2 996,10	ton	1		1				
2	Concrete													
2.1	Heavy reinforced concrete	N	m3	R 650,00	R 8,50		m3	1	Breaking down to manageable sizes			1		
2.2	Light reinforced concrete	N	m3	R 550,00	R 8,50		m3	1	Breaking down to manageable sizes			1		
2.3	Non-reinforced concrete	N	m3	R 450,00	R 8,50		m3	1	Breaking down to manageable sizes			1		
2.4	Light duty concrete floor	N	m2	R 45,00	R 1,00		m3	0,1	100mm thk light reinforced			0,1		
2.5	Heavy duty concrete floor	N	m2	R 130,00	R 2,25		m3	0,3	250mm thick heavy reinforced			0,3		
2.6	Strip footing	N	m	R 150,00	R 1,80		m3	0,21	300mm x 700mm strip footing			0,21		
2.7	Heavy column footing	N	No	R 1 800,00	R 25,00		m3	2,4	2000mm x 2000mm x 600mm footing			2,4		
2.8	Suspended concrete floor slab	N	m2	R 195,00	R 2,00		m3	0,2	Approx. 200mm thick slab			0,2		
2.9	Light column footing	N	No	R 1 200,00	R 1,90		m3	0,06	300 x 300 x 600 mm footing			0,06		
3	Brickwork								Plaster, brickforce, etc. included.					
3.1	General brickwork	N	m3	R 285,00	R 8,00		m3	1					1	
3.2	110mm brick walls	N	m2	R 30,00	R 0,90		m3	0,11				0,11		
3.3	220mm brick walls	N	m2	R 65,00	R 1,80		m3	0,22				0,22		
4	Timber	N	m3	R 490,76	R 3,87	R 74,90								1
5	Cladding	N	m2	R 59,22	R 1,37	R 17,98					1			
6	Glass windows, doors, etc.	N	Sum	R 74,90		R 74,90	Sum	0	All included in other rates					
7	Plant equipment	Varies	ton	R 1 420,55	R 9,80	R 898,83			Assume all to be scrap metal - no resale of items	0,8				0,2
8	Rubble	Varies	ton	R 195,00	R 9,80									1
9	Paved areas													
9.1	Concrete paving	N	m2	R 35,00	R 0,85				100mm thick non-reinforced concrete			0,1		
9.2	Asphalt paving	N	m2	R 30,00	R 0,85				All asphalt & tar surfaces					0,05
9.3	Block paving	N	m2	R 35,00	R 0,85	R 20,00			All block paving (avg. 80mm)				0,08	
10	Kerbing	N	m	R 35,00	R 2,12	R 10,00			All types			0,2		
11	Fencing													
11.1	Stock proof fencing	N	m	R 21,01	R 2,00	R 4,49			1.2m high stock proof fencing					0,005
11.2	Diamond mesh fencing	N	m	R 50,93	R 2,00	R 7,49			1.8m high diamond mesh fencing					0,007
11.3	Security fencing	N	m	R 60,93	R 3,00	R 8,99			2.1m high security fencing					0,008
11.4	Steel pallsade	N	m	R 101,40	R 4,00	R 44,94			1.8m steel pallsade fencing	0,02				
11.5	Concrete pallsade	N	m	R 145,06	R 5,00							0,25		
12	Pipes													
12.1	Small dia pipe on surface	N	m	R 34,01	R 2,00	R 44,94			Up to 300mm diameter - steel pipes only - 20kg/m	0,02				
12.2	Large dia pipe on surface	N	m	R 148,74	R 4,00	R 224,71			Over 300mm diameter - steel pipes only - 70kg/m	0,07				
12.3	Small dia pipe below ground	N	m	R 96,03	R 2,00	R 37,45			Up to 300mm diameter - steel pipes only - 20kg/m	0,02				
12.4	Large dia pipe below ground	N	m	R 281,45	R 4,00	R 194,75			Over 300mm diameter - steel pipes only - 70kg/m	0,07				
13	Electricity / Telecommunication								Complete including poles					
13.1	Low voltage electricity	N	m	R 29,96	R 0,45	R 44,94								0,02
13.2	High voltage electricity	N	m	R 44,94	R 1,05	R 179,77								0,05
13.3	Telkom lines	N	m	R 29,96	R 0,45	R 44,94								0,02
13.4	Pantographs	N	m	R 22,47	R 0,45	R 119,84								
13.5	Buried electrical cables	N	m	R 74,90	R 1,50	R 179,77								
14	Railway lines													
14.1	Railway balast	N	m	R 137,47	R 54,89				Assume avg 3 m3/m					5,4
14.2	Railway sleepers	N	m	R 142,00	R 40,54				Assume avg 800mm spacing			0,2		
14.3	Steel rails (x2)	N	m	R 72,95	R 19,10	R 329,57			Assume 22kg/m sections	0,044				

Annex J

Social and Labour Plan



Black Mountain

Social and Labour Plan
Final Draft

Mining Right Reference Number: 517MR

Baseline as at December 2012

TABLE OF CONTENTS

LIST OF TABLES.....	3
LIST OF FIGURES.....	4
LIST OF ABBREVIATIONS.....	5
SECTION 1: PREAMBLE AND OVERVIEW	6
1.1 PREAMBLE.....	7
1.2 OVERVIEW.....	8
1.3 BLACK MOUNTAIN MINING CORPORATE STRUCTURE	9
1.4 CURRENT OPERATIONS AT BMM BLACK MOUNTAIN	9
1.4.1 MINING METHODOLOGY AND EXPECTED WORKFORCE PLAN.....	9
1.4.2 GEOGRAPHIC ORIGIN OF WORKFORCE.....	10
SECTION 2: HUMAN RESOURCES DEVELOPMENT PROGRAMME.....	12
2.1 INTRODUCTION.....	13
2.2 SKILLS DEVELOPMENT PLAN	13
2.2.1. Skills Analysis.....	14
2.3 FUNCTIONAL NUMERACY AND LITERACY	14
2.4 CORE BUSINESS SKILLS TRAINING.....	16
2.5 HARD TO FILL VACANCIES.....	17
2.6 PORTABLE SKILLS TRAINING.....	17
2.8 BURSARY PLANS AND INTERNSHIPS	21
2.9 MENTORSHIP AND COACHING.....	24
2.10 CAREER PATHS AND CAREER PROGRESSION PLANS.....	25
2.10.1 CAREER PATHS AT BLACK MOUNTAIN MINING’S BLACK MOUNTAIN	25
2.10.2 CAREER PROGRESSION PLANS AT BLACK MOUNTAIN MINING’S BLACK MOUNTAIN.....	25
2.11 EMPLOYMENT EQUITY PLANS	26
SECTION 3: LOCAL ECONOMIC DEVELOPMENT	33
3.1 INTRODUCTION.....	34
3.2 SOCIO-ECONOMIC BACKGROUND	34
3.2.1. Availability of Services in the Direct Region.....	38
3.2.2. Key Economic Activities.....	38
3.3 LOCAL ECONOMIC DEVELOPMENT PRIORITIES WITHIN THE AREA OF OPERATION	39
3.3.1. Integrated Development Planning: Namakwa District Municipality.....	39
3.3.2. Integrated Development Planning: Khâi-Ma Local Municipality.....	40
3.4 LOCAL ECONOMIC DEVELOPMENT PRIORITIES WITHIN KHÂI-MA LOCAL MUNICIPALITY	41
3.5 BIODIVERSITY.....	42
3.7 LOCAL ECONOMIC DEVELOPMENT PROGRAMMES.....	45
3.8 MEASURES TO ADDRESS HOUSING CONDITIONS AND NUTRITION.....	48
3.9 PROCUREMENT PROGRESSION PLAN.....	48
SECTION 4: MANAGEMENT OF DOWNSCALING AND RETRENCHMENT PROGRAMME.....	51
4.1 INTRODUCTION.....	52
4.2 ESTABLISHMENT OF A FUTURE FORUM	52
4.2.1. Mechanisms to Save Jobs and avoid Job Losses and a Decline in Employment.....	52
4.3 MECHANISMS TO PROVIDE ALTERNATIVE SOLUTIONS AND PROCEDURES FOR CREATING JOB SECURITY WHERE JOB LOSSES CANNOT BE AVOIDED.....	53
4.4 MECHANISMS TO AMELIORATE THE SOCIAL AND ECONOMIC IMPACT ON INDIVIDUALS, REGIONS AND ECONOMIES WHERE RETRENCHMENT OR CLOSURE OF THE MINE IS CERTAIN	54
SECTION 5: FINANCIAL PROVISIONS FOR THE SOCIAL AND LABOUR PLAN	56
5.1 INTRODUCTION.....	57
5.2 SKILLS DEVELOPMENT PROGRAMM	57
5.3 LOCAL ECONOMIC DEVELOPMENT PROGRAMME	58
5.4 THE MANAGEMENT OF DOWNSCALING AND RETRENCHMENTS	58
SECTION 6: UNDERTAKING AND COMMUNICATION	60
6.1 COMMUNICATION OF THE SOCIAL AND LABOUR PLAN TO EMPLOYEES AT BMM BLACK MOUNTAIN	61
6.2 UNDERTAKING.....	62
APPENDIX A	63
LABOUR SENDING AREAS	63
APPENDIX B	68
PROOF OF SUBMISSION OF WSP.....	68

APPENDIX C 70
CAREER PATHS PER DISCIPLINE 70
2007 73
2011 74

LIST OF TABLES

Table 1: Summary of Black Mountain Mining (Pty) Ltd’s Black Mountain Information.....	7
Table 2: Occupational Distribution of Expected Black Mountain Workforce for Five (5) Years (FY 2014 to FY 2018).....	10
Table 3: Labour Sending Areas at Black Mountain.....	10
Table 4: Compliance with Skills Development Legislation	13
Table 5: The number and educational levels of Employees at Black Mountain as at the 31 December 2012.....	14
Table 6: Strategic Action Plan for Adult Basic Education and Training (ABET).....	15
Table 7: ABET Training Plan for Employees at Black Mountain (FY 2014 to FY 2018)	15
Table 8: Five (5) Year ABET Training Plan for ABET Community at Black Mountain (FY 2014 -FY 2018).....	15
Table 9: Strategic Action Plan for Core Business Skills Training Programmes	16
Table 10: Core Business Skills Training Programmes at Black Mountain (FY2014 to FY 2018).....	16
Table 11: Hard-to-fill vacancies among the Black Mountain Workforce	17
Table 12: Strategic Action Plan for Portable Skills Training Programmes	18
Table 13 : Portable Skills Training Programmes and Targets at Black Mountain for FY 2014 to FY 2018.....	18
Table 14 : Strategic Action Plan for Learnership Programmes	19
Table 15: Learnership Programmes and Targets for Employees at Black Mountain Mining (FY 2014 to FY 2018)	20
Table 16: Bridging Programme Targets for Community at Black Mountain (FY 2014 to FY 2018).....	21
Table 17: School Assistance Targets for Community at Black Mountain (FY 2014 to FY 2018).....	21
Table 18: Bursary and Internship Strategic Action Plan	22
Table 19: Targets for Bursary Plan for Black Mountain (FY 2014 to FY 2018)	23
Table 20: Targets for Internship Plan for Black Mountain (FY 2014 to FY 2018)	24
Table 21 : Strategic Action Plan for Mentorship Programmes.....	24
Table 22: Mentorship Targets at Black Mountain (FY 2014 to FY 2018).....	24
Table 23: Career Progression Targets for Black Mountain (FY 2014 to FY 2018).....	26
Table 24: Career Progression Plans of Black Mountain (FY 2014 to FY 2018)	26
Table 25: Employment Equity Strategies of Black Mountain (FY 2014 to FY 2018)	27
Table 26A: Form S - Employment Equity Statistics as at Dec 2012 (SLP Format) for Corporate Office Employees	28
Table 26B: Form S - Employment Equity Statistics at Black Mountain as at Dec 2012 (SLP Format)	29
Table 27A: Form S as at 31 December 2012 (Mining Charter Format) for Corporate Office Employees.....	30
Table 27B: Form S for Black Mountain Employees as at 31 December 2012 (Mining Charter Format)	31
Table 28A: HDSAs in Management Targets for Corporate Office (FY 2014 to FY 2018).....	32
Table 28B: HDSAs in Management Targets for Black Mountain (FY 2014 to FY 2018)	32
Table 29: Socio-Economic Profile of Northern Cape Province Region.....	35
Table 30: Housing Profile of the Northern Cape Province.....	35
Table 31: Education Profile of the Northern Cape Province.....	36
Table 32: Employment Working Age Group Profile of the Northern Cape Province.....	36
Table 33: Income Profile of the Northern Cape Province.....	37
Table 34: Essential Basic Services in the Surrounding Area	38
Table 35: Sectorial Employment within Northern Cape Province	38
Table 36: IDP Priority Issues and Objectives for Khâi-Ma Local Municipality	41
Table 37: Socio-Economic Impacts Summary	43
Table 38: Record of Stakeholder Engagement.....	46
Table 39: LED Project Summary	46
Table 40: Targets for SMME Mentoring at Black Mountain (FY 2014 to FY 2018)	49
Table 41: HDSA Procurement Target Table for Black Mountain (FY2014 – FY 2018)	50
Table 42: Implementation Action Plan of Workforce Planning in Respect of Downscaling and Retrenchment at Black Mountain.....	52
Table 43: Development and Implementation of Mine Closure Strategies	54
Table 44: Summary of Financial Undertakings in respect of Black Mountain	57
Table 45: Summary of Financial Undertakings in respect of the Mine’s Skills Development Programmes	57
Table 46: Summary of Financial Undertakings in respect of Black Mountain’s Local Development Programmes	58
Table 49: SLP Communication Process Implementation Action Plan.....	61

LIST OF FIGURES

<i>Figure 1: Location of Black Mountain Mining</i>	8
<i>Figure 2: Corporate Structure and Shareholding Information</i>	9

LIST OF ABBREVIATIONS

Abbreviation	Meaning
ABET	Adult Basic Education and Training
ATR	Annual Training Report
BBBEE	Broad Based Black Economic Empowerment
BEE	Black Economic Empowerment
BMM	Black Mountain Mining (Pty) Ltd.
DMR	Department of Mineral Resources
DoL	Department of Labour
DTI	Department of Trade and Industry
EE	Employment Equity
EIA	Environmental Impact Assessment
FY	Financial Year
GET	General Education and Training
GNP	Gross National Product
HDSAs	Historically Disadvantaged South Africans
HET	Higher Education and Training
HRD	Human Resources Development
HRDP	Human Resources Development Programme
ICDP	Individual Career Development Plan
IDPs	Integrated Development Plans
IUCN	International Union for Conservation of Nature and Natural Resources
LED	Local Economic Development
LEDP	Local Economic Development Programme
MPRDA	Minerals and Petroleum Resources Development Act (no. 28, 2002)
MQA	Mining Qualifications Authority
NDM	Namakwa District Municipality
NQF	National Qualifications Framework
NSDF	National Spatial Development Framework
PGDS	Provincial Growth and Development Strategy
RSA	Republic of South Africa
SETA	Sector Education and Training Authority
SLP	Social and Labour Plan
SMMEs	Small, Medium and Micro Enterprises
UIF	Unemployment Insurance Fund
VCT	Voluntary Counseling and Testing
WIM	Women in Mining
WSP	Workplace Skills Plan

SECTION 1: PREAMBLE AND OVERVIEW

1.1 Preamble

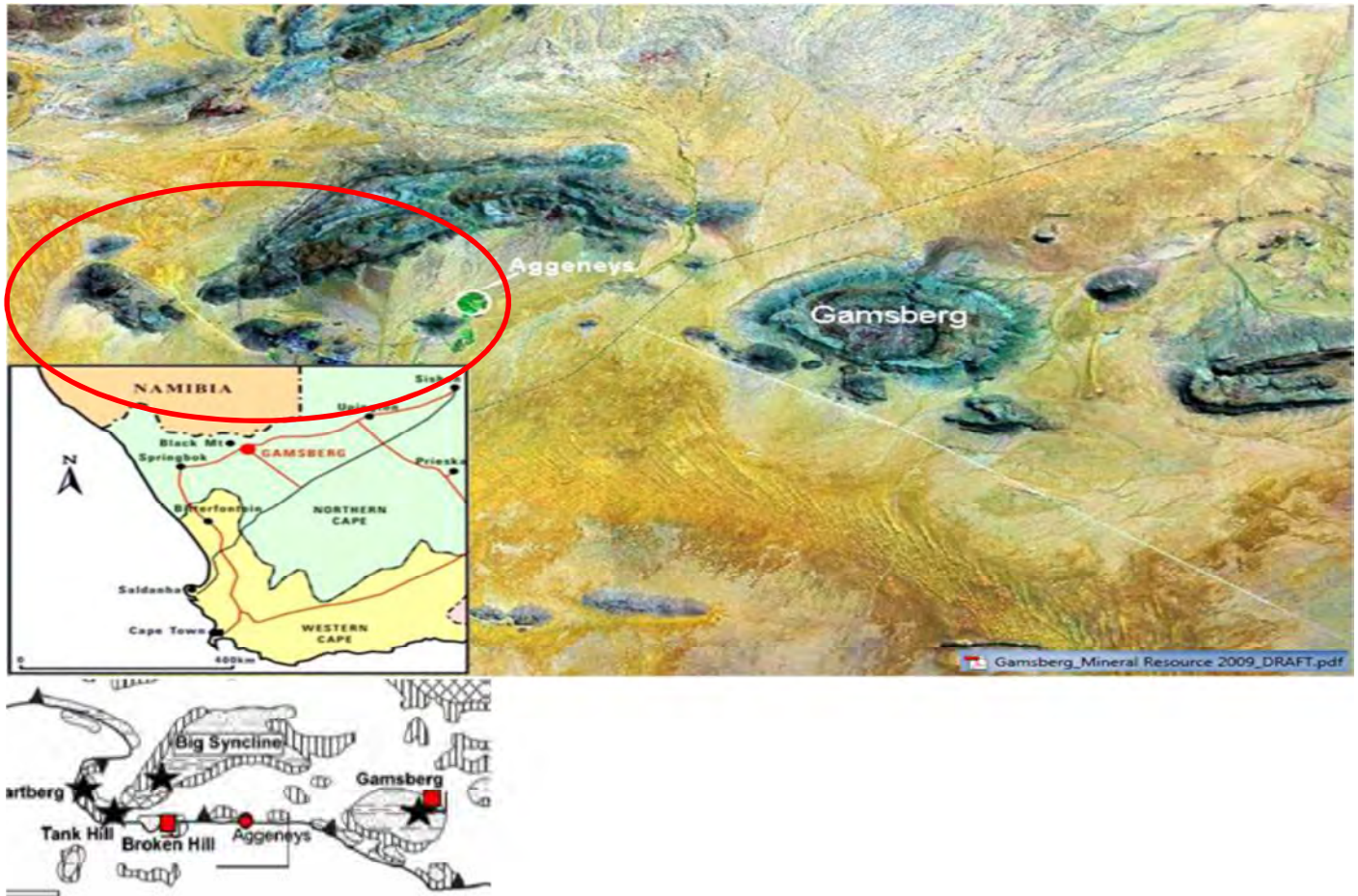
Black Mountain is owned Black Mountain Mining (Pty) Ltd. and lies immediately west of the town of Aggeneys within the Khâi-Ma Local and Namakwa District Municipalities forming part of the Northern Cape Province and is approximately three (3) hours' drive from Upington Airport. Initiated in around 1976 the town of Aggeneys was established to facilitate the Black Mountain, which is an underground base-metal operation that currently employs over 600 permanent staff. Black Mountain Mining (Pty) Ltd. is part of the global Vedanta Resources Plc. (Vedanta).

Table 1: Summary of Black Mountain Mining (Pty) Ltd's Black Mountain Information

Company Name	Black Mountain Mining Pty Ltd
Mine Name	Black Mountain
Mining Right Reference Number	517MR
Mining Right Date	19 August 2008
BEE ownership Status	26% shareholding from Exxaro
Commodity	Copper, Lead, Zinc and Silver
LOM Start Date	2003
LOM End Date	2019
Financial Year End	March
Country	South Africa
Province	Northern Cape
Town	Aggeneys
Contact Person	PD Venter
Telephone No	(054) 983-9256
Fax No	(054) 983-9353
E-mail	pdventer@blackmountain.co.za
Latitude	29.23°S
Longitude	18.80°E
Mine Location	Aggeneys 56 Portion 1, Zuurwater 62 and Koeries 54 Portion 1
Physical address	Black Mountain Mining's Black Mountain lies immediately west of the town of Aggeneys within the Khâi-Ma Local and Namakwa District Municipalities forming part of the Northern Cape Province and approximately three (3) hours' drive from Upington Airport.
Postal Address	Private Bag X01, Aggeneys, 8893

Figure 1 below provides an areal overview of Black Mountain Mining – both Black Mountain as well as the proposed Gamsberg Operation:

Figure 1: Location of Black Mountain Mining



Source: Top MinRED 2009 Bottom: Miner Deposita 2007 (42 (537-549))

1.2 Overview

This Social and Labour Plan (SLP) is resubmitted by Black Mountain Mining (Pty) Ltd' Black Mountain in application for the renewal of the current SLP in terms of the requirements of the Mineral and Petroleum Resources Development Act (Act No.28 of 2002)(MPRDA). The development and submission of a SLP is a requirement of the MPRDA and sets out the social and labour programmes to be in place for the life of every mining right. The objectives of the SLP are to:

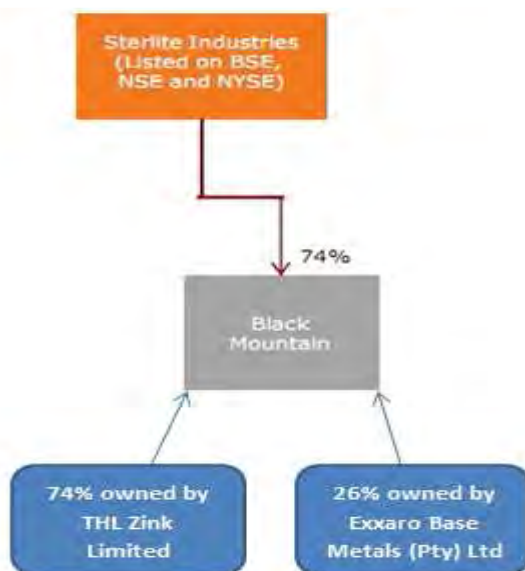
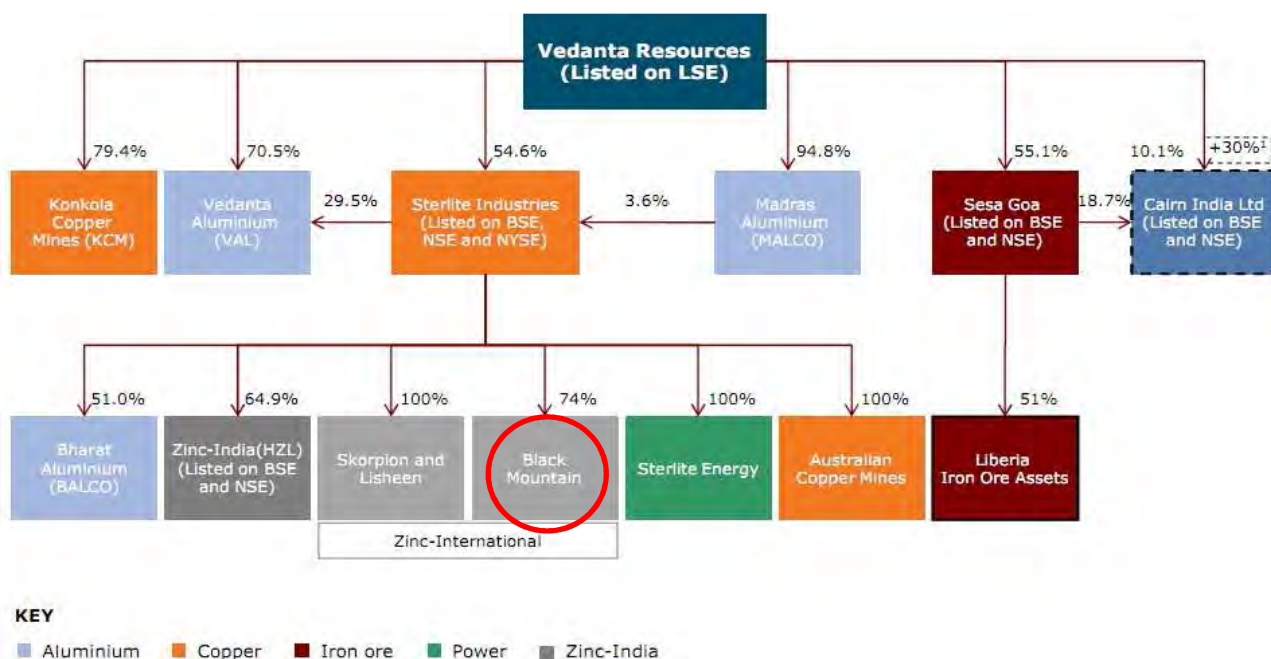
- Promote economic growth and mineral and petroleum resources development in the Republic (Section 2 (e) of the (MPRDA));
- Promote employment and advance the social and economic welfare of all South Africans (Section 2 (f) of the (MPRDA));
- Ensure that holders of mining rights contribute towards the socio-economic development of the areas in which they are operating as well as the areas from which the majority of the workforce is sourced (Section 2 (i) of the MPRDA, and the Charter); and
- To utilize and expand the existing skills base for the empowerment of HDSAs and to serve the community.

Further to the SLPs for its respective mining rights, and in line with the objectives of the MPRDA, Black Mountain Mining (Pty) Ltd has created a pre-emptive document: ***The Life-After-Mine Vision and Transformation Strategy (March 2013)***. This document provides the reader with a vision of the legacy Black Mountain Mining endeavours to leave at completion of operations. This Vision is underpinned by a set of Transformation Management Strategies of which the Short Term, Medium and Long Term Strategies will be underpinned by the Black Mountain and Gamsberg SLPs. The Human Resources Development and Local Economic Development sections of this SLP are in support to the Short Term Strategies and objectives contained within the Life After Mine Vision and Transformation Strategy. This ensures that all efforts are aligned to achieve a sustainable environment at end of life of Mine.

Each consecutive five (5) year SLP plan for the two (2) Operations (Black Mountain as well as Gamsberg) are the building blocks to achieving the Vision and as such the targets and projects within the SLPs will align to the Vision. Progress in meeting the commitments set out in the programmes outlined in the SLP with regards to Human Resource Development, Local Economic Development (LED) and the Management of Downscaling and Retrenchment will be reported in Annual SLP Reports to be submitted to the relevant regional Department of Mineral Resources (DMR). Figure 2 below provides Corporate Structure and Shareholding companies for Black Mountain Mining.

1.3 Black Mountain Mining Corporate Structure

Figure 2: Corporate Structure and Shareholding Information



1.4 Current Operations at BMM Black Mountain

1.4.1 Mining Methodology and Expected Workforce Plan

Exploration of this area commenced in 1929 when the first shaft was sunk on Swartberg (Black Mountain also known as Black Mountain). Random investigations continued at intermittent intervals. In 1971 the Swartberg ore body was intersected, in 1972 the ore body at Noeniespoort se Kop (Broken Hill) and in 1973 the Aggeney's Mountain (Big Syncline) ore body. The most promising of the three ore bodies was at Noeniespoort and an audit to procure bulk samples for metallurgical testing was driven into the hill in 1974. In the late nineties the ore reserves were

nearing depletion and the mine's closure seemed to be forthcoming. Low key exploration continued throughout the nineties, aimed mainly at finding extensions to the Broken Hill ore body, a final test of an area further out from the previously drilled holes was the turning point as high grade mineralization was intersected at a depth of just over 1000m. The current underground mine: The ground can be described as competent with ground support in the 5 m wide by 4 m high cross-sections consists of roof bolting with long anchors, where required. The large open stopes with dimensions of 20m by 30m by 72m height are not backfilled.

Table 2 offers the detail regarding the expected workforce distributions as planned for the FY 2014 to FY 2018 period.

Table 2: Occupational Distribution of Expected Black Mountain Workforce for Five (5) Years (FY 2014 to FY 2018)

Occupational Level	Current as at Dec 2012	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Top management (F)	0	0	0	0	0	0
Senior management (E)	7	7	7	7	7	7
Professionally qualified and experienced specialists and middle management (D)	68	80	80	80	80	80
Skilled technical and academically qualified workers, junior management, supervisors, foremen and superintendents (C)	272	260	260	260	260	260
Semi-skilled and discretionary decisions making (B)	373	449	449	449	449	449
Unskilled and defined decision making (A)	0	0	0	0	0	0
Total Permanent	720	796	796	796	796	796
Non- permanent employees	76	0	0	0	0	0
Total	796	796	796	796	796	796

In order to ensure the effective management and implementation of the SLP targets and commitments, the mine has an established SLP reporting mechanism whereby progress against targets is tracked and discussed in the Social Labour Forum meetings. The mine revises and updates its human resources plans on an annual basis as part of the Life of Mine and Business Planning (budgeting) process to keep them in line with current and future business needs.

1.4.2 Geographic Origin of Workforce

Black Mountain is well aware of the socio-economic pressure an influx of people can have in a semi-urban area, and on the hosting communities as well as the additional need for municipal service delivery and infrastructure. In order to limit the negative impact of the mining operation on the area, the mine has a strong focus on local recruitment with an aim to recruit 60% local (Khâi-Ma) and then from the greater Namaqua Region. Black Mountain acknowledges that a focus on local employment underwrites sustainable human settlement in the long term. The Mine's skills development programmes have been aligned in such a manner that unskilled employees (especially from the local areas) have the opportunity for career development. Furthermore, the Mine has a focused skills development strategy for both employees and surrounding communities in order to further assist the hosting communities with access to opportunities. These strategies are discussed in Sections 2 and 3 of this Social and Labour Plan.

Table 3 provides a breakdown of the Labour Sending Areas of Black Mountain.

Table 3: Labour Sending Areas at Black Mountain

Recruitment Profile	
Local Recruitment	20.0%
In-Province Recruitment	53.3%

Recruitment Profile	
Inter-Provincial Recruitment	21.8%
Foreign Recruitment	4.9%
TOTAL	100.0%

Please refer to Appendix A for breakdown of the Labour Sending Areas as reflected in Table 2 above.

1.5 Core Business Contractor Compliance

Section 101 of the MPRDA states: "If the holder of a right or permission appoints any person or employs a contractor to perform any work within the boundaries of the reconnaissance, mining, prospecting, exploration, production or retention area, as the case may be, such holder remains responsible for compliance with this Act". Therefore core business contractors' progress in respect of the SLP commitments will be reported to the DMR in the Annual SLP Report submission.

Whereas Section 1 of the Social and Labour Plan provides the context to the Mining Operation's environment and its labour; Section 2 of this document will provide detail regarding the commitment and strategies to suitably skill the workforce during the five (5) year SLP period.

SECTION 2: HUMAN RESOURCES DEVELOPMENT PROGRAMME

2.1 Introduction

Black Mountain is committed to the development and transformation of the affected communities within which they are operating. In order to achieve the transformation and development objectives contained within the MPRDA, but also in terms of the Black Mountain Life-After-Mine Vision and Transformation Strategy; the Mine has a strong focus on the recruitment and development of local community members as well as employees from relevant labour sending areas.

2.2 Skills Development Plan

The Mine recognises the importance of its employees in the achievement of its business objectives and that ongoing skills development is the foundation for developing competent and productive employees who are able to participate in meeting the Mine's business objectives. Skills development plans will be in line with the principles of the Human Resource Development Programme as outlined in Section 2.1. The Mine has a commitment to skills development that has an impact beyond the organisation and provides a basis for sustained employability through portable skills and development that is aligned to the National Qualifications Framework (NQF).

The Mine will comply with the requirements of the Skills Development Act and will continue to submit the Workplace Skills Plan (WSP) and Annual Training Report annually as required by the Act (reference Table 4), proof of submission of WSP is attached in Appendix B of this document. Further the mine has registered its mining operation with the relevant Sector Education and Training Authority (SETA), i.e. the Mining Qualifications Authority (MQA), and undertakes to pay Skills Development Levies.

Table 4: Compliance with Skills Development Legislation

Name of SETA:	Mining Qualifications authority
Registration Number at SETAs:	L800769616
Name of Skills Development Facilitator	(position currently vacant)
Name of the institution to which the Workplace Skills Plan (WSP) was submitted.	MQA

Black Mountain skills development plan and programmes will be underpinned by the following principles listed:

- The provision of training and development initiatives is in line with the principles of the National Qualifications Framework and unit standards (where these exist) and is, thus, outcome-based;
- The secondary focus is the improvement of competency levels that facilitate career progression and support the acquisition of skills that can be transferred and used in other environments;
- A mindset is established that development improves the performance of employees / teams / organizations;
- Employees are encouraged to take ownership of their own development;
- Mentoring and coaching of learners is incorporated to support their development where appropriate;
- Training facilities and trainers utilized are appropriately accredited and such accreditation is maintained; and
- Quality control mechanisms are in place to ensure appropriate assessment and moderation.

Black Mountain is committed to, at minimum, meet the 4.5% spend of payroll for 2013 and 5% for 2014 for essential skill development activities "reflective of the demographics, but excluding the mandatory skills levy, including support for South African based research and development initiatives intended to develop solutions in exploration, mining, processing, technology efficiency (energy and water use in mining), beneficiation as well as environmental conservation and rehabilitation"¹

In addition, and as per Section 3 of this document, Black Mountain, as one of its projects, has committed to the upgrading of the O'Kiep FET College. The objective of this project is to provide funding support to O'Kiep FET College to ensure sufficient supply of skilled employees for future operations at Black Mountain Mining operations. This will potentially create a greater alignment between the training offered by the college and Operational requirements. Finally, the implementation of the project will also require construction contractors to subcontract to local labour, further compounding the potential benefits to and skills development of the people of the Namaqualand Area

¹ Amended Mining Charter, September 2010

2.2.1. Skills Analysis

The Mine, through a process of skills analysis, will match and compare the knowledge and skills which employees currently have against those needed for the future and thus identify the gaps which will need to be addressed. This matching process assists the company to focus on the employees' skills areas which require development. A further purpose of the skills analysis process is to establish a partnership between the employer and the employee.

The skills analysis seeks to satisfy both parties' needs by determining where each individual is at in terms of the difference between his/her current skills levels and the required skills levels. After this is identified the company can prioritise training interventions accordingly. Once the competency levels for the current occupation have been acquired, additional skills for career progression as well as skills that can be built upon through the mechanism of the portable skills provision process, both during the life of the mine and towards the end of the life of the mine, can then be addressed. In addition, the process of skills analysis assesses learning ability in order to support the identification of those employees with the potential for further development particularly into management positions (i.e. fast-tracking).

2.3 Functional Numeracy and Literacy

The Mine is committed to developing the educational levels of its employees and therefore, Adult Basic Education and Training (ABET) is a key focus area. ABET functions as a stepping stone to further skills development and leads to employees being able to participate in accredited skills programmes with the ultimate aim of being able to gain skills and qualifications that are both core to the business as well as portable. This creates a pool from which talent can be sourced and improves the welfare and the continued employability of employees. The core mining type training and the support occupation are reported annually to comply with the Mining Charter requirements. Table 5 presents the required Form Q detailing the educational levels of Black Mountain employees.

Table 5: The number and educational levels of Employees at Black Mountain as at the 31 December 2012

BAND	NQF LEVEL	PLANNED AS PER ENVISAGED ORGANOGRAM	Male				Female				Total	
			African	Coloured	Indian	White	African	Coloured	Indian	White	Male	Female
General Education and Training (GET)		No Schooling	0	0	0	0	0	0	0	0	0	0
		Grade 0 / Pre	0	0	0	0	0	0	0	0	0	0
		Grade 1/ Sub A	0	0	0	0	0	0	0	0	0	0
		Grade2/ Sub B	0	0	0	0	0	0	0	0	0	0
		Grade 3/ Std1/ABET 1	5	3	0	0	0	0	0	0	8	0
		Grade4/ Std 2	0	0	0	0	0	0	0	0	0	0
		Grade 5/ Std 3/ ABET 2	6	12	0	0	0	0	0	0	18	0
		Grade 6/ Std 4	0	0	0	0	0	0	0	0	0	0
		Grade 7/Std 5/ABET 3	9	36	0	0	0	3	0	0	45	3
		Grade 8/ Std 6	2	0	0	0	0	0	0	0	2	0
	1	Grade 9/Std 7/ ABET 4	9	27	0	0	0	4	0	0	36	4
Further Education and Training (FET)	2	Grade 10/ Std 8/ N1	22	74	0	6	0	9	0	1	102	10
	3	Grade 11/ Std 9/ N2	4	25	0	3	0	1	0	0	32	1
	4	Grade 12/ Std 10/ N3	26	150	0	20	1	29	0	5	196	35
Higher Education and Training (HET)	5	Diplomas / Certificates	12	100	0	33	1	16	0	3	145	20
	6	First Degrees / Higher Degrees	7	11	5	18	3	8	0	2	41	13
	7	Honours / Master's degrees	1	4	0	2	0	1	1	0	7	2
	8	Doctorates	0	0	0	0	0	0	0	0	0	0
		TOTAL	103	442	5	82	5	71	1	11	632	88

Table 6 provides the strategic action plans that Black Mountain will implement to ensure that illiteracy is addressed.

Table 6: Strategic Action Plan for Adult Basic Education and Training (ABET)

ABET Strategic Action Plan		Responsible Position	Timeframe
1.	Employees who are not functionally literate will be encouraged to participate in ABET and to strive to complete ABET Level 4 in order to access the next level of career development opportunities.	HR Manager	Ongoing
2.	Investigate current status of ABET implementation in communities; commence discussions of assistance to be provided with relevant stakeholders. <i>NOTE: ABET Community commitment may be amended in terms of findings of current status of ABET implementation in the communities.</i>	Community Liaison Manager	By end of 2013
3.	Communication of ABET programme to all employees linked to a clear career path and communicated through HR, posters, internal news bulletins, etc.	HR Manager	Ongoing
4.	Employees passing ABET Level 4 to be awarded publically and immediately enrolled into the next step of Career Progression Programme.	HR Manager	Ongoing
5.	Commence with community ABET drive, this can include road shows, as well as creating a shortlist of potential ABET attendees across all ABET levels and synthesizing communication regarding ABET attendance and associated benefits to them.	Skills Development Facilitator	a.s.a.p.

Tables 7 and 8 gives the breakdown of ABET Training targets for Employees and community for the next five (5) years.

Table 7: ABET Training Plan for Employees at Black Mountain (FY 2014 to FY 2018)

	Target Enrolments FY 2014	Target Enrolments FY 2015	Target Enrolments FY 2016	Target Enrolments FY 2017	Target Enrolments FY2018	Total Target Enrolments
Pre-ABET	0	0	0	0	0	0
ABET Level 1	0	0	0	0	0	0
ABET Level 2	5	5	0	0	0	10
ABET Level 3	5	5	5	5	5	25
ABET Level 4	0	0	5	5	5	15
Total ABET Enrolments	10	10	10	10	10	50
Employee ABET Budget:	138 924	147 259	156 095	165 461	175 388	783 128

Table 8: Five (5) Year ABET Training Plan for ABET Community at Black Mountain (FY 2014 -FY 2018)

	Target Enrolments FY 2014	Target Enrolments FY 2015	Target Enrolments FY 2016	Target Enrolments FY 2017	Target Enrolments FY2018	Total Target Enrolments
Pre-ABET	0	0	0	0	0	0
ABET Level 1	0	0	0	0	0	0
ABET Level 2	0	0	0	0	0	0
ABET Level 3	2	0	2	0	2	6
ABET Level 4	0	2	0	2	0	4
Total ABET Enrolments	2	2	2	2	2	10
*ABET Community Budget:	2 500	2 650	2 809	2 978	3 156	3 346
Budget ABET and ABET Community Combined:	141 424	149 909	158 904	168 439	178 544	786 474

*Please note that the fees above for Community ABET are the fees for the facilitator and not the attendees. Should the same facilitator be used for both Gamsberg and Black Mountain Communities, these fees will only be reported on for one of the Social and Labour Plans in order to avoid duplicate reporting

2.4 Core Business Skills Training

Core Business Skills Programmes play an essential part in equipping employees with the skills and required competencies to successfully execute their employment responsibilities and are informed by the employees' current skills gaps or planned career progression in terms of the individual career paths identified through the skills analysis process. Furthermore, these programmes are also designed to prepare employees and provide them with the necessary capacity and competence to progress to higher employment levels within Black Mountain, in line with mentorship programmes and HDSA participation.

The career paths will be developed to identify the minimum requirements and experience for each position. Development and implementation of skills development programmes in terms of the HRD plan are aimed at addressing core skills training and hard to fill vacancies (please refer to Table 11: Form R - Hard to fill vacancies) and as such, address the training needs of both the company and the individual.

A further objective of the skills development process is to provide marketable skills that will serve the employee beyond her/his employment at Black Mountain Mining Operations. In this respect, the skills training is portable outside of the copper, lead, zinc and silver mining sector to other mining sectors and, where feasible, beyond the mining sector as a whole to other industries. Portable skills' training is further discussed in Section 2.6 of this document.

During the recruitment of the new employees, individual-specific training is planned based on the outcomes of the skills analysis and subsequently, individual development plans, and career progression plans are. This link between individual skills and the Mine's business plan ensures that employees have the skills to fulfill their initial positions effectively and that they are given the opportunity to grow their skills and move up the career path.

Tables 9 to 10 represent action plans and targets in respect of core business skills training for the period Year 2014 to Year 2018. These targets have been set in taking cognisance of both the business and workforce projections plans as well as the five (5) years. Progress in the provision of skills development programmes and core skills training will be reported on an annual basis in the Annual Training Report (ATR) submitted to the relevant SETA and included in the Annual SLP Report.

Table 9: Strategic Action Plan for Core Business Skills Training Programmes

Core Business Skills Training Strategic Action Plan	Responsible Position	Timeframe
1. An ongoing assessment of employees to be done to identify where gaps remain and continuous evaluation against business needs and developmental plans.	Training Officer(s) Training Manager	Ongoing
2. Comprehensive skills training plans with targets, budgets and timeframes (in line with commitments made in the SLP) and the business plan to be established.	Training Officer(s) Training Manager	Ongoing
3. Employees to be assessed with respect to skills and competency gaps, resulting in an employee competency profile.	Training Officer(s) Training Manager	Ongoing

Table 10: Core Business Skills Training Programmes at Black Mountain (FY2014 to FY 2018)

Discipline	Target Enrolments FY 2014	Target Enrolments FY 2015	Target Enrolments FY 2016	Target Enrolments FY 2017	Target Enrolments FY 2018	Total Enrolments (FY 2014 to FY 2018)
Minining	346	346	346	346	346	1 730
Engineering	178	178	178	178	178	890
Processing (inclusive of Metallurgy)	85	85	85	85	85	425

Discipline	Target Enrolments FY 2014	Target Enrolments FY 2015	Target Enrolments FY 2016	Target Enrolments FY 2017	Target Enrolments FY 2018	Total Enrolments (FY 2014 to FY 2018)
Occupational Health, Safety & Environmental Training	711	680	680	680	680	3 431
Total	1 320	1 289	1 289	1 289	1 289	6 476
Total Workforce	820	820	820	820	820	4 100
Budget Provision:	5 000 000	5 175 530	5 486 062	5 815 226	6 164 139	27 640 958

2.5 Hard to Fill Vacancies

Hard to Fill Vacancies are position that are not easily filled (normally positions that are vacant for periods between six to twelve months, and longer, mainly due to skills shortages or other challenges pertinent to the operational context of a particular mine. The Hard to Fill Vacancies particular to Black Mountain is listed in Table 11 below.

Table 11: Hard-to-fill vacancies among the Black Mountain Workforce

Occupational Level	Job title vacancy	Main reason for being unable to fill the vacancy	Strategies to address identified challenges
Top Management (F)			
Senior Management (E)			
Professionally qualified and experienced specialists and mid management (D)	TMM Engineer, Ventilation and Hygiene Manager, Chief Mine Planning Manager	The remoteness of the area	To align salaries in such a way that we are able to attract these candidates.
Skilled technical and academically qualified workers, junior management, supervisors, foreman and superintendents (C)	Mine Overseer, Mine Planning Engineer, Sectional Ventilation Officer,	The remoteness of the area	To align salaries in such a way that we are able to attract these candidates.
Semi-skilled and discretionary decision-making (B)	Artisans	The remoteness of the area	To align salaries in such a way that we are able to attract these candidates.
Unskilled and defined decision making (A)			

2.6 Portable Skills Training

The current expected life of the mine has already been defined as thirty (30) years, commencing from 2008 (see Section 1 – Preamble). As such Black Mountain is aware that a time will come when employees at the Mine will have to seek employment elsewhere. As part of the Skills Development Plan, the company is committed to providing training that is portable, and which will be of assistance to the employee beyond their employment at the Mine.

The skills development strategy seeks to ensure that employees have the skills to support the business operations, therefore, the first priority of Black Mountain is to provide employees with copper, lead, zinc and silver mining related skills. Given the nature of the operation and the skills and competencies required, many of the mining related skills are portable beyond mining of copper, lead, zinc and silver to other commodity mining subsectors, and to other industry sectors. The next level of focus therefore is the provision of skills that can also be portable beyond the mining industry. The DMR definition of portable skills is skills which align to the socio-economic activities of the labour sending area. In this way, employees at the Mine will be provided with relevant skills to be self-sustainable and employable in the event of retrenchments or after the life of mine. Black Mountain will further align Portable Skills Training initiatives with the BMM Life-After-Mine Vision and Transformation Strategy document and to the skills associated with LED projects.

Tables 12 to 13 represent action plans and targets in respect of portable skills programmes for the period Year 2014 to Year 2018. These targets have been set in taking cognisance of both the business and workforce projections plans as well as the five (5) years. Progress in the provision of skills development programmes will be reported on an annual basis in the Annual Training Report (ATR) submitted to the relevant SETA and included in the Annual SLP Report.

Table 12: Strategic Action Plan for Portable Skills Training Programmes

Portable Skills Training Strategic Action Plan	Responsible Position	Timeframe
1. Align Portable Skills Programmes to skills requirements of the LED projects and the socio-economic activities of the Labour Sending Areas.	Community Liaison Manager and Training Officer(s), Training Manager	Ongoing
2. Identify community members and employees to attend identified skill intervention courses/ programmes.	Community Liaison Manager and Training Officer(s), Training Manager	Ongoing
3. Identify Portable Skills Training Interventions which have the potential to be presented through the O’Kiep FET College (or accredited providers) – as portable skills training aligned to the socio-economic activities specific to the Namakwa area can be presented there for the long term benefit of all industries.	Community Liaison Manager and Training Officer(s), Training Manager	Ongoing
4. A dedicated Skills Committee will focus on overseeing the implementation of the skills development programmes aligned to the HRD Programme, which will be reviewed on a monthly and annual basis. Portable Skills will be a special focus area as these programmes are essential to the roll-out of the LED projects.	Training Officer(s), Training Manager	Ongoing
5. Continue to advertise portable skills training programmes amongst the employees.	Training Officer(s), Training Manager	Ongoing
6. Report and monitor employees that may be close to retirement and target for portable skills non-mining.	Training Officer(s), Training Manager	Ongoing

Table 13 : Portable Skills Training Programmes and Targets at Black Mountain for FY 2014 to FY 2018

Portable Skills Training Programmes (Non Mining Related)	Target Enrolments FY 2014	Target Enrolments FY 2015	Target Enrolments FY 2016	Target Enrolments FY 2017	Target Enrolments FY 2018	Total Enrolments (FY 2014 to FY 2018)
Conservation and Biodiversity	10	10	10	10	10	50
Agriculture	10	10	10	10	10	50
Tourism and Hospitality	10	10	10	10	10	50
Electrician	1	1	1	1	1	5
Plumber	1	1	1	1	1	5
Carpenter	1	1	1	1	1	5
Mason	1	1	1	1	1	5
Sub-Total	34	34	34	34	34	170
Total Workforce (Paterson A & B Levels)	474	474	474	474	474	
Budget Provision:	400 000	424 000	449 440	476 406	504 990	2254836

2.7 Learnerships

A Learnership is an occupationally directed, planned learning experience that is a combination of structured practical work experience and structured theoretical training. Both these include on the job and academic components. The Learnership Programmes are aimed at providing learners with an occupationally directed qualification registered with the SAQA and are in line with MQA and other relevant SETA specifications. Through learnerships, structured learning programmes and work experience are integrated and organised for accreditation on the NQF.

The provision of Learnerships within Black Mountain is aimed at addressing current and future skills and competency needs in terms of the career pathing structure and the HRD Planning process. Learnerships are aimed at addressing scarce skills and hard to fill vacancies at the mine and industry wide and as such serve as a vehicle for achieving WIM, Hard to Fill Vacancy, and Core Skills targets. If no Section 18.1 Learnerships can be identified in-house a Section 18.2 learner will be advertised within the surrounding communities. Learner can be allocated a mentor, who is outside the direct line of supervision and who meets with learners on a regular basis (at least quarterly) to review progress and provide support with respect to performance issues.

As a mechanism to address the objective of increasing the pool of available skills, learners can be recruited both internally and externally and placed on in-house learnerships. This assists in addressing both skills shortages and unemployment challenges. Wherever possible, learnerships are partially funded by grants provided by the relevant SETA. However, where such grants are unavailable the provision of such learnerships and the stipend paid to learners is borne by the company.

In planning for Learnerships the following principles are taken into consideration:

- The anticipated number of new learners enrolling each year to be derived from the Workforce Plan and skills analysis; and
- The number of participants who enrolled in prior year(s) and have not yet completed the programme, will continue with the learnership in the year under consideration (i.e carry over).

Therefore the total number of learners, both new and carried over from prior years, who will be participating in the learnership in the year under consideration – total participation.

Tables 14 and 15 provide action plans and targets in respect of learnership skills programmes for employees; with Tables 16 depicting the targets for Bridging Programmes and Table 17 the commitment made towards School Assistance over the next five (5) year period.

Table 14 : Strategic Action Plan for Learnership Programmes

Learnership Programme Strategic Action Plan	Responsible Position	Timeframe
1. Identify the skills requirements for the business going forward.	HR Manager	Ongoing
2. Register and train new Engineering learners on learnerships as indicated per discipline.	Training Officer	Ongoing
3. Provide on-the-job training once theoretical training is completed.	Training Officer	Ongoing
4. Report progress in the provision of Learnerships in the Annual Training Report (ATR) submitted to the relevant SETA and the Annual SLP Report.	Training Department	Ongoing
5. Provide assistance to Schools and Bridging programmes to ensure future Learnership and Bursary candidates from surrounding communities.	Community Liaison Manager and HR Manager	Ongoing
6. Communication all opportunities and vacancies internally and externally – implementation of the Communication Plan to ensure all Transformation Strategies and efforts are aligned.	Community Liaison Manager and HR Manager	Ongoing

Table 15: Learnership Programmes and Targets for Employees at Black Moutain Mining (FY 2014 to FY 2018)

Learnership Programme	Length of Programme (indicate months/ years)	Learners currently in programme	FY 2014		FY 2015		FY 2016		FY 2017		FY 2018	
			Section 18.1		Section 18.1		Section 18.1		Section 18.1		Section 18.1	
			Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out
Electrical	3 years	4	3	0	0	4	3	3	2	0	1	3
Learner Technician	3 years	0		0	0	0	1	0	1	0	0	1
Fitter	3 years	1	3	0	0	1		3	1	0	1	
Auto Electrical	3 years	1	2	0	0	1	3	2	0	0	0	3
Diesel Mechanic	3 years	1	3	0	0	1	3	3	2	0	1	3
Instrument Mechanician	3 years	0	1	0	0	0	0	1	1	0	1	0
Plater/Welder	3 years	0	2	0	0	0	3	2	0	0	0	3
Rigging	3 years	1	1	0	0	1	0	1	1	0	1	0
WED	2 years	0	4	0	0	4	4	0	0	4	4	0
Blasting Certificate	2 years	0	5	0	0	5	5	0	0	5	5	0
Total		8	24	0	0	17	22	15	8	9	14	13
Total Number of New Learnerships			32		32		37		30		35	
Budget Provision:			1 368 000		1 450 080		1 777 254		1 527 478		1 888 981	

Tables 16 depicting the targets for Bridging Programmes and Table 19 the commitment made towards School Assistance over the next five (5) year period. The Bridging programme, as depicted in Table 18, is to provide for a year of practical training towards a B-Tech Degree.

Table 16: Bridging Programme Targets for Community at Black Mountain (FY 2014 to FY 2018)

Type/Area of Training	Length of Programme (e.g. 3 years, etc.)	Programme Accredited (Yes/No)	2014		2015		2016		2017		2018	
			Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out
Mining	6 months	No	3	3	2	2	4	4	3	3	2	2
Engineering	6 months	No	2	2	2	2	2	2	3	3	3	3
Plant Process	6 months	No	3	3	4	4	3	3	3	3	4	4
Total			10	10	10	10	10	10	10	10	10	10
Total number of individuals supported:			10		10		10		10		10	
Budget:			120 000		127 200		134 832		142 921		151 492	

Table 17: School Assistance Targets for Community at Black Mountain (FY 2014 to FY 2018)

Year	Name of School/ Institution	Description of assistance to be provided	How was need identified	Budget
2014	Aggeneys Primary Aggeneys Secondary Francois Visser Primary Pella Onseepkans	Developing Teachers Maths classes Science classes	School Principles School Governing Bodies Consultants	500 000
2015	Aggeneys Primary Aggeneys Secondary Francois Visser Primary Pella Onseepkans	Developing Teachers Maths classes Science classes	School Principles School Governing Bodies Consultants	530 000
2016	Aggeneys Primary Aggeneys Secondary Francois Visser Primary Pella Onseepkans	Developing Teachers Maths classes Science classes	School Principles School Governing Bodies Consultants	561 800
2017	Aggeneys Primary Aggeneys Secondary Francois Visser Primary Pella Onseepkans	Developing Teachers Maths classes Science classes	School Principles School Governing Bodies Consultants	595 508
2018	Aggeneys Primary Aggeneys Secondary Francois Visser Primary Pella Onseepkans	Developing Teachers Maths classes Science classes	School Principles School Governing Bodies Consultants	631 238

2.8 Bursary Plans and Internships

Black Mountain Mining recognises that bursaries and internships are a critical building block in meeting the skills requirements and striving to achieve the HDSA in Management targets and targets for women in mining at the Mine. In addition to contributing to making the sector more competitive and representative of South Africa's demographics by providing learning opportunities to previously disadvantaged individuals, the provision of

bursaries can impact on the Black Mountain Mining’s need to find incumbents for hard to fill vacancies and provide potential successors for management positions.

As a separate but complementary process, internships provide the opportunity for work related experience that will help learners prepare for the world of work. These programmes will contribute towards human resource development within Black Mountain by identifying and nurturing potential at an early stage and providing opportunities for more skills at the levels required in the organisation, particularly those relevant to present and future workforce needs as identified in the Human Resources plan.

Black Mountain is committed to implementing a bursary programme for students at tertiary education institutions inclusive of the costs of enrolment, tuition, and accommodation. Recruitment of new bursars is done annually by advertising and communication primarily in local newspapers surrounding the mines, as well as at local high schools. In the allocation of bursaries, preference is given to HDSA’s from the local communities.

The bursary programme facilitated by the Operation operates in accordance with the listed implementation principles – please refer to Table 18 below:

Table 18: Bursary and Internship Strategic Action Plan

Bursary and Internship Strategic Action Plan	Responsible Position	Timeframe
1. The bursary program primarily caters for students studying towards a mining-related tertiary qualification recognised South African institutions.	Training & Development Manager	Ongoing
2. Ongoing liaison with tertiary institutions is a key aspect in ensuring top students are identified and the training is relevant to the business requirements.	Community Liaison Manager, Training & Development Manager	Ongoing
3. Bursaries are awarded to deserving students, preferentially from local communities, with potential to succeed.	Community Liaison Manager, Training & Development Manager	Ongoing
4. Ongoing support and coaching is provided to the bursars to ensure their adjustment to tertiary education life and throughout their studies.	Training & Development Manager	Ongoing
5. Those awarded bursaries are expected to do vacation work at the mine and also enter into service contracts as required.	Training & Development Manager	Ongoing
6. Although some leeway may be given under special circumstances, students are expected to pass all subjects enrolled for in order to maintain their bursary.	Training & Development Manager	Ongoing
7. Mentors are appointed to mentor the students both while at their tertiary institutions as well as when they are at the mine for vocational and/or experiential training.	Training & Development Manager	Ongoing
8. Progress in the Bursary programme will be reported on an annual basis in the Annual SLP Report.	Training & Development Manager	Ongoing

The number of bursar beneficiaries to be supported by Black Mountain for the period FY 2014 to FY2018 is shown in Table 19.

Table 19: Targets for Bursary Plan for Black Mountain (FY 2014 to FY 2018)

Bursary Programme	Length of Programme	FY 2014		FY 2015		FY 2016		FY 2017		FY 2018	
		Section 18.2		Section 18.2		Section 18.2		Section 18.2		Section 18.2	
		Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out	Target Enrolment	Expected Pass-out
Geology	4 years	3	0	0	0	0	0	0	3	3	0
Engineering	4 years	1	0	0	0	0	0	0	1	1	0
Finance	3 years	1	0	0	0	0	1	1	0	0	0
Mining	4 years	1	0	0	0	0	0	0	1	1	0
Chemistry (analytical chemistry)	4 years	1	0	0	0	0	0	0	1	0	0
Chem Eng	4 years	2	0	0	0	0	0	0	2	2	0
Total		8	0	0	0	0	1	1	7	7	0
Total Number of New Bursars:		8		8		8		8		8	
Budget Provision:		800 000		848 000		898 880		952 813		1 009 982	

Tables 20 presents the targets for the number of internship programmes planned at Black Mountain for Employees for the next five (5) years .

Table 20: Targets for Internship Plan for Black Mountain (FY 2014 to FY 2018)

Internship Programme	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Total New Intakes (FY 2014 to FY 2018)
Engineering	0	0	0	1	0	1
Mining	1	1	1	1	1	5
Chem Eng	2	2	2	2	2	10
Finance	1	0	0	1	0	2
Total:	4	3	3	5	3	18
Budget Provision:	360 000	270 000	270 000	450 000	270 000	1 620 000

2.9 Mentorship and Coaching

The aim of mentorship is to improve the competencies (knowledge, skill and attitude) of employees to meet the current and future demands of the job. Mentorship assists and supports employees to manage their own learning and skills and competency acquisition in order to maximize their potential, and improve their performance.

Both mentoring and coaching have a role to play in supporting the developmental initiatives that can be in place at a mine. Black Mountain Mining view mentorship and coaching of employees as the link between skills development, skills planning and employment equity.

Table 21 provides the strategic action plans that Black Mountain will implement to ensure that mentorship programmes are rolled out.

Table 21 : Strategic Action Plan for Mentorship Programmes

Mentorship Programme Strategic Action Plan	Responsible Position	Timeframe
1. Employees identified to be on the Accelerated Development Program, Professionals in Training and Bursars will each be assigned a Mentor.	EXCO	Ongoing
2. Mentors and Mentees to be trained.	OD & Training Manager	Ongoing
3. Progress in the mentorship programme to be reported on an annual basis in the Annual SLP Report.	OD & Training Manager	Ongoing

Table 22 below reflects the targets for the provision of mentoring at the Operation:

Table 22: Mentorship Targets at Black Mountain (FY 2014 to FY 2018)

Mentorship Programme	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	Total New Intakes (FY2014 to FY 2018)	
Employees (linked to Career Progression Plans)	24	23	23	25	23	118	
Management Trainees (Graduates)	20	20	20	20	20	40	
Total	44	43	43	45	43	158	
Details of Mentoring Programmes to be confirmed per Implementation Year				Target		Gender	
	Mentoring Programmes	Career Deliverables	Duration	HDSA	Non-HDSA	Male	Female
Year 1	TBC 2014						
Year 2	TBC 2015						
Year 3	TBC 2016						
Year 4	TBC 2017						
Year 5	TBC 2018						

2.10 Career Paths and Career Progression Plans

2.10.1 Career Paths at Black Mountain Mining's Black Mountain

Career paths are specific to the discipline and operational area for which they are determined and different career clusters can be defined. The career paths show how people can advance from one position to another within the career groups through the development of further skills and competencies. The career paths further outline the minimum requirements for each position as well as the minimum training/experience required therefore serving as a planning framework to determine the skills and competencies that should be developed to ensure career progression.

The respective career paths for each of the career clusters shown are included in Appendix A for full reference. Although movement from one (1) career group to another is possible, especially at lower levels, such movements are by exception and are determined taking into consideration the employee's career aspirations and the resources available to develop employees in a different career cluster than their current occupation.

2.10.2 Career Progression Plans at Black Mountain Mining's Black Mountain

Career management is the process that plans and shapes the progression of individuals within a company in accordance with Black Mountain needs and objectives, employees' potential and their preferences. Career development is a planned effort to link the employees' career needs with the workforce requirements as dictated by the employer's strategic direction (see Sections 2.8 and Appendix C).

The Career Progression Programme will be established and will be underpinned by the following principles:

- Development Committees in each discipline sign off on career paths for each discipline;
- Employees will go through Career Aspiration Interviews to understand their career development opportunities;
- Where necessary, employees will go through the necessary assessments to ensure that they have the potential required to undertake development in line with their career aspirations;
- Feedback will be provided to all employees after the Career Aspiration Interviews and Assessments regarding their potential to be developed in line with their career aspirations;
- For employees the prioritization of development (for those employees who have been found to have potential to be developed further) will be discussed in the Dedicated Committee of the mine;
- The priority lists for BMM's Black Mountain will be consolidated into a group prioritization list with estimated timelines of when the employees will be given the necessary training and development exposure, and feedback given to employees and the Dedicated Committees;
- Progress feedback will be given to the Development Committee;
- Employees' Career Progression Plans will be monitored by the Development Committee;
- Particular emphasis will be placed on women in mining positions and HDSAs identified for development into management positions to ensure that the targets set in this regard are met; and
- All employees will have the opportunity during their employment at the mine to update or amend their Career Progression Plans.

To ensure that employees are aware of the opportunities available to them, Black Mountain will continue to communicate to all employees the Career Management Policy, the generic career paths as well as how these relate to the employee's development plans.

Employees are encouraged to take responsibility for planning their careers and development by assisting in establishing and meeting the objectives and performance requirements for their initial jobs and following through with their development plans. Because the process is voluntary, those employees who do not wish to participate will still be eligible to receive training and development in line with the requirements of their jobs. Failure to participate will not stand in the way of the employee's opportunity to participate in the process at a later stage.

Table 23 below indicates the five (5) year targets for Career Progression Plans at Black Mountain Mining's Black Mountain Operation, with Table 24 providing an overview of candidates on Career Progression Plans.

Table 23: Planned Career Progression Targets for Black Mountain (FY 2014 to FY 2018)

Occupational Levels	FY 2014		FY 2015		FY 2016		FY 2017		FY 2018	
	Total Headcount	Total No. of Employees with an IDP	Total Headcount	Total No. of Employees with an IDP	Total Headcount	Total No. of Employees with an IDP	Total Headcount	Total No. of Employees with an IDP	Total Headcount	Total No. of Employees with an IDP
Paterson E Level	6	86%	6	86%	6	86%	6	86%	6	86%
Paterson D Level	66	79%	66	79%	60	71%	60	71%	60	71%
Paterson C Level	247	97%	247	97%	230	90%	211	83%	211	83%
Paterson B Level	373	79%	373	79%	373	79%	373	79%	373	79%
Paterson A Level	0	0%	0	0%	0	0%	0	0%	0	0%
Total	692	84%	692	84%	669	82%	650	79%	650	79%

Table 24: Career Progression Plans of Black Mountain (FY 2014 to FY 2018)

Current Position	Training Intervention	Qualification to be achieved	No. of Employees (2014)		No. of Employees (2015)		No. of Employees (2016)		No. of Employees (2017)		No. of Employees (2018)	
			New	Cont.	New	Cont.	New	Cont.	New	Cont.	New	Cont.
Mining Operator	Class room and practical training	Rock Breaking Certificate	5	0%	0	100%	5	0%	0	100%	5	0%
Serviceman	Class room and practical training	Artisan Trade Certificate	15	0%	0	100%	0	100%	15	0%	0	100%
Total			20	0	0	20	5	25	15	40	5	45

Candidates selected for the abovementioned interventions for 2014 is provided in Appendix C

2.11 Employment Equity Plans

In line with the intentions of the Employment Equity Act, Black Mountain Mining's Black Mountain is committed to the strategic objectives that include having individuals from historically disadvantaged groups (including women) represented in all positions of skill and responsibility and at all levels within the next five (5) year period. The Amended Mining Charter of 2010 states:

"In order to create a conducive environment to ensure diversity as well as participation of HDSA at all decision-making positions and core occupational categories in the mining industry, every mining company must achieve a minimum of 40% HDSA demographic representation at:

- Executive Management (Board) level by 2014;
- Senior management (EXCO) level by 2014;
- Core and Critical skills by 2014;
- Middle management level by 2014;
- Junior management level by 2014.

In addition, mining companies must identify and fast-track their existing talent pools to ensure high level operational exposure in terms of career path programmes."

Black Mountain accepts that this can only be achieved with pro-active interventions including the creation of a culture of equity and building upon the strengths that diversity brings. To this end, the Mine's Employment Equity Plans aim at to achieve the following objectives:

- to promote diversity within the Mine, in order to reflect a truly South African company that is world class;
- to eliminate unfair discrimination;

- to ensure that Black Mountain is recognised as an equal opportunities employer;
- to establish and exceed the required degree of representation of designated groups in all occupational categories and levels of the mine;
- to integrate the Mine’s employment equity initiatives with the Skills Development Act, as far as is practically possible; and
- to increase the number of women as well as HDSAs in management positions, over time and in line with the targets.

Black Mountain’s Employment Equity Strategies are depicted in Table 25 below:

Table 25: Planned Employment Equity Strategies of Black Mountain (FY 2014 to FY 2018)

B9 (b): EMPLOYMENT EQUITY STRATEGIES - (2014 to 2018)												
MECHANISM	Current:		Target: FY 2014		Target: FY 2015		Target: FY 2016		Target: FY 2017		Target: FY 2018	
	WiM	HDSA	WiM	HDSA	WiM	HDSA	WiM	HDSA	WiM	HDSA	WiM	HDSA
Fast Tracking	13	22	13	22	13	22	13	22	13	22	13	22
Succession Planning	1	3	2	5	2	5	3	7	4	8	5	9
Talent Pool	1	3	2	5	2	5	3	7	4	8	5	8
Total:	15	28	17	32	17	32	19	36	21	38	23	39

The implementation of the Employment Equity principles at Black Mountain can be guided by the following implementation principles as listed in below:

- Focus to be placed on attracting and retaining HDSAs including women;
- Creating opportunities for the focused development of historically disadvantaged South Africans to ensure that they are able to progress in their careers, thereby ensuring a representative workforce at all levels;
- Mining-related occupations to be specifically identified in the workforce plan and strategies and targets identified to support the inclusion of women into these occupations;
- Skills assessments to focus on the identification of employees with the potential to be developed into management positions, and career development plans will drive the growth and advancement of these employees;
- Appropriate skills training in line with the career path structure to be provided for HDSAs and women to ensure that they acquire the appropriate skills and competencies;
- HDSAs identified for Accelerated Development Programs to be mentored and to provide them with support and assistance to ensure that they can assume their roles with success;
- Policies directed at the facilitating the retention of HDSAs and Women; and
- The progress made in recruiting (both internal and external) HDSAs into management positions and the inclusion of women in mining positions across all occupational levels will be reported in the Annual SLP report.

Candidates selected to participate in the EE Strategies (Table 25 above) for 2014 is provided in Appendix C.

Table 26 to 28 respectively are:

- Table 26 A Form S within the SLP Reporting Format for Corporate Office Employees
- Table 26 B Form S within the SLP Reporting Format for Black Mountain Employees
- Table 27 A Form S within the Mining Charter Reporting Format for Corporate Office Employees
- Table 27 B Form S within the Mining Charter Reporting Format for Black Mountain Employees
- Table 28 A HDSAs in Management Targets for 2014 to 2018 for Corporate Office Employees
- Table 28 B HDSAs in Management Targets for 2014 to 2018 for for Black Mountain Employees

Table 26: Form S - Employment Equity Statistics as at Dec 2012 (SLP Format) for Corporate Office Employees

OCCUPANCY LEVELS	Designated							Non-Designated			TOTAL
	Male			Female				Male	Foreign Nationals		
	African	Coloured	Indian	African	Coloured	Indian	White	White	Male	Female	
Top management (Paterson Level F)	0	0	0	0	0	0	0	0	1	0	1
Senior management (Paterson Level E)	0	1	0	0	0	0	0	1	8	0	10
Professionally qualified and experienced specialists and mid-management (Paterson Level D)	2	0	0	0	0	0	1	1	5	0	9
Skilled technical and academically qualified workers, junior management, supervisors, foremen, and superintendents (Paterson Level C)	0	0	0	0	0	0	0	0	0	0	0
Semi-skilled and discretionary decision making (Paterson Level B)	0	0	0	0	0	0	0	0	0	0	0
Unskilled and defined decision making (Paterson Level A)	0	0	0	0	0	0	0	0	0	0	0
Total Permanent	2	1	0	0	0	0	1	2	14	0	20
Total Non- Permanent	0	0	0	0	0	0	0	0	0	0	0
Total	2	1	0	0	0	0	1	2	14	0	20

Table 27: Form S - Employment Equity Statistics at Black Mountain as at Dec 2012 (SLP Format)

	Designated							Non-Designated			TOTAL
	Male			Female				Male	Foreign Nationals		
	African	Coloured	Indian	African	Coloured	Indian	White	White	Male	Female	
Top management (Paterson Level F)											
Senior management (Paterson Level E)	1	2	0	0	0	0	0	3	1	0	7
Professionally qualified and experienced specialists and mid-management (Paterson Level D)	4	18	3	2	4	0	0	32	4	1	68
Skilled technical and academically qualified workers, junior management, supervisors, foremen, and superintendents (Paterson Level C)	6	169	0	2	29	0	13	53	0	0	272
Semi-skilled and discretionary decision making (Paterson Level B)	87	243	0	2	41	0	0	0	0	0	373
Unskilled and defined decision making (Paterson Level A)											
Total Permanent	98	432	3	6	74	0	13	88	5	1	720
Total Non- Permanent	2	59	0	0	10	0	2	3	0	0	76
Total	101	491	3	6	84	0	15	91	5	1	796

Table 28: Form S as at 31 December 2012 (Mining Charter Format) for Corporate Office Employees

OCCUPANCY LEVELS	Male				Female				TOTAL	DISABLED	
	African	Coloured	Indian	White	African	Coloured	Indian	White		Male	Female
Top management (Board)	0	0	1	0	0	0	0	0	1	0	0
Senior management (ExCo)	2	1	6	1	0	0	0	0	10	0	0
Middle Management	2	0	5	1	0	0	0	1	9	0	0
Junior Management	0	0	0	0	0	0	0	0	0	0	0
Core Skills	0	0	0	0	0	0	0	0	0	0	0
TOTAL PERMANENT	4	1	12	2	0	0	0	1	20	0	0
NON PERMANENT	0	0	0	0	0	0	0	0	0	0	0

Table 29: Form S for Black Mountain Employees as at 31 December 2012 (Mining Charter Format)

OCCUPANCY LEVELS	Male				Female				TOTAL	DISABLED	
	African	Coloured	Indian	White	African	Coloured	Indian	White		Male	Female
Top management (Board)	0	0	0	0	0	0	0	0	0	0	0
Senior management (ExCo)	1	2	1	3	0	0	0	0	7	0	0
Middle Management	7	18	4	32	3	4	0	0	68	0	0
Junior Management	6	169	0	53	2	29	0	13	272	1	1
Core Skills	87	243	0	0	2	41	0	0	373	0	0
TOTAL PERMANENT	101	432	5	88	7	74	0	13	720	1	1
NON PERMANENT	2	59	0	3	0	10	0	2	76	0	0

Table 30: HDSAs in Management Targets for Corporate Office (FY 2014 to FY 2018)

Occupational Level	Current at Dec 2012			FY 2014			FY 2015			FY 2016			FY 2017			FY 2018		
	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated
Top management (F)	1	0		1			1			1			1			1		
Senior management (E)	10	1	10%	12	6	50%	12	6	50%	12	6	50%	12	6	50%	12	6	50%
Professionally qualified and experienced specialists and middle management (D)	9	3	3.34%	12	7	58%	12	7	58%	12	7	58%	12	7	58%	12	7	58%
Total Management	20	4	20%	25	13	52%	25	13	52%	25	13	52%	25	13	52%	25	13	52%
Junior Management	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%	0	0	0%

Table 31: HDSAs in Management Targets for Black Mountain (FY 2014 to FY 2018)

Occupational Level	Current at Dec 2012			FY 2014			FY 2015			FY 2016			FY 2017			FY 2018		
	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated	Total Workforce	Designated	% Designated
Top management (F)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Senior management (E)	7	3	43%	7	4	57%	7	4	57%	7	4	57%	7	4	57%	7	4	57%
Professionally qualified and experienced specialists and middle management (D)	68	36	53%	84	45	54%	84	45	54%	84	45	54%	84	45	54%	84	45	54%
Total Management	75	39	52%	91	49	54%	91	49	54%	91	49	54%	91	49	54%	91	49	54%
Junior Management	32	23	72%	60	48	80%	60	48	80%	60	48	80%	60	48	80%	60	48	80%

The Mine commits to achieving the 40% Charter targets and reporting on the status of its employment equity initiatives and progress to the DMR on an annual basis, inclusive of ensuring the required demographic representation.

SECTION 3: LOCAL ECONOMIC DEVELOPMENT

3.1 Introduction

Local Economic Development (LED) aims to build up the economic capacity of a local area to improve its economic future and quality of life for all. It is a process through which the public, businesses and non-governmental sector work collectively to create better conditions for economic growth and employment generation.

According to the National Spatial Development Framework (NSDF), successful development can be achieved through the allocation of resources and directing of investments in a coordinated and spatially-targeted manner. International spatial theory indicates that most countries have extreme spatial inequalities, with more than 80% of Gross National Product (GNP) being produced in less than 10-20% of the national space. South Africa is not unique, and there is a marked disjuncture between where people reside and the location of economic opportunities. Spatial marginalisation from economic opportunities is still a significant attribute of our space economy which needs to be addressed in order to reduce poverty and inequality, and ensure shared growth.

Spatial marginalisation from economic opportunities is still a significant attribute of our space economy which needs to be addressed in order to reduce poverty as well as inequality and ensure shared growth. This theory becomes even more evident in the mining environment; where the opportunities the mining right holders bring to the environment and the host communities can also negatively impact on the socio-economic and environmental issues once closure commences, especially if there are no sustainable alternate economies established to ameliorate the impact of the cessation of mining activities.

The LED pillar of each SLP should seek to enable the community, in which the mine is operating to become an economically stronger entity by, and not limited to, increasing (amongst others) business skills, entrepreneurship, and income. Most of these communities are generally spatially marginalized, and the design of the LED projects should seek to amplify opportunities and alleviate poverty. The skills and initial assistance given by the mine should have the potential to ensure that livelihoods created during the LED phase, will be able to survive independently after the mine has exited each programme and more specifically, after the mine has closed.

Black Mountain Mining's Black Mountain is located within the Northern Cape Province in the Khâi-Ma Local Municipality within the Namakwa District Municipality (NDM). The mine is situated within the vicinity of Pofadder as a primary town and with other towns, such as Aggenys as secondary communities. The Mine aligns its LED activities to the Khâi-Ma Local Municipality Integrated Development Plan (IDP) and the municipality's LED plan, as these represent the needs of the municipality where the mine is located as well as being the mine's major labour sending area.

3.2 Socio-Economic Background

Socio-economic development programmes are aimed at maximizing the contribution of the mining industry to the country and communities where the mine operates. In order to achieve the effective socio-economic development, the mine needs to ensure that there is a greater alignment between the mine's business objectives and the needs of the communities. A good working relationship between the mine and the relevant authorities as well as community structures needs to be maintained to ensure the development and implementation of the relevant municipal integrated development plans.

The mine will continue to cooperate with the Khâi-Ma local municipality in the formulation and implementation of the IDP and LED plans for communities surrounding the mine and its labour sending areas. This tradition converges fully with the provisions of the MPRDA and will continue to guide the efforts of the mine in fulfilling its socio economic development objectives as described in this section of the SLP.

Tables 29 and 35 below indicate the statistical information obtained from the Statistics South Africa 2001 census on province, district and municipality and towns. The analysis is aimed at highlighting the socio-economic profile within the region. Also see 2007 and 2011 information as contained in Appendix D.

Table 32: Socio-Economic Profile of Northern Cape Province Region

Socio Economic Indicators							
Population							
Socio Economic Indicators	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pella	Pofadder
Total Number of People	822 712	108 103	11 343	2 053	1 672	1 425	2 919
Total Number of Households	206 821	27 759	2 746	563	423	353	712
Average Household Size	4	4	4	4	4	4	4
Brief Analysis	The statistics show that the average household size within the region consists of four (4) household members. The population of the Khâi-Ma Local Municipality was estimated at 11340 in stats (2001						

Table 33: Housing Profile of the Northern Cape Province

Housing (% for households in Area)							
Socio-Economic Indicator	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pella	Pofadder
House or brick structure on a separate stand or yard	77%	84%	71%	85%	18%	85%	92%
Traditional dwelling/hut/structure made of traditional materials	3%	6%	16%	0%	62%	11%	0%
Informal settlements (separate stands and backyard dwellings)	13%	4%	1%	0%	1%	4%	3%
Flush toilet with sewerage system	58%	50%	57%	98%	72%	37%	57%
Pit Latrine (without ventilation)	5%	5%	2%	0%	3%	3%	0%
No access to any toilet facilities	11%	10%	12%	1%	16%	5%	2%
Piped water in the house	40%	47%	41%	97%	7%	26%	49%
Pipe water inside yard	42%	39%	47%	0%	74%	70%	46%
Piped water more than 200 m from the yard	7%	4%	3%	2%	8%	1%	2%
Electricity used for cooking	59%	63%	59%	100%	12%	76%	76%
Electricity used for heating	54%	56%	58%	100%	12%	62%	81%
Gas used for cooking	6%	18%	12%	0%	14%	8%	18%
Gas used for heat	1%	3%	1%	0%	1%	1%	1%
Paraffin used for cooking	18%	2%	1%	0%	3%	0%	1%
Paraffin used for heating	8%	2%	1%	0%	0%	1%	0%
Wood used for cooking	15%	16%	27%	0%	71%	16%	4%
Wood used for heating	29%	30%	39%	0%	84%	33%	18%
Coal used for cooking	1%	1%	0%	0%	0%	0%	0%
Coal used for heating	2%	1%	0%	0%	0%	2%	0%
Refuse removed by local authority at least once a week	69%	73%	65%	100%	43%	47%	99%
Communal refuse dump	3%	1%	3%	0%	5%	2%	0%
Own refuse dump	22%	21%	20%	0%	14%	13%	1%

Housing (% for households in Area)							
Socio-Economic Indicator	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pella	Pofadder
No rubbish Disposal	4%	2%	2%	0%	0%	6%	0%
Brief Analysis	<p>The majority of households (73%) surveyed across the various geographical areas stayed in formal housing structures. Only an average of 4% of households within the areas surveyed during 2001 were housed in informal settlements. Basic services infrastructure appears to be formalized with an average of 62% of households residing within the surveyed area having access to flush toilets and an average of 45% had access to piped water either within their homes or yards and an average of 60% had access to electricity for cooking purposes, while 66 % had access to electricity for heating .</p> <p>Only an average 13% of the households in the area were still utilizing their own refuse dumps to discard their household waste. The community of Onseepkans has a below average score on some of the basic services infrastructural statistics (dwelling/ access to water and flush toilets).</p>						

Table 34: Education Profile of the Northern Cape Province

Educational Profile							
Socio Economic Indicators	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pella	Pofadder
No Schooling	18%	12%	7%	1%	9%	8%	3%
Some Primary	21%	21%	24%	8%	33%	24%	22%
Completed Primary	8%	11%	12%	7%	13%	13%	14%
Some Secondary	30%	35%	39%	46%	35%	41%	41%
Grade 12/Std 10	17%	16%	15%	30%	6%	14%	15%
Higher	6%	6%	4%	8%	5%	0%	6%
Brief Analysis	<p>An average of 15% of the identified population is recorded as having no or limited primary education. A mere 15% of the residents of the Khâi-Ma Local Municipality is recorded as having completed Grade 12 and only 4% to have a higher qualification. Extension of finance towards ABET and skills development programmes will aid in reducing the high illiteracy levels within the local area.</p>						

Table 35: Employment Working Age Group Profile of the Northern Cape Province

Employment Working Age Group							
Socio Economic Indicators	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pella	Pofadder
Working Age (15 -64)	64%	64%	66%	69%	50%	53%	62%
Employment Rate	39%	42%	53%	62%	52%	21%	30%
Unemployment Rate	20%	17%	10%	8%	9%	27%	17%
Economically not Active	41%	41%	37%	30%	39%	52%	53%

Employment Working Age Group							
Socio Economic Indicators	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pella	Pofadder
Brief Analysis	More than half of the population (Average of 61%) within the surveyed area fell within the Stats SA category as of Working age. However, the average employment rate across the various geographical levels within the working age population is only 43%. The contributing factor to the employment rate is assumed to be as the result of the illiteracy levels and job scarcities within the various geographical. Pella has an ever lower employment rate with only 21% of the population being employed.						

Table 36: Income Profile of the Northern Cape Province

Employment Working Age Group							
Socio Economic Indicators	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pella	Pofadder
Working Age (15 -64)	64%	64%	66%	69%	50%	53%	62%
Employment Rate	39%	42%	53%	62%	52%	21%	30%
Unemployment Rate	20%	17%	10%	8%	9%	27%	17%
Economically not Active	41%	41%	37%	30%	39%	52%	53%
Brief Analysis	More than half of the population (Average of 61%) within the surveyed area fell within the Stats SA category as of Working age. However, the average employment rate across the various geographical levels within the working age population is only 43%. The contributing factor to the employment rate is assumed to be as the result of the illiteracy levels and job scarcities within the various geographical. Pella has an ever lower employment rate with only 21% of the population being employed.						

Individually Monthly Income for the employed (Excluding income from Government grants, pensions and informal employment)							
Socio Economic Indicators	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pella	Pofadder
No income to R1,600 per month	63.0%	58.7%	72.5%	28%	88.7%	56.7%	62.2%
R1,601 to R6400 per month	28.1%	33.2%	20.8%	49.6%	10.7%	40.1%	32.5%
R6,401 to R51,200 per month	8.4%	8.4%	6.5%	22.1%	0.6%	3.6%	4.2%
R51,201 and above	0.5%	0.4%	0.2%	0.3%	0%	0%	1.1%
Brief Analysis	The annual household income does not reflect favourably in respect of the economic status of the region. On average 61% households surveyed during 2001 received minimal household monthly incomes (R0 to R1, 600 monthly). Improved literacy levels and job creation projects especially through increase of sustainable SMME's in Khâi- ma Local Municipality and surrounding areas will assist in alleviating these poverty stricken areas.						

5.2.1. Availability of Services in the Direct Region

Information on police stations, schools and medical services.

Table 37: Essential Basic Services in the Surrounding Area

Essential Basic Services			
Primary Health Care	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
Community health centres	16	7	0
Clinics	82	16	5
Mobile (clinic) services	47	16	0
Satellite clinics	58	29	0
Total	203	68	5
Schools	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
Primary	245	47	5
High School	75	13	2
Primary & High School combined	32	7	0
Intermediate/Middle	73	12	0
Independent Schools (Primary & High Schools)	13	0	0
Total	438	79	7
Police Stations	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
Police Stations	83	21	4
Total	83	21	4

3.2.2. Key Economic Activities

Table 35, shows that mining activity, particularly agriculture is dominant within the local municipal area compared to other sectors.

Table 38: Sectorial Employment within Northern Cape Province

Sectorial Employment of Working Age Group							
Sectorial Employers	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pofadder	Pella
Agriculture	26%	23%	50%	1%	63%	11%	6%
Mining and Quarrying	7%	19%	12%	46%	1%	9%	6%
Manufacturing	5%	3%	4%	13%	1%	2%	3%
Utility Supply	1%	0%	1%	0%	8%	%	1%
Construction	4%	4%	5%	4%	5%	14%	8%
Wholesale and retail and trade	12%	12%	9%	11%	3%	18%	23%
Transport and Communication	3%	2%	1%	2%	0%	2%	1%
Financial and Business Services	5%	4%	2%	3%	0%	3%	8%
Community and social services	18%	15%	9%	7%	11%	34%	32%
Private Households	11%	9%	4%	5%	8%	4%	10%
Undetermined	7%	6%	4%	9%	0%	3%	3%

Sectoral Employment of Working Age Group							
Sectoral Employers	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality	Aggeneys	Onseepkans	Pofadder	Pella
Brief Analysis	<p>The leading sectorial employers in the identified areas are Agriculture and Mining with averages of 26% and 14% respectively. However, the lowest industry employer within the area was transport and communication and financial and business services with about 2% of the employed residents in the area employed within this sector.</p> <p>According to Khâi-Ma Local Municipal IDP the population is dependent on agricultural activities in various parts of the municipality. The Mining Sector therefore will have a significant impact on the socio-economic activities of the residents and surrounding areas of Aggeneys, Pella, Pofadder and Onseepkans.</p>						

3.3 Local Economic Development Priorities within the Area of Operation

3.3.1. Integrated Development Planning: Namakwa District Municipality

The South African public sector has been undergoing transformation to its various internal functions to enable it to focus on service delivery and performance. The pressure for such change is due to the political, economic and social situation in South Africa. There is within many municipalities the desire to begin the task of redefining their institutional existence and fundamental service delivery responsibilities within the context of accountability, cost-effectiveness, transparency and service provision. The Integrated Development Plan (IDP) is the result of a process through which the municipalities prepare a strategic development plan for a five-year period. The IDP is required to perform the task of being the principal strategic planning instrument which guides and informs all planning, budgeting, management, and decision making in the municipality.

Through the IDP and its associated planning processes, the municipalities are envisaged to:

- Make more effective usage of limited resources;
- Speed up delivery;
- Attract additional funding;
- Strengthen democracy;
- Overcome the legacy of apartheid at the local level ;and
- Promote intergovernmental co-ordination.

The information regarding the integrated development planning for Namakwa District Municipality was sourced from their final draft Integrated Development Plan (IDP) – 2006 to 2011 (fourth revision 2011 to 2012) financial years. The vision of the Namakwa District Municipality is to strive for: “The establishment of a development-orientated and economically viable district through sustainable growth”.

In order to comply with the vision, a mission was prepared which concentrated on certain key focus areas, namely: Promotion of the quality of life of the Namakwa District community through purposeful and quality service, and the effective and optimal utilisation of resources, focussing especially on:

- Economic development;
- Development, upgrading and maintenance of basic infrastructure;
- Development of human resources;
- Sustainable management and optimal utilisation of operational and natural resources;
- Creating of a safe, healthy and investment-friendly environment;

- Development of opportunities for local entrepreneurs; and
- Ensuring friendly, credible and transparent services and client satisfaction.

The northern region of the NDM includes the Orange River, which is one (1) of the water sources to the district. However, ground water sources are limited, and pollution poses a threat to both ground and surface water. The central region of the district is dominated topographically by the Kamiesberg Mountains, which provides important habitats to both flora and fauna; whereas the southern and eastern regions are largely plains. The NDM is home to Succulent Karoo biome and is a biodiversity hotspot, which provides the district with the opportunity to develop tourism economy.

One of the Key District objectives is:

“To create a model green regional green economic hub in a post-mining area that both restores and conserves globally important biodiversity and creates sustainable jobs and enterprises”²

3.3.2. Integrated Development Planning: Khâi-Ma Local Municipality

Khâi-Ma Local Municipality is situated within the Namakwa District Municipality. The vision of the Khâi-Ma Local Municipality is: “To improve the living standards and circumstances of residents with its limited resources, to ensure health and safety and to strengthen the local economy by creating an environment conducive to investment”. This vision is underpinned with the mission and commitment to “ensure affordable service delivery and sustainable economic development through good and transparent municipal governance and aggressive application of the Batho Pele Principles”.

Khâi-Ma Local municipality has the following strategic objectives:

- Provision of sustainable services to the inhabitants and maintain existing resources;
- Develop Khâi-Ma Municipality as institution through transformation and capacity building;
- Promotion of local economic development through poverty alleviation, job creation, empowerment of the previous disadvantage people with capacity building in business skills and establishment of a climate for investment; and
- Promote Sound financial management and viability.

² Khâi-Ma Local Municipality, Final Integrated Development Plan 2012-2017 (District Perspective Strategic Objectives: pages 48 – 50)

3.4 Local Economic Development Priorities within Khâi-Ma Local Municipality

Table 39: IDP Priority Issues and Objectives for Khâi-Ma Local Municipality

Priorities	Objectives	Key Issues & Challenges
Water and Sanitation	<ul style="list-style-type: none"> To improve water supply and storage capacity. To improve current sanitation systems and to put systems where required. 	<ul style="list-style-type: none"> Water and sanitation backlogs.
Housing	<ul style="list-style-type: none"> Integrate commercial and residential land uses, close to bulk engineering infrastructure. Formalize existing informal housing occurring at Pella; and prevent further informal settlement. 	<ul style="list-style-type: none"> Housing backlogs.
Health	<ul style="list-style-type: none"> To play a lobby and advocacy role to enhance Health promotion. Ensure all citizens of Khâi-Ma have access to primary health care. 	<ul style="list-style-type: none"> HIV/AIDS increase & TB increase High rate of teenage pregnancies Lack of sufficient and qualified staff – limited skills amongst current nurses and nursing sisters Lack of sufficient facilities to render a proper health service to all communities Irregular and insufficient service rendered by mobile clinic at Witbank. Lack of necessary health equipment and medication at clinics
Electricity	<ul style="list-style-type: none"> To make provision for Eskom electricity for all households in Witbank 	<ul style="list-style-type: none"> Shortage of electricity supply.
Waste Management	<ul style="list-style-type: none"> To rehabilitate the landfill site, the fencing thereof and also the oxidation pond. 	<ul style="list-style-type: none"> Lack of sufficient Waste Dumping Sites.
Crime	<ul style="list-style-type: none"> To ensure an environment to fight against crime and corruption. 	<ul style="list-style-type: none"> Lack of accommodation for police officials. Increase in crime, i.e. family abuse and robberies, Rape and related to alcohol and drug abuse Lack of office space for police duties. No fire / Disaster Management Centre, facilities, station or personnel available in Pofadder or surrounding areas. No permanent traffic police office in the area to reduce accidents. Satellite Station need in Blyvooruitsig due to distance.

3.5 Biodiversity

This refers to the assortment of species, genetic and ecosystem in an area which could include associated abiotic components such as geographical features, drainage systems and climate. Section 35 of the MPRDA 2002, (Act 28 of 2002) states that the holder of a prospecting right, mining right and mining permit is responsible for all aspects of the environment management of its activities. Vedanta's Biodiversity Policy clearly states that it is an integral part of the company to protect and enhance biodiversity. Vedanta is aware of the potential impacts and dependancies of their business on the environment in general and on biodiversity in particular. The Company is committed to integrating the need for biodiversity conservation into their operational decision making processes and taking all measures to minimise the impacts.

The Khai-Ma Local Municipality IDP has identified that the primary threats of biodiversity, ecosystem goods and services are habitat transformation and degradation as well as invasive alien species. In Khai-Ma the natural resource base is directly threatened by mining developments and the management of these developments is critical in ensuring an effective conservation and sustainable use of the biodiversity. The Municipality has identified biodiversity protection as one of the main outcomes in the activities undertaken. These outcome has been broken down as follows:

- Enhance quality and quantity of water resources
- Reduce greenhouse gas emissions, mitigate climate change impacts and improve air quality
- Sustainable environment management
- Protect the biodiversity through the increase of land conversion from six percent to nine percent.

The role of local government in achieving these outcomes is as follows:

- Develop and implement water management plans to reduce water losses
- Ensure effective maintainance and rehabilitation of infrastructure
- Run water and electricity saving awareness campaigns
- Ensure proper management of municipal commonage and urban open spaces
- Ensure development does not take place on wetlands.

One of the strategic objectives of the Namakwa District Municipality is to create a model sustainable regional green economic hub in a post-mining area that restores and conserves globally important biodiversity and creates sustainable jobs and enterprises. The strategic objective supports the Nothern Province's Growth and Development strategy which aims to conserve and protect thirty percent of the province's valuable biodiversity by 2014.

3.6 Impact of the Mining Operation on the Area

3.6.1. Socio-Economic Impact

Black Mountain produces copper, lead, zinc and silver arising out of the mining and processing. The mine has several positive socio-economic impacts, including:

- The creation of jobs during the operational phase of the mine;
- Money paid out locally, in the form of the monthly payroll;
- Downstream multiplier effect of the mine is significant as the local recruitment policy ensures that the bulk of spend on salaries will occur at local enterprises;
- Money paid to the government in the form of local, regional and national taxes and levies; and
- Economic multiplier effects linked to the creation and support of SMMEs (small, micro and medium-sized enterprises), the procurement of consumables and the outsourcing of service provision to local service providers.

Whilst the mine has a finite life and therefore will not be an infinite sustainable economic activity for the region, it creates an economic ‘window of opportunity’, and financial resources generated through the mine can be harnessed towards the development of alternative forms of income generation in the area of the mine and the region. A significant portion of the mine’s operating costs flow into the local economy; Table 37 provides a summary of socio-economic impacts of the Black Mountain Mining Operations (Black Mountain and Gamsberg Operations):

Table 40: Socio-Economic Impacts Summary ³

Impacts	Mine Life Cycle			Interested & Affected Persons
	Construction	Operation	Decommissioning & Closure	
ECONOMIC IMPACTS				
Increased Government Revenue	X	X		KMLM; NDM; NCP; National
Employment creation	X	X	X	KMLM communities & Labour sending areas
Procurement	X	X		KMLM communities; NDM; NCP; National
Training Skills Development	X	X	X	KMLM communities
Industrial and commercial Diversification	X	X	X	KMLM; NDM; NCP
Unmet expectation & associated social unrest	X	X	X	KMLM communities
Loss of land currently used for livestock farming	X	X	X	Commercial & Emerging farmers
Impact on other industries (tourism, motor vehicle testing & renewable energy sector)	X	X	X	KMLM; NDM
Economic impacts related to decommissioning & closure (job losses, economic divestment & decreased income)	X	X	X	KMLM communities (esp. Aggeneys)
INFLUX RELATED IMPACTS				
Increased tension between locals and in-migrants (related to job opportunities and other social related benefits)	X	X		KMLM communities (esp. Youth, unemployed, elderly)
Increase in social ills & pathologies (like drugs, alcohol, crime, security)	X	X	X	KMLM communities (Women, Youth, Children)
Infrastructure & services (housing & living conditions, informal settlements; backyards dwelling)	X	X	X	KMLM & communities
HERITAGE RELATED IMPACTS				
Change in the sense of place (linked to visual impacts)	X	X	X	KMLM communities
Loss of Physical Heritage	X	X	X	Nama, San community
Change in cultural heritage	X	X	X	KMLM communities
HEALTH RELATED IMPACTS				
Health impacts associated with the mine activity (noise, air pollution, dust, water)	X	X	X	Adjacent communities and Farmers
Black Mountain employees’ health and safety (incl. living conditions, exposure to health hazards)	X	X	X	Black Mountain employees & contractors
Increase in the spread of communicable diseases	X	X		KMLM communities

³ Reference ERM (to be completed once document is made available)

Impacts	Mine Life Cycle			Interested & Affected Persons
	Construction	Operation	Decommissioning & Closure	
Increased risk of road accidents	X	X		Road users
PUBLIC INFRASTRUCTURE & SERVICES IMPACTS				
Road infrastructure	X	X	X	KMLM communities and other road users
Housing availability	X	X	X	KMLM & communities
Health care and Education	X	X	X	KMLM & communities
Water and Sanitation	X	X	X	
Ground water resources (quantity and quality)	X	X	X	Commercial and Emerging Farmers
Refuse removal	X	X	X	KMLM & communities
Electricity	X	X	X	KMLM & communities

3.6.2. Environmental Impacts

Some of the main environmental considerations are:

- a) **Biodiversity:** The Black Mountain Mining Operations are located within the Succulent Karoo biome and this is a biodiversity hotspot of worldwide significance.
- b) **Pollutions (air, water, chemical and noise):** Ground water sources are limited and both ground water and surface water pollution represent a threat.

These challenges however also present the Mine with the opportunity to create solutions which could potentially mitigate the associated risk, whilst contributing positively on the socio-economic- and ecological environment of the region through:

- Biodiversity and Conservation - associated employment creation: Eco-systems-based adaptation approaches, using nature and biodiversity to help people cope with and respond to the negative impacts. This is particularly true of management of limited water resources, rangeland management for grazing services, and soil erosion control; and
- Tourism Development: Due to the importance of biodiversity to the tourism economy, the district has a well-developed biodiversity plan that has formed an important input to this.

Vedanta is aware of the potential impacts and dependencies of their business on the environment in general and on biodiversity in particular. The Company is committed to integrating the need for biodiversity conservation into their operational decision making processes and taking all measures to minimise the impacts of the Black Mountain Mining Operations.

3.7 Local Economic Development Programmes

Black Mountain Mining's Black Mountain is committed to the development of the local community through infrastructure development and poverty eradication projects that the mine undertakes in line with the IDP of the mine area, and other relevant frameworks in which the mine operates.

Table 38 provides a background as to the stakeholder engagement strategies and sessions conducted to identify the appropriate LED projects the registers relating to these consultations are included in Appendix E. Table 39 summarizes the envisaged projects in relation to the Municipal IDP and financial commitments for the five (5) year period.

Table 41: Record of Stakeholder Engagement

Name of Forum	District/Local Municipality	Date of attendance	Objectives of Forum	Name & Position of Attendee from mine	Minutes of Meeting Received

Table 429: LED Project Summary

BMM							
Category	PROJECT DESCRIPTION	FINANCIAL PROVISIONS					TOTAL
		Year 2014	Year 2015	Year 2016	Year 2017	Year 2018	
Health Care	Improving health care quality and extent	In partnership with the provincial Health Department the Operation will see a number of new projects implemented. The immediate project that will be implemented is the eye clinic aimed at reducing the cataract operations backlog.					2 500 000
		500 000	500 000	500 000	500 000	500 000	
Education	Continuation of current community assistance with regards to skills development.	800 000	800 000	800 000	800 000	800 000	4 000 000
Poverty Alleviation	Partnering with NGOs/technical specialists to alleviate poverty in line with economic diversification in the region	Agriculture is the primary sectoral employer of the affected region and therefore this alternate economy needs to be supported and developed inclusive of the necessary support in ensuring that Agriculture can weather the challenges of climate and biodiversity challenges:					5 000 000
		<ul style="list-style-type: none"> o Assistance to communities to establish subsistence farms (stock and vegetation); o Assistance to current subsistence farmers, who have success to expand to commercial farming; o Projects linked to assist farmers to farm responsibly with biodiversity and climate change in mind; o Establishment Agro-processing as an alternate economy; This will be in association with KMLM, relevant Government Departments and NGOs/technical specialists					

BMM							
Category	PROJECT DESCRIPTION	FINANCIAL PROVISIONS					TOTAL
		400 000	400 000	400 000	400 000	400 000	
	SMME Development/ Job Creation/Access to start-up funding	600 000	600 000	600 000	600 000	600 000	
Infrastructure, Institutional & Skills Development	Reconstruction & revamping of Libraries	1 000 000	-	-	-	-	1 000 000
	Equipment for Day Care Centres	200 000	200 000	200 000	200 000	200 000	1 000 000
Community Upliftment	Arts & Craft, Sports and Youth Developments	500 000	500 000	500 000	500 000	500 000	2 500 000
Total		4 300 000	3 300 000	2 800 000	2 800 000	2 800 000	16 000 000

Detailed project plans for each project will be developed with identified project partners and rolled out within the SLP implementation period accordingly.

3.8 Measures to Address Housing Conditions and Nutrition

3.8.1 Housing and Living Conditions

Black Mountain recognises the detrimental impact that informal housing has on the health and social stability of a community. Due to the specific socio-economic environment of the communities directly affected by the mine. In line with the Amended Charter of 2010 as well as the Life-After-Mine Vision and Transformation Strategy. BMM Black Mountain is committed to maintaining decent and acceptable housing and living conditions and creating sustainable human settlements for all its employees. BMM has subsequently commenced with the introduction of a home ownership scheme for employees as facilitated by the Mine. The Mine accepts the principle that married employees should have access to family accommodation and that hostel accommodation must be eradicated. Company owned accommodation is offered to all employees without discrimination of their marital and employment status. Black Mountain is therefore committed to maintain decent and acceptable housing and living conditions for all its employees and accepts the principle that married employees should have access to family accommodation and that hostel accommodation must be eradicated.

3.8.2 Nutrition amongst Employees

With regard to nutrition the mine provides food for its employees and has engaged a professional catering company to provide balanced meals daily to employees residing in single and hostel accommodation. The cost of these meals is heavily subsidised. The operation provides regular awareness programmes to inform workers of the benefits of nutritional diets in the management of HIV/Aids. As part of HIV/Aids awareness programme the mine is committed to the following:

- Prevent HIV/Aids through education and awareness being made available to all employees and contractors containing accessible, accurate, gender-specific and culturally appropriate information. This includes the risks, impacts, prevention and control measures as well as counselling, testing and support options available to employees. This will be extended to families and communities wherever possible;
- Provide counselling and testing to prevent further infections and prompt early and proactive treatment will be encouraged and made available to all employees through reputable third party providers. HIV/AIDS tests are confidential, are not required as part of a pre-employment medical and employees will not be obliged to disclose their status;
- Ensure care, support and treatment is made available to all employees to help to improve the quality of life of those living with HIV/AIDS;
- Ensure that HIV/AIDS status does not affect employment, employee rights, development opportunities, benefits or sick leave by committing to the elimination of stigma and discrimination through non-discriminatory policies and practices. No employee will be isolated or dismissed due to their status. If HIV/AIDS status affects an employee's fitness to work or ability to carry out their duties safely, alternative duties or options such as shorter working hours can be discussed in strictest confidence and in agreement with the individual. Any prejudice or victimisation will not be tolerated and will result in disciplinary action; and
- Undertake collaboration and community investment to share knowledge and form alliances with diverse stakeholders including employees, communities, civil society, government and non-government agencies, strengthening local community health systems to achieve a sustainable, effective broad-reaching HIV/AIDS programme.

3.9 Procurement Progression Plan

Black Mountain acknowledges the need to redress the imbalances of the past and regards procurement of BEE companies to be one of the supporting pillars of the Transformation Process in South Africa and recognises that BEE is vital towards meeting the expectations of the South African Mining Charter. The Mine's procurement plan aims to provide HDSA and surrounding communities with a preferred supplier status in all three levels of procurement, namely capital goods, consumables and services. The Mine will use procurement as one the primary mechanisms to

encourage Local Economic Development in the communities affected by its operations. Where procurement is not possible due to a lack of capacity, local communities can be provided with training and mentoring initiatives.

3.9.1 Mentoring of Empowerment Groups (Small, Medium and Micro Enterprises SMME's and Enterprise Development (ED))

Small, Medium and Micro Enterprises (SMME) mentoring is aimed at encouraging small and medium business owners to improve and develop their management skills and competencies to become more productive and have long term growth of their businesses. In addition to conventional training, SMMEs need to take advantage of short courses, workshops and seminars which may be at their disposal. Black Mountain will engage in communication with stakeholders in the community, other mines and the local municipality during which the need for the development of local Enterprises/ SMMEs will be highlighted with a view that these businesses could deliver key services to sustaining an operational mine.

Table 40 indicates the SMME Mentorship targets at Black Mountain for the period under consideration. The mine intends to establish a relationship with the various service providers for as long as is feasible and to assist the businesses to expand their service delivery to additional clients. The mine foresees the development of further SMMEs in the future and already aligning its procurement targets to Enterprise/ SMME development programme, and in doing so, enabling its achievement of local procurement as well as HDSA procurement targets with respect to Services, Consumables and Capital goods. The idea is to make use of a business development centre (hub) to facilitate the training of these enterprises/ SMME's with a Business Hub Manager running the Hub.

Table 43: Targets for SMME Mentoring at Black Mountain (FY 2014 to FY 2018)

SMME/ ED	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018
Local Supplier Development	10	10	10	10	10
HDSA Supplier Development	10	10	10	10	10
LED Project Associated Supplier Development	5	5	5	5	5
Budget:	25 000	25 000	25 000	25 000	25 000

3.9.2 Preferential Procurement Plan

The Mine will develop a comprehensive preferential procurement strategy inclusive of a focus that seeks to meet the expectation and promote *local* (within the Namaqua DM) small business and enterprise development for long term sustainability. The Mine's Local procurement strategy will therefore be inclusive of, but not limited to:

- Identifying opportunities that will promote local procurement, i.e. goods and services required by Black Mountain and Gamsberg Mine;
- Identifying products which could be sourced locally and which could potentially be integrated with the Local Economic Development (LED) plan;
- Local businesses and employment can also be developed around the initiatives linked to water, power supply and biodiversity in aligning to Vedanta's goal of creating an environment which provides for conservation of natural resources;
- Establishing which local businesses incl. small emerging businesses are currently in existence;
- Identifying the gaps within these suppliers and accordingly building supplier capacity in relation to Vedanta's procurement requirements – the capacity building could include knowledge, skills, technology, etc.;
- Assisting these suppliers to broaden their supply to other mining operations and other industries;

- Setting quotas and requirements for big businesses in support of local supplier development, i.e. mentoring and empowerment of local SMMEs;
- Ensuring that tender opportunities and the necessary requirements will be comprehensively communicated to local companies and emerging enterprises;

The Operation will continuously strive to identify products which can be procured preferentially and, where possible, enterprises developed without it being focused and limited to marginal enterprises (gardening services/ catering/ etc.), but where a substantial impact can be made and sustainable economic growth ensured through the preferential selection and development of suppliers providing larger scale products and services. In order to do this the Operation will continuously review list of suppliers and associated goods and services provided to identify items which can commence with the tender process as an additional strategy to drive preferential local and HDSA procurement.

The strategy makes provision for the following methodology as aligned to the Vedanta Procurement Policy:

- New suppliers will be required to disclose information regarding their ownership/control and internal BEE programmes;
- Black Mountain will put measures into place to monitor and verify the status quo of various suppliers and to ensure that such information is reliable;
- Preference will be given to products supplied and services rendered by HDSA suppliers;
- The Mine will encourage suppliers to form partnerships or joint ventures with HDSA supplier companies where there is no HDSA tendering to supply the required goods or services;
- Tender requirements will be comprehensively communicated to HDSA companies;
- Aspiring HDSA vendors will be assisted and mentored in the formulation of appropriate business plans;
- Identify prospective procurement suppliers from employees and the community by means of SMME/ ED committees and/ or LED Forums;
- Identify products which could be sourced locally and which are integrated with the LED plan.

The procurement details for Black Mountain is recorded in Appendix F as per Form T, which will be updated at the end of each reporting cycle and reported on within the Annual SLP Report to be submitted to the DMR. A preferred status will only be given to an HDSA based vendor, where the price and value of the product/service is similar to other established organisations within the industry, i.e. preferred supplier status is dependent on the price and quality of the service/product in relation to the norm for the industry. This will be done as far as possible, given the potential lack of available services and necessary skills in the local area to provide capital, services and consumables. Table 41 reflects HDSA procurement targets.

Table 44: HDSA Procurement Target Table for Black Mountain (FY2014 – FY 2018)

Target HDSA spend as a percentage of overall discretionary spend					
Category	FY 2014	FY 2014	FY 2015	FY 2016	FY 2017
Capital Goods	40%	40%	40%	40%	40%
Consumables	50%	50%	50%	50%	50%
Services	70%	70%	70%	70%	70%
Multinationals	Ensure that multi-national suppliers of capital goods contribute a minimum of 0.5% of income generated from Black Mountain into a social development fund.				

SECTION 4: MANAGEMENT OF DOWNSCALING AND RETRENCHMENT PROGRAMME

4.1 Introduction

The fact that at some stage Black Mountain may have to retrench some or all of its employees, due to unforeseen circumstances, such as external forces which result in reduced profitability, technical innovation, the need to remain globally competitive or changes to the mine's strategic business plan, may necessitate downscaling of the operation or total closure of the mine. It is therefore vital to have in place creative closure management programmes including mechanisms to avoid job losses.

4.2 Establishment of a Future Forum

The mine has established a Future Forum which meets twice per annum and will be a Joint Future Forum (Steering Committee) with Gamsberg Operation. The Future Forum consists of representatives of the mines management of both Black Mountain and core contractors, worker representatives and trade unions, and plays a major role in all the issues surrounding downscaling and/or retrenchment.

The main functions of the Future Forum include, but are not limited to:

- Participating in identifying problems and challenges facing the mine, and the solutions thereto;
- Generate awareness of SLP and associated activities; and
- Act as communication mechanism on company related issues.

4.2.1. Mechanisms to Save Jobs and avoid Job Losses and a Decline in Employment

In terms of section 52 (1) of the MRPDA, should the profit to revenue ratio be less than six percent (6%) on average for a continuous period of three (3) months or should ten percent (10%) or more of the workforce or more than five hundred (500) employees have to be retrenched, Black Mountain undertakes to notify immediately the Minerals and Mining Development Board of such an event. It also undertakes to comply with any ministerial directive arising from such a process.

Nonetheless, planning for downscaling and/or retrenchment will be undertaken in terms of the SLP and the associated workforce planning process that will be in place for the life of the mine. As part of this process, every effort will be made to promote security of employment through sound management of the operations of the mine.

Where the need for downscaling or retrenchment occurs, opportunities will be sought in Black Mountain Mining's other operations to transfer the affected employees. In addition, in terms of the Black Mountain skills development strategy, there is a focus on the provision of portable skills within the workforce throughout the life of the mine. These skills provide those employees who either do not wish to be transferred or who cannot be accommodated in other operations to remain employable when downscaling and/or retrenchments are unavoidable.

In circumstances where the Black Mountain is of the opinion that retrenchments are unavoidable, it will embark on a proper consultation process with all interested and affected parties, as envisaged in terms of Section 189 of the Labour Relations Act, No. 66 of 1995 (LRA).

The mine management team will manage this consultation process, ensuring the principles set out in Table 42 are applied throughout the process.

Table 45: Implementation Action Plan of Workforce Planning in Respect of Downscaling and Retrenchment at Black Mountain

Downscaling and Retrenchment Programme Strategic Action Plan	Responsible Position	Timeframe
1. Ongoing discussion with Future Forum members.	General Manager and	Ongoing

Downscaling and Retrenchment Programme Strategic Action Plan	Responsible Position	Timeframe
	Community Liaison Manager	
2. Consultations with the relevant unions, worker representatives and employees likely to be affected by the retrenchment.	HR Manager	Ongoing
3. Applying creative mechanisms to avoid or minimize retrenchments.	HR Manager	Ongoing

In addition to the alternatives offered by the diverse operations, the mine will consider additional mechanisms that may include:

- Voluntary or compulsory retirement;
- Voluntary retrenchment;
- Abolition or reduction of overtime work;
- Termination of the services of temporary employees and contractors (subject to contractual terms);
- Moratorium on new recruitment;
- Redeployment;
- Job-sharing; and
- Any other suggestions identified during consultation.

4.3 Mechanisms to Provide Alternative Solutions and Procedures for Creating Job Security where Job Losses cannot be avoided

Black Mountain undertakes to inform, in line with Section 52(1) of the MPRDA, the Minerals and Mining Development Board of any possible mine retrenchments as and when required during the life of the mine and within three (3) to five (5) years prior to the end of the life of the mine. Such notice will include the timeframes for the closure process and issues discussed at the Future Forum. Other interested parties that would be informed would be the DoL, the Local Municipality and the relevant authorities of any major sending areas as determined by the mine's labour-sending area records. As outlined above in Section 4.3, a comprehensive consultation process in terms Section 189 of the LRA will also be initiated.

Subject to the resources thereto being available, Black Mountain will assist affected employees through offering a variety of mechanisms including those outlined :

- Assistance, prior to retrenchment date, with retraining, entrepreneurship training and other coursed to enhance further employment practices;
- Guidance and assistance to support employees in making use of any internal redeployment procedures;
- Assistance in accessing available and suitable jobs with other local mines or companies;
- Informing neighbouring mines of the retrenchment process and ascertaining the availability of any job vacancies;
- Assistance in registering as a job seeker with the relevant DoL and/or employment agencies;
- Assistance with accessing outplacement and/or career transition counselling from relevant consultancies or job advice centres in the community;
- Assistance with completing job application and other relevant forms;
- Financial planning advice as well as advice and support in accessing pension/provident fund payouts and UIF claims or other state assistance; and
- Personal counselling for individuals and groups to be able to deal with the trauma associated with retrenchment. This will be extended to both retrenched employees and those left behind.

This will supplement the skills development training that each employee would have had access to during employment, including portable skills training as described in Section 2.4.

A database will be kept of retrenched employees, and these will also be given preference for jobs, in line with the skills requirements of such jobs, in the event of new vacancies arising at the mine in future.

4.4 Mechanisms to Ameliorate the Social and Economic Impact on Individuals, Regions and Economies where Retrenchment or Closure of the Mine is certain

Downscaling and retrenchment at the mine has the potential to affect not only employees but also surrounding businesses and communities. Thus careful planning is imperative to limit the potential fallout of such an event. A major objective of the HRD and the LED Programmes as outlined in Sections 2 and 3 is to facilitate sustainable social and economic growth in the local communities during and after the life of the mine. This will need to be supplemented by additional measures to manage the impact of the mine closure on both the surrounding communities and those communities from which labour is sourced. Black Mountain Mining through its Life-After-Min Vision and Transformation Strategy seeks to comprehensively work towards addressing Closure impacts from a socio-economic and environmental perspective, not just at closure but throughout the life of mine.

Mine management, together with the Future Forum, will assess in advance, the impact that will be caused by the retrenchment and/or closure of its operations. This will be communicated to the affected individuals and communities involved so as to make all affected parties aware of what the outcome of the retrenchment and/or closure will be. Proposals to lessen the impact on the socio-economic situation of the area concerned will be considered. In order to assess this impact, a socio-economic impact analysis (SEIA) will be carried out by specialist consultants prior to the development of detailed closure management plans. Such an impact assessment will incorporate interaction with both the Future Forum and relevant community structures.

The plans to manage the socio-economic impact of retrenchments and/or the mine closure must be both comprehensive and will include a variety of strategies. The action plans underlying the development and implementation of mine closure strategies are outlined in Table 43.

Table 46: Development and Implementation of Mine Closure Strategies

Mine Closure Programme Strategic Action Plan	Responsible Position	Timeframe
1. Comprehensive and sensitive consultation with stakeholder groups from the local communities, government departments and other identified groups.	Community Liaison Manager and HR Manager	Commence a.s.a.p. and Ongoing
2. Comprehensive and sensitive consultation with local businesses that are reliant on the mine and those who are independent thereof.	Community Liaison Manager and HR Manager	Commence a.s.a.p. and Ongoing
3. Capacity building to assist retrenched employees to set up their own businesses or assist local business to expand their operations including but not limited to: <ul style="list-style-type: none"> • Making available support, guidance and assistance to relevant parties during the life of the mine and at the time of retrenchment; • Fostering a spirit of entrepreneurship among local businesses and interested employees; and • Providing support to local businesses and entrepreneurs through supportive ad-hoc mentoring mechanisms grounded in the needs of the protégés. 	Training and Development Manager, Community Liaison and HR Manager	Ongoing

Mine Closure Programme Strategic Action Plan	Responsible Position	Timeframe
4. Continued mentorship of empowerment groups and local community structures started during the life of the mine in line with the needs of these groups/structures using ad-hoc mechanisms already in place.	Training and Development Manager, Community Liaison and HR Manager	Ongoing
5. Development support for empowerment groups and local community structures through experiential learning that focuses providing competencies to meet identifiable needs and building on existing skills and knowledge.	Training and Development Manager, Community Liaison and HR Manager	Ongoing
6. Provision of portable skills to employees facing retrenchment (in addition to those provided during the life of the mine in accordance with the skills development plans and workforce planning outlined in Section 2.4) particularly non-mining related skills. Such portable skills must have an impact beyond the company and provide for sustained employability and will, wherever feasible:	Training and Development Manager, Community Liaison and HR Manager	Ongoing
7. Build on employees' existing skills and be recognised nationally;		
8. Enable employees to manage their careers by addressing identified skills gaps; and		
9. Supplement existing skills with business-related training where appropriate.		

SECTION 5: FINANCIAL PROVISIONS FOR THE SOCIAL AND LABOUR PLAN

5.1 Introduction

Section 23(1) (e) of the MRPDA states that “The Minister must grant a mining right if the applicant has provided financial provision for the prescribed Social and Labour Plan”. The mine will make financial provision for each component of the SLP as required. Table 44 presents a summary of the financial commitment by the mine to each element of the SLP for a five (5) year period from FY 2014 to FY 2018.

Table 47: Summary of Financial Undertakings in respect of Black Mountain

Category	2014	2015	2016	2017	2018	Combined (2014 - 2018)
Human Resource Development Programmes	8 689 424	8 974 719	9 737 172	10 128 791	10 799 366	48 329 472
Local Economic Development Programmes	4 000 000	3 000 000	3 000 000	3 000 000	3 000 000	16 000 000
Closure and Retrenchment Management Programmes						
Estimated Total Provision for SLP	13 019 424	12 304 719	12 567 172	12 958 791	13 629 366	64 479 472

The above commitments are based on the business plan. Where changes are required to the above, these will be reported in the Annual SLP Report. Actual expenditure in each of the three elements of the SLP will also be reported on annually.

5.2 Skills Development Programm

Section 2 outlines the HRD Programmes adopted by Black Mountain. However, based on current planning mine has provided approximately (4.5% to 5 %) of the total wage bill for expenditure on HRD programmes.

Table 48: Summary of Financial Undertakings in respect of the Mine’s Skills Development Programmes

HRD	2014	2015	2016	2017	2018	Total Financial Provision (2014 to 2018)
Financial Provision for ABET and Community ABET Programmes Combined	141 424	149 909	158 904	168 439	178 544	797 220
Financial Provision for Core Business Training Programmes	5 000 000	5 175 530	5 486 062	5 815 226	6 164 139	27 640 957
Financial Provision for Portable Skills Training Programmes	400 000	424 000	449 440	476 406	504 990	2 254 836
Financial Provision for Learnership Programmes	1 368 000	1 450 080	1 777 254	1 527 478	1 888 981	8 011 793

HRD	2014	2015	2016	2017	2018	Total Financial Provision (2014 to 2018)
Financial Provision for Bursaries, Study Aid and Internships	1 160 000	1 118 000	1 168 880	1 402 813	1 279 982	6 129 675
School Assistance and Bridging Programmes	620 000	657 200	696 632	738 429	782 730	3 494 991
Total Financial Provision for Human Resource Development Programme	8 689 424	8 974 719	9 737 172	10 128 791	10 799 366	48 329 472

5.3 Local Economic Development Programme

Section 3 details the integrated LED programme initiated by the mine. The five (5) pillars as identified by the Khâi-Ma Local municipality IDP of job creation opportunities, SMME/ ED development, infrastructure development, community development, and poverty eradication informed the foundation of each of the LED projects. Table 46 provides the financial provision for the SLP programme for Black Mountain for five years.

Table 49: Summary of Financial Undertakings in respect of Black Mountain's Local Development Programmes

Financial Provision for Local Economic Development Programmes	2014	2015	2016	2017	2018	Total Financial Provision (2014 to 2018)
Financial Provision for Local Economic Development Programmes	4 300 000	3 300 000	2 800 000	2 800 000	2 800 000	16 000 000
Financial Provision for ED/ SMME Mentoring Programme	25 000	25 000	25 000	25 000	25 000	125 000
Financial Provision for Housing Programme	2 500	2 500	2 500	2 500	2 500	12 500
Financial Provision for Nutrition Programme	2 500	2 500	2 500	2 500	2 500	12 500
Total Financial Provision for LED Programmes	4 330 000	3 330 000	2 830 000	2 830 000	2 830 000	16 150 000

5.4 The Management of Downscaling and Retrenchments

BMM Black Mountain Operation will ensure that sufficient provision is made for the management of Closure and Retrenchment Programmes. The Ongoing investment in HRD Programmes and facilitation of training during the life of the mine is intended to support the acquisition of skills that will provide employability to the workforce beyond the life

of the mine. In addition to this, the mine will commit one (1) month's salary per employee for specific skills development directed at facilitating the further acquisition of skills that will be of value to employees at the time of retrenchment.

Negotiations with regard to retrenchment packages will be carried out at the time these take place. Such negotiations and consultation will be in line with prevailing legislation and best practice. In addition, provisions for downscaling and retrenchments will be finalised in the Future Forum as the need arises.

SECTION 6: UNDERTAKING AND COMMUNICATION

6.1 Communication of the Social and Labour Plan to Employees at BMM Black Mountain

In order to comply with the requirements of the MPRDA (specifically regulation 46(f)), Black Mountain commits to continue to ensure that each employee is informed about the provisions laid out in the mine's SLP as well as progress in achieving the objectives on an annual basis. In order to communicate the information effectively the following process will be followed as detailed in Table 49.

Table 50: SLP Communication Process Implementation Action Plan

SLP Communication Programme Strategic Action Plan	Responsible Position	Timeframe
1. The Mine communicates the SLP to all its employees through established SLP communication structures.	Community Liaison Manager	Ongoing
2. The feedback is presented in an appropriate format to be understood by all employees and may be communicated verbally, face to face and with the help of interpreters.	Community Liaison Manager	Ongoing
3. Mine future forum to be set up at contractor's level as a forum to discuss and communicate SLP issues during the life of the mine as well as issues pertaining to downscaling and retrenchment should these arise.	Community Liaison Manager	Ongoing
4. Where appropriate work team leaders may be trained on how to deal with questions that may arise and posters will be used to reinforce the message.	Community Liaison Manager	Ongoing

6.2 Undertaking

I _____, the undersigned and duly authorised thereto by the Black Mountain

_____ undertake to adhere to the information,

requirements, commitments and conditions as set out in the Social and Labour Plan.

Signed at _____ on this _____ day of _____

Signature of responsible person

Approved

Signed at _____ on this _____ day of _____

Signature

Designation

APPENDIX A

LABOUR SENDING AREAS

Category	Town	Category	Country/ Province	Total	Percentage Recruitment
Mine Community (Local)	Pofadder	Local	KMLM	34	
	Pella	Local	KMLM	85	
	Witbank	Local	KMLM	1	
	Onseepkans	Local	KMLM	16	
	Aggeneys	Local	KMLM	27	
Local Recruitment				163	20.0%
Foreign	Loopeng	Foreign	Foreign	1	
	Vane	Foreign	Foreign	1	
	Basil	Foreign	Foreign	1	
	Guanda	Foreign	Foreign	1	
	Mathura Uttar Pradesh	Foreign	Foreign	1	
	Zimbabwe	Foreign	Foreign	1	
	Bangalore	Foreign	India	1	
	Jabalpur	Foreign	India	1	
	Jamnagar	Foreign	India	1	
	Chennai Tamil Nadu	Foreign	India	1	
	Hapur	Foreign	India	1	
	Kanpur	Foreign	India	1	
	Kishangarh	Foreign	India	1	
	Kovilpatti	Foreign	India	1	
	Kota Rajasthan	Foreign	India	1	
	Porkulam	Foreign	India	1	
	Valparai	Foreign	India	1	
	Namibia	Foreign	Namibia	5	
	Grootfontein	Foreign	Namibia	2	
	Karasburg	Foreign	Namibia	1	
	Keetmanshoop	Foreign	Namibia	1	
	Oranjemund	Foreign	Namibia	1	
	Otjiwarango	Foreign	Namibia	1	
	Swakopmund	Foreign	Namibia	1	
	Daressalaam	Foreign	Tanzania	1	
	Tanzania	Foreign	Tanzania	1	
	Lusaka	Foreign	Zambia	1	
	Chingola	Foreign	Zambia	1	
	Kitwe	Foreign	Zambia	1	
	Windhoek	Foreign	Zimbabwe	1	
	Buhera	Foreign	Zimbabwe	1	
	Chipinge	Foreign	Zimbabwe	1	
Chiredzi	Foreign	Zimbabwe	1		

Category	Town	Category	Country/ Province	Total	Percentage Recruitment
	Harare	Foreign	Zimbabwe	1	
	Kadoma	Foreign	Zimbabwe	1	
Foreign Recruitment				40	4.9%
In-Province	Alexanderbaai	In-Province	Northern Cape	3	
	Augrabies	In-Province	Northern Cape	4	
	Bathlaros	In-Province	Northern Cape	1	
	Brandvlei	In-Province	Northern Cape	1	
	Buffelsrivier	In-Province	Northern Cape	1	
	Carnavon	In-Province	Northern Cape	1	
	Carolusberg	In-Province	Northern Cape	4	
	Concordia	In-Province	Northern Cape	21	
	Copperton	In-Province	Northern Cape	1	
	De Aar	In-Province	Northern Cape	1	
	Dithakong	In-Province	Northern Cape	1	
	Douglas	In-Province	Northern Cape	1	
	Eksteenfontein	In-Province	Northern Cape	4	
	Garies	In-Province	Northern Cape	5	
	Goodhouse	In-Province	Northern Cape	1	
	Grootdrink	In-Province	Northern Cape	2	
	Hartswater	In-Province	Northern Cape	1	
	Hopetown	In-Province	Northern Cape	1	
	Jan Kempdorp	In-Province	Northern Cape	1	
	Kakamas	In-Province	Northern Cape	10	
	Kanoneiland	In-Province	Northern Cape	1	
	Keimoes	In-Province	Northern Cape	20	
	Kenhardt	In-Province	Northern Cape	4	
	Kimberley	In-Province	Northern Cape	3	
	Kleinzee	In-Province	Northern Cape	2	
	Komaggas	In-Province	Northern Cape	16	
	Kuruman	In-Province	Northern Cape	26	
	Loeriesfontein	In-Province	Northern Cape	2	
	Maipeing	In-Province	Northern Cape	1	
	Marydale	In-Province	Northern Cape	1	
Nababeeb	In-Province	Northern Cape	111		
Okiep	In-Province	Northern Cape	28		
Port Nolloth	In-Province	Northern Cape	10		
Prieska	In-Province	Northern Cape	8		
Riemvasmaak	In-Province	Northern Cape	1		
Rietpoort	In-Province	Northern Cape	2		
Springbok	In-Province	Northern Cape	84		
Steinkopf	In-Province	Northern Cape	18		

Category	Town	Category	Country/ Province	Total	Percentage Recruitment
	Upington	In-Province	Northern Cape	28	
	Vanwyksvlei	In-Province	Northern Cape	1	
	Vioolsdrift	In-Province	Northern Cape	1	
	Warmsand	In-Province	Northern Cape	1	
	Westerberg	In-Province	Northern Cape	1	
In-Province Recruitment				435	53.3%
Inter-Provincial	Aliwal Noord	Inter-provincial	Eastern Cape	1	
	East London	Inter-Provincial	Eastern Cape	2	
	Eastern Cape	Inter-Provincial	Eastern Cape	16	
	Libode	Inter-Provincial	Eastern Cape	1	
	Mount Frere	Inter-Provincial	Eastern Cape	1	
	Port Elizabeth	Inter-Provincial	Eastern Cape	2	
	Port St.John	Inter-Provincial	Eastern Cape	1	
	Qumbu	Inter-Provincial	Eastern Cape	12	
	Shawbury	Inter-Provincial	Eastern Cape	1	
	St John's	Inter-Provincial	Eastern Cape	1	
	Sterkspruit	Inter-Provincial	Eastern Cape	1	
	Transkei	Inter-Provincial	Eastern Cape	8	
	Tsolo	Inter-Provincial	Eastern Cape	9	
	Tsomo	Inter-Provincial	Eastern Cape	1	
	Umtata	Inter-Provincial	Eastern Cape	8	
	Bloemfontein	Inter-Provincial	Free State	3	
	Brandford	Inter-Provincial	Free State	1	
	Fauresmith	Inter-Provincial	Free State	1	
	Odendaalsrus	Inter-Provincial	Free State	1	
	Welkom	Inter-Provincial	Free State	1	
	Athlone	Inter-Provincial	Gauteng	1	
	Blyvooruitzicht	Inter-Provincial	Gauteng	1	
	Carltonville	Inter-Provincial	Gauteng	1	
	Johannesburg	Inter-Provincial	Gauteng	1	
	Kagiso	Inter-Provincial	Gauteng	1	
	Krugersdorp	Inter-Provincial	Gauteng	1	
	Nigel	Inter-Provincial	Gauteng	1	
	Oberholzer	Inter-Provincial	Gauteng	1	
	Pretoria	Inter-Provincial	Gauteng	6	
	Roodepoort	Inter-Provincial	Gauteng	1	
	Sedibeng	Inter-Provincial	Gauteng	1	
	Vereeniging	Inter-Provincial	Gauteng	1	
Durban	Inter-Provincial	Kwazulu Natal	10		
New Castle	Inter-Provincial	Kwazulu Natal	1		

Category	Town	Category	Country/ Province	Total	Percentage Recruitment
	Vryheid	Inter-Provincial	Kwazulu Natal	1	
	Jane Furse	Inter-Provincial	Limpopo	1	
	Letaba	Inter-Provincial	Limpopo	1	
	Mohlaletse	Inter-Provincial	Limpopo	1	
	Polokwane	Inter-Provincial	Limpopo	1	
	Tzaneen	Inter-Provincial	Limpopo	1	
	Middelburg	Inter-Provincial	Mpumalanga	2	
	Witbank	Inter-provincial	Mpumalanga	1	
	Bethanie	Inter-Provincial	North West	1	
	Klerksdorp	Inter-Provincial	North West	1	
	Rustenburg	Inter-Provincial	North West	1	
	Vryburg	Inter-Provincial	North West	3	
	Wolmaranstad	Inter-Provincial	North West	1	
	Atlantis	Inter-Provincial	Western Cape	1	
	Beaufort-Wes	Inter-Provincial	Western Cape	1	
	Beauvallon	Inter-Provincial	Western Cape	1	
	Bellville	Inter-Provincial	Western Cape	1	
	Cape Town	Inter-Provincial	Western Cape	30	
	Clanwilliam	Inter-Provincial	Western Cape	1	
	Colesberg	Inter-Provincial	Western Cape	1	
	Cyrill	Inter-Provincial	Western Cape	1	
	Doringbaai	Inter-Provincial	Western Cape	1	
	Durbanville	Inter-Provincial	Western Cape	1	
	Ebenesar	Inter-Provincial	Western Cape	1	
	Macassar	Inter-Provincial	Western Cape	1	
	Malmesbury	Inter-Provincial	Western Cape	2	
	Mitchellsplain	Inter-Provincial	Western Cape	2	
	Morreesburg	Inter-Provincial	Western Cape	2	
	Nuwerus	Inter-Provincial	Western Cape	1	
	Paarl	Inter-Provincial	Western Cape	4	
	Piketberg	Inter-Provincial	Western Cape	1	
	Somerset-West	Inter-Provincial	Western Cape	3	
	Stellenbosch	Inter-Provincial	Western Cape	1	
	Vanrhynsdorp	Inter-Provincial	Western Cape	2	
	Vredenburg	Inter-Provincial	Western Cape	1	
	Vredendal	Inter-Provincial	Western Cape	1	
	Western Cape	Inter-Provincial	Western Cape	1	
Inter-Provincial Recruitment				178	21.8%
TOTAL				816	100.0%

APPENDIX B

PROOF OF SUBMISSION OF WSP

Johan Hendrik Barnard

From: MQA WSP/ATR Source Data Submission System <MahlatsM@mqa.org.za>
Sent: 17 August 2012 11:25 AM
To: Johan Hendrik Barnard
itadmin@itaware.co.za; MerylP@mqa.org.za; KediboneM@mqa.org.za;
MahlatsM@mqa.org.za; evodlam@mqa.org.za; jurie@itaware.co.za;
zone@itaware.co.za
Cc:
Subject: Unathi Ndamoyi has updated a task: WSP/ATR queried WITHOUT problems -- FOR --
Black Mountain Mining (Pty) Ltd - L800769616

Mining Qualifications Authority

4th Floor Union Corporation Building, 74-78 Marshall Street,
Marshalltown, Johannesburg
Private Bag X118, Marshalltown, 2107
Tel: 011 630 3500 Fax: 011 630 3596



Ms. Meryl Plasket
Skills Development and Research Manager
Mining Qualifications Authority
Private Bag X118, Marshalltown
JOHANNESBURG
2107

En
Mahlats
011 6:
[MahlatsM@mqa](mailto:MahlatsM@mqa.org.za)

Dear **Johan Barnard**

Last Task Updated: *WSP/ATR queried WITHOUT problems*

st Task Update By: *Unathi Ndamoyi*

This serves to inform you that your organisations Workplace Skills Plan (WSP) 2011-2012 /
Training Report (ATR) 2010-2011 has been processed by the MQA for the following:

Organisaiton Name : Black Mountain Mining (Pty) Ltd
Organisation SDL Number : L800769616
Organisation Email Address: jhbarnard@blackmountain.co.za

APPENDIX C

CAREER PATHS PER DISCIPLINE

CAREER PATHS PER DISCIPLINE

APPENDIX D

2007 AND 2011 SOCIO-ECONOMIC INDICATORS

2007

Socio Economic Indicators: Household Size	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
Total Number of People	1 058 057	126 490	12 568
Total Number of Households	264 658	36 438	3 787
Average Household Size	4	4	3
Brief Analysis	The statistics show that the average household size within the identified areas consists of four (4) household members based on the Community Survey of 2007. The population of the Khâi-Ma Local Municipality was estimated at 12 568.		

Socio-Economic Indicator: Living Conditions	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
House or brick structure on a separate stand or yard	75%	77%	72%
Traditional dwelling/hut/structure made of traditional materials	4%	2%	5%
Informal settlements (separate stands and backyard dwellings)	11%	5%	4%
Flush toilet with sewerage system	63%	67%	75%
Pit Latrine (without ventilation)	7%	1%	0%
No access to any toilet facilities	7%	3%	2%
Piped water in the house	50%	64%	69%
Pipe water inside yard	30%	28%	28%
Piped water more than 200 m from the yard	14%	3%	0%
Electricity used for cooking	77%	88%	84%
Electricity used for heating	65%	86%	89%
Gas used for cooking	4%	5%	4%
Gas used for heat	1%	1%	2%
Paraffin used for cooking	8%	1%	0%
Paraffin used for heating	6%	1%	0%
Wood used for cooking	10%	4%	6%
Wood used for heating	25%	10%	9%
Coal used for cooking	0%	0%	0%
Coal used for heating	1%	0%	0%
Refuse removed by local authority at least once a week	70%	86%	82%
Communal refuse dump	2%	1%	1%
Own refuse dump	23%	10%	11%
No rubbish Disposal	3%	1%	1%

Socio-Economic Indicator: Living Conditions	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
Brief Analysis	The majority of households (75%) surveyed across the various geographical areas stayed in formal housing structures. Only an average of 6% of households within the areas surveyed during 2007 were housed in informal settlements. Basic services infrastructure appears to be formalized with an average of 68% of households residing within the surveyed area having access to flush toilets and an average of 61% had access to piped water either within their homes or yards and an average of 83% had access to electricity for cooking purposes, while 80% had access to electricity for heating .		

Socio Economic Indicators: Income Levels	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
No Income	46%	40%	42%
R1 to R1,600 per month	27%	34%	27%
R1,601 to R6400 per month	28%	11%	17%
R6,401 to R51,200 per month	7%	5%	8%
R51,201 and above	9%	10%	5%
Brief Analysis	The annual household income does not reflect favourably in respect of the economic status of the region. On average 29% households surveyed during 2007 received minimal household monthly incomes (R1 to R1, 600 monthly) while an average of 43% has no income. Improved literacy levels and job creation projects especially through increase of sustainable SMME's in Khâi-ma Local Municipality and surrounding areas will assist in alleviating these poverty stricken areas.		

2011

Socio Economic Indicators: Number of Households	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
Total Number of People	1 145 861	115 842	11343
Total Number of Households	301 405	33 856	2746
Average Household Size	4	3	4
Brief Analysis	The statistics show that the average household size within the identified regions consists of four (4) household members except for the Namakwa District Municipality which has an average of three (3) household as per the results of Census 2011. The population of the Khâi-Ma Local Municipality was estimated to be approximately 11340 in 2011.		

Socio-Economic Indicator: Living Conditions	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
House or brick structure on a separate stand or yard	76%	87%	71%
Traditional dwelling/hut/structure made of traditional materials	3%	2%	16%

Socio-Economic Indicator: Living Conditions	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
Informal settlements (separate stands and backyard dwellings)	13%	2%	1%
Flush toilet with sewerage system	60%	58%	57%
Pit Latrine (without ventilation)	11%	5%	2%
No access to any toilet facilities	8%	6%	12%
Piped water in the house	46%	63%	41%
Piped water inside yard	32%	32%	47%
Piped water more than 200 m from the yard	4%	0%	3%
Electricity used for cooking	78%	81%	59%
Electricity used for heating	62%	66%	58%
Gas used for cooking	6%	8%	12%
Gas used for heat	2%	2%	1%
Paraffin used for cooking	5%	1%	1%
Paraffin used for heating	4%	1%	1%
Wood used for cooking	10%	9%	27%
Wood used for heating	20%	20%	39%
Coal used for cooking	0%	0%	0%
Coal used for heating	1%	0%	0%
Refuse removed by local authority at least once a week	64%	80%	65%
Communal refuse dump	2%	1%	3%
Own refuse dump	25%	13%	20%
No rubbish Disposal	3%	3%	2%
Brief Analysis	The majority of households (78%) surveyed across the various geographical areas stayed in formal housing structures. Only an average of 5% of households within the areas surveyed during 2011 were housed in informal settlements. Basic services infrastructure appears to be formalized with an average of 58% of households residing within the surveyed area having access to flush toilets and an average of 50% had access to piped water either within their homes or yards and an average of more than 60% had access to electricity for cooking and heating in the identified areas.		

Socio Economic Indicators: Educational Levels	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
No Schooling	8%	5%	7%
Some Primary	27%	26%	24%
Completed Primary	6%	8%	12%
Some Secondary	28%	31%	39%
Grade 12/Std 10	14%	13%	15%
Higher	4%	5%	4%
Brief Analysis	An average of 6% of the identified population is recorded as having no schooling. A mere 15% of the residents of the Khâi-Ma Local Municipality is recorded as having completed Grade 12 and only 4% to have a higher qualification. Extension of finance towards ABET and skills development		

Socio Economic Indicators: Educational Levels	Northern Cape Province	Namakwa District Municipality	Khâi-Ma Local Municipality
	programmes will aid in reducing the high illiteracy levels within the local area.		

APPENDIX E

REGISTERS/ MINUTES OF COMMUNITY CONSULTATIONS

APPENDIX F

FORM T

Form T Expenditure for Black Mountain as at Dec 2012

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
ESKOM HOLDINGS LTD: P. O. BOX 2100; BELLVILLE;	R -	Non-BEE	ESKOM HOLDINGS LTD: P. O. BOX 2100; BELLVILLE;	R -	Non-BEE	ESKOM HOLDINGS LTD: P. O. BOX 2100; BELLVILLE;	R 73 256 429.70	Non-BEE
SANDVIK AFRICA (PTY) LTD:Industr.SITE BM MINE; AGGENEYS;	R 21 563 802.01	Non-BEE	SANDVIK AFRICA (PTY) LTD:Industr.SITE BM MINE; AGGENEYS;	R 1 064 991.35	Non-BEE	SANDVIK AFRICA (PTY) LTD:Industr.SITE BM MINE; AGGENEYS;	R 21 269 757.12	Non-BEE
SHELL SOUTH AFRICA MARKETING: P.O. Box 2231; Cape Town;	R -	BEE	SHELL SOUTH AFRICA MARKETING: P.O. Box 2231; Cape Town;	R -	BEE	SHELL SOUTH AFRICA MARKETING: P.O. Box 2231; Cape Town;	R 32 688 430.68	BEE
SPOORNET: PO Box 1495; WORCESTER;	R -	Non-BEE	SPOORNET: PO Box 1495; WORCESTER;	R -	Non-BEE	SPOORNET: PO Box 1495; WORCESTER;	R 30 456 001.52	Non-BEE
ATLAS COPCO S.A.(CMT) PTY LTD: 2 SILICA STREET IND.SITE; SPRINGBOK;	R -	BEE	ATLAS COPCO S.A.(CMT) PTY LTD: 2 SILICA STREET IND.SITE; SPRINGBOK;	R 132 439.12	BEE	ATLAS COPCO S.A.(CMT) PTY LTD: 2 SILICA STREET IND.SITE; SPRINGBOK;	R 24 459 479.56	BEE
PPC CEMENT - MILNERTON: CNR CHAIN AVE & MONTAGUE DRIVE; MONTAGUE GARDENS;	R -	Non-BEE	PPC CEMENT - MILNERTON: CNR CHAIN AVE & MONTAGUE DRIVE; MONTAGUE GARDENS;	R 61 111.62	Non-BEE	PPC CEMENT - MILNERTON: CNR CHAIN AVE & MONTAGUE DRIVE; MONTAGUE GARDENS;	R 23 615 237.01	Non-BEE
DISCOVERY HEALTH MEDICAL SCHEME: P O BOX 786722; SANDTON;	R -	Non-BEE	DISCOVERY HEALTH MEDICAL SCHEME: P O BOX 786722; SANDTON;	R -	Non-BEE	DISCOVERY HEALTH MEDICAL SCHEME: P O BOX 786722; SANDTON;	R 22 424 335.00	Non-BEE
SPH KUNDALILA (PTY) LTD.: 18 MARCONI ROAD; MONTAGUE GARDENS; CAPE TOWN	R 261 234.90	BEE	SPH KUNDALILA (PTY) LTD.: 18 MARCONI ROAD; MONTAGUE GARDENS; CAPE TOWN	R 3 365 383.91	BEE	SPH KUNDALILA (PTY) LTD.: 18 MARCONI ROAD; MONTAGUE GARDENS; CAPE TOWN	R 14 363 734.26	BEE
JOWELLS TRANSPORT: Inrystraat; SPRINGBOK;	R -	BEE	JOWELLS TRANSPORT: Inrystraat; SPRINGBOK;	R -	BEE	JOWELLS TRANSPORT: Inrystraat; SPRINGBOK;	R 15 465 150.75	BEE
MARSH VIKELA (PTY) LTD: THE MARSH CENTRE; 88 GRAYSTON DRIVE; SANDTON	R -	BEE	MARSH VIKELA (PTY) LTD: THE MARSH CENTRE; 88 GRAYSTON DRIVE; SANDTON	R -	BEE	MARSH VIKELA (PTY) LTD: THE MARSH CENTRE; 88 GRAYSTON DRIVE; SANDTON	R 15 214 771.36	BEE
AFRF PROVIDENT FUND B.MOUNTAIN: P O BOX 787240; SANDTON;	R -	Non-BEE	AFRF PROVIDENT FUND B.MOUNTAIN: P O BOX 787240; SANDTON;	R -	Non-BEE	AFRF PROVIDENT FUND B.MOUNTAIN: P O BOX 787240; SANDTON;	R 15 106 765.93	Non-BEE
MURRAY & ROBERTS CEMENTATION PTY: 22 SKEEN BOULEVARD; BEDFORDVIEW; JOHANNESBURG	R 1 280 133.74	BEE	MURRAY & ROBERTS CEMENTATION PTY: 22 SKEEN BOULEVARD; BEDFORDVIEW; JOHANNESBURG	R 10 426 421.41	BEE	MURRAY & ROBERTS CEMENTATION PTY: 22 SKEEN BOULEVARD; BEDFORDVIEW; JOHANNESBURG	R 1 384 684.52	BEE
ALEXANDER FORBES RETIREMENT FUND: ALEXANDER FORBES PLACE; 61 KATHERINE STREET; SANDOWN	R -	Non-BEE	ALEXANDER FORBES RETIREMENT FUND: ALEXANDER FORBES PLACE; 61 KATHERINE STREET; SANDOWN	R -	Non-BEE	ALEXANDER FORBES RETIREMENT FUND: ALEXANDER FORBES PLACE; 61 KATHERINE STREET; SANDOWN	R 11 705 783.50	Non-BEE
Turnstone Drilling CC: 4 Danie Theron St; Fochville;	R 3 213 472.93	Non-BEE	Turnstone Drilling CC: 4 Danie Theron St; Fochville;	R 47 707.10	Non-BEE	Turnstone Drilling CC: 4 Danie Theron St; Fochville;	R 8 425 387.76	Non-BEE
SOUTH AFRICAN PORTS OPERATIONS: PRIVATE BAG X1; SALDANHA;	R -	Non-BEE	SOUTH AFRICAN PORTS OPERATIONS: PRIVATE BAG X1; SALDANHA;	R -	Non-BEE	SOUTH AFRICAN PORTS OPERATIONS: PRIVATE BAG X1; SALDANHA;	R 11 128 182.70	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
MAGOTTEAUX (PTY) LTD: 1st Floor, Oak Hill; Fourways Golf park, Roos str; Fourways	R -	Non-BEE	MAGOTTEAUX (PTY) LTD: 1st Floor, Oak Hill; Fourways Golf park, Roos str; Fourways	R -	Non-BEE	MAGOTTEAUX (PTY) LTD: 1st Floor, Oak Hill; Fourways Golf park, Roos str; Fourways	R 9894000.00	Non-BEE
DINERS CLUB INTERNATIONAL: PO BOX 590; AUCKLAND PARK;	R -	Non-BEE	DINERS CLUB INTERNATIONAL: PO BOX 590; AUCKLAND PARK;	R -	Non-BEE	DINERS CLUB INTERNATIONAL: PO BOX 590; AUCKLAND PARK;	R 9888274.41	Non-BEE
ESKOM HOLDINGS LTD: PO BOX 2100; BELLVILLE;	R -	Non-BEE	ESKOM HOLDINGS LTD: PO BOX 2100; BELLVILLE;	R -	Non-BEE	ESKOM HOLDINGS LTD: PO BOX 2100; BELLVILLE;	R 9704016.68	Non-BEE
BARIT MINING SUPPLIES: INDUST.SITE BM MINE; AGGENEYS;	R 2421063.44	BEE	BARIT MINING SUPPLIES: INDUST.SITE BM MINE; AGGENEYS;	R 2071036.07	BEE	BARIT MINING SUPPLIES: INDUST.SITE BM MINE; AGGENEYS;	R 5161874.53	BEE
ROYAL FOOD SERVICES (PTY) LTD: PO BOX 467; AGGENEYS;	R -	BEE	ROYAL FOOD SERVICES (PTY) LTD: PO BOX 467; AGGENEYS;	R -	BEE	ROYAL FOOD SERVICES (PTY) LTD: PO BOX 467; AGGENEYS;	R 9166744.06	BEE
NATIONAL PORTS AUTHORITY: PRIVATE BAG X1; SALDANHA;	R -	Non-BEE	NATIONAL PORTS AUTHORITY: PRIVATE BAG X1; SALDANHA;	R -	Non-BEE	NATIONAL PORTS AUTHORITY: PRIVATE BAG X1; SALDANHA;	R 9160607.43	Non-BEE
BIDFREIGHT PORT OPERATIONS: PO BOX 900; DURBAN;	R -	BEE	BIDFREIGHT PORT OPERATIONS: PO BOX 900; DURBAN;	R -	BEE	BIDFREIGHT PORT OPERATIONS: PO BOX 900; DURBAN;	R 9022317.22	BEE
METSO MINERALS: Metso House, Acsa Park 1; Jones Road; Jetpark	R 19500.00	Non-BEE	METSO MINERALS: Metso House, Acsa Park 1; Jones Road; Jetpark	R 415.53	Non-BEE	METSO MINERALS: Metso House, Acsa Park 1; Jones Road; Jetpark	R 8803250.04	Non-BEE
ABCO ENGINEERING (PTY) LTD: SILICA STREET IND.SITE; SPRINGBOK;	R 5437.00	Non-BEE	ABCO ENGINEERING (PTY) LTD: SILICA STREET IND.SITE; SPRINGBOK;	R 1817374.30	Non-BEE	ABCO ENGINEERING (PTY) LTD: SILICA STREET IND.SITE; SPRINGBOK;	R 6606189.31	Non-BEE
IEMAS: PRIVATE BAG X7; SANLAMHOF;	R -	Non-BEE	IEMAS: PRIVATE BAG X7; SANLAMHOF;	R -	Non-BEE	IEMAS: PRIVATE BAG X7; SANLAMHOF;	R 8347104.40	Non-BEE
STEINWELD ENGINEERING (PTY) LTD: INDUST.SITE BM MINE; AGGENEYS;	R 2258.00	BEE	STEINWELD ENGINEERING (PTY) LTD: INDUST.SITE BM MINE; AGGENEYS;	R 3343153.07	BEE	STEINWELD ENGINEERING (PTY) LTD: INDUST.SITE BM MINE; AGGENEYS;	R 4953480.44	BEE
Maxiprest Tyres (Pty) Ltd t/a: Max T Solutions; Tolweg; Springbok	R 950.00	Non-BEE	Maxiprest Tyres (Pty) Ltd t/a: Max T Solutions; Tolweg; Springbok	R 1074070.68	Non-BEE	Maxiprest Tyres (Pty) Ltd t/a: Max T Solutions; Tolweg; Springbok	R 6939192.04	Non-BEE
WEIR MINERALS AFRICA (PTY) LTD: 17 DONNINGTON RD; KILLARNEY GARDENS;	R -	Non-BEE	WEIR MINERALS AFRICA (PTY) LTD: 17 DONNINGTON RD; KILLARNEY GARDENS;	R -	Non-BEE	WEIR MINERALS AFRICA (PTY) LTD: 17 DONNINGTON RD; KILLARNEY GARDENS;	R 7743273.67	Non-BEE
OCC ENGINEERING CC: MAIN ROAD; NABABEEP;	R 4753491.43	Non-BEE	OCC ENGINEERING CC: MAIN ROAD; NABABEEP;	R 6886105.92	Non-BEE	OCC ENGINEERING CC: MAIN ROAD; NABABEEP;	R -4013281.23	Non-BEE
BVI CONSULTING ENGINEERS: Keeromstraat 17A; Springbok;	R 548544.76	BEE	BVI CONSULTING ENGINEERS: Keeromstraat 17A; Springbok;	R 4479661.07	BEE	BVI CONSULTING ENGINEERS: Keeromstraat 17A; Springbok;	R 2138565.34	BEE
COLEMAN TRANSPORT CC: 45 BOSWORTH STREET; ALRODE;	R -	Non-BEE	COLEMAN TRANSPORT CC: 45 BOSWORTH STREET; ALRODE;	R 108021.59	Non-BEE	COLEMAN TRANSPORT CC: 45 BOSWORTH STREET; ALRODE;	R 7034997.54	Non-BEE
ATLAS COPCO CONSTR. & MINING:Industr.SITE BM MINE; AGGENEYS;	R 4201823.60	BEE	ATLAS COPCO CONSTR. & MINING:Industr.SITE BM MINE; AGGENEYS;	R -	BEE	ATLAS COPCO CONSTR. & MINING:Industr.SITE BM MINE; AGGENEYS;	R 2276938.49	BEE
Equality Reef Services: PO Box 5982; Weltevreden Park;	R -	Non-BEE	Equality Reef Services: PO Box 5982; Weltevreden Park;	R -	Non-BEE	Equality Reef Services: PO Box 5982; Weltevreden Park;	R 6377644.37	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
KIMLEIGH CHEMICALS SA (PTY) LTD: 11 JASPER v/d WESTHUIZEN STR.; POTCH INDUSTRIA; POTCHEFSTROOM	R -	Non-BEE	KIMLEIGH CHEMICALS SA (PTY) LTD: 11 JASPER v/d WESTHUIZEN STR.; POTCH INDUSTRIA; POTCHEFSTROOM	R -	Non-BEE	KIMLEIGH CHEMICALS SA (PTY) LTD: 11 JASPER v/d WESTHUIZEN STR.; POTCH INDUSTRIA; POTCHEFSTROOM	R 5900 524.99	Non-BEE
AMEC GRD SA: Highbury House, Hampton Office; Park North, 20 Georgian Crescent; Bryanston, Johannesburg	R 21 205.37	Non-BEE	AMEC GRD SA: Highbury House, Hampton Office; Park North, 20 Georgian Crescent; Bryanston, Johannesburg	R 39 150.00	Non-BEE	AMEC GRD SA: Highbury House, Hampton Office; Park North, 20 Georgian Crescent; Bryanston, Johannesburg	R 570 950.77	Non-BEE
SCAW METALS: Lower Germiston Road, Main str; Jupiter; Johannesburg	R -	BEE	SCAW METALS: Lower Germiston Road, Main str; Jupiter; Johannesburg	R -	BEE	SCAW METALS: Lower Germiston Road, Main str; Jupiter; Johannesburg	R 5336 408.29	BEE
BKB LOGISTICS: 45 LADY GREY STREET; 3 DE FLOOR STANDAARD BANK BUILD.; PAARL	R -	Non-BEE	BKB LOGISTICS: 45 LADY GREY STREET; 3 DE FLOOR STANDAARD BANK BUILD.; PAARL	R 5384 958.00	Non-BEE	BKB LOGISTICS: 45 LADY GREY STREET; 3 DE FLOOR STANDAARD BANK BUILD.; PAARL	R -234 964.52	Non-BEE
STANNIC FLEET MANAGEMENT: P O BOX 8296; JOHANNESBURG;	R -	Non-BEE	STANNIC FLEET MANAGEMENT: P O BOX 8296; JOHANNESBURG;	R -	Non-BEE	STANNIC FLEET MANAGEMENT: P O BOX 8296; JOHANNESBURG;	R 4760 930.13	Non-BEE
ACCENTURE (SOUTH AFRICA) (PTY): PO BOX 1587; KELVIN;	R -	Non-BEE	ACCENTURE (SOUTH AFRICA) (PTY): PO BOX 1587; KELVIN;	R -	Non-BEE	ACCENTURE (SOUTH AFRICA) (PTY): PO BOX 1587; KELVIN;	R 4712 719.00	Non-BEE
OUTOTEC (RSA) (PTY) LTD: UNIT 28 MONTE CARLO CRESENT; KYALAMI BUSINESS PARK; MIDRAND	R 286 320.84	Non-BEE	OUTOTEC (RSA) (PTY) LTD: UNIT 28 MONTE CARLO CRESENT; KYALAMI BUSINESS PARK; MIDRAND	R 704 626.00	Non-BEE	OUTOTEC (RSA) (PTY) LTD: UNIT 28 MONTE CARLO CRESENT; KYALAMI BUSINESS PARK; MIDRAND	R 3610 831.49	Non-BEE
BOESMANLAND GREEN HERITAGE (PTY): P.O. Box 351; Aggenys;	R -	BEE	BOESMANLAND GREEN HERITAGE (PTY): P.O. Box 351; Aggenys;	R 229 012.97	BEE	BOESMANLAND GREEN HERITAGE (PTY): P.O. Box 351; Aggenys;	R 4291 163.86	BEE
BOTES AND KENNEDY MANYANO (PTY): 107 VOORTREKKER ROAD; SPRINGBOK;	R 1779 978.50	BEE	BOTES AND KENNEDY MANYANO (PTY): 107 VOORTREKKER ROAD; SPRINGBOK;	R 187 998.81	BEE	BOTES AND KENNEDY MANYANO (PTY): 107 VOORTREKKER ROAD; SPRINGBOK;	R 2447 525.00	BEE
FLSmith (Pty) Ltd: P.O. Box 5073; Weltevreden Park;	R 15 064.64	Non-BEE	FLSmith (Pty) Ltd: P.O. Box 5073; Weltevreden Park;	R 68 050.00	Non-BEE	FLSmith (Pty) Ltd: P.O. Box 5073; Weltevreden Park;	R 4330 950.88	Non-BEE
ONYX TRADE AS SA CRANE: 27 RANGE ROAD; BLACKHEATH; CAPE TOWN	R 142 500.00	Non-BEE	ONYX TRADE AS SA CRANE: 27 RANGE ROAD; BLACKHEATH; CAPE TOWN	R 17 076.27	Non-BEE	ONYX TRADE AS SA CRANE: 27 RANGE ROAD; BLACKHEATH; CAPE TOWN	R 4103 616.13	Non-BEE
EVERCOOL COLDROOMS CC: 5 PASTORALE STREET; DURBANVILLE INDUSTRIAL PARK; DURBANVILLE	R 338 313.17	Non-BEE	EVERCOOL COLDROOMS CC: 5 PASTORALE STREET; DURBANVILLE INDUSTRIAL PARK; DURBANVILLE	R 5 912.00	Non-BEE	EVERCOOL COLDROOMS CC: 5 PASTORALE STREET; DURBANVILLE INDUSTRIAL PARK; DURBANVILLE	R 3892 008.84	Non-BEE
MACSTEEL VRN: VOORTREKKER STREET; SPRINGBOK;	R -	Non-BEE	MACSTEEL VRN: VOORTREKKER STREET; SPRINGBOK;	R -	Non-BEE	MACSTEEL VRN: VOORTREKKER STREET; SPRINGBOK;	R 4227 923.02	Non-BEE
VDM Logistics: 25 Saldanha Way; Saldanha;	R -	Non-BEE	VDM Logistics: 25 Saldanha Way; Saldanha;	R 8765 576.82	Non-BEE	VDM Logistics: 25 Saldanha Way; Saldanha;	R -4803 906.72	Non-BEE
PUMA SECURITY: 17 POKWANI ROAD; HARTSWATER;	R -	BEE	PUMA SECURITY: 17 POKWANI ROAD; HARTSWATER;	R -	BEE	PUMA SECURITY: 17 POKWANI ROAD; HARTSWATER;	R 3858 897.85	BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
STEINKOPF BUILDING & JOINERY CC: PLOT 2318; GRANITEST; STEINKOPF	R 4 423 275.41	Non-BEE	STEINKOPF BUILDING & JOINERY CC: PLOT 2318; GRANITEST; STEINKOPF	R 15 527.68	Non-BEE	STEINKOPF BUILDING & JOINERY CC: PLOT 2318; GRANITEST; STEINKOPF	R - 610 152.91	Non-BEE
ISCOR LIMITED (PRETORIA): P.O. Box 19; Pretoria;	R -	Non-BEE	ISCOR LIMITED (PRETORIA): P.O. Box 19; Pretoria;	R -	Non-BEE	ISCOR LIMITED (PRETORIA): P.O. Box 19; Pretoria;	R 3 766 720.23	Non-BEE
FRASER ALEXANDER TAILING: 1 MARLIN ROAD; OFF KELLY ROAD; BOKSBURG	R -	BEE	FRASER ALEXANDER TAILING: 1 MARLIN ROAD; OFF KELLY ROAD; BOKSBURG	R 253 694.09	BEE	FRASER ALEXANDER TAILING: 1 MARLIN ROAD; OFF KELLY ROAD; BOKSBURG	R 3 373 799.00	BEE
QUALITY BUILDERS: Mr F. J Melssenhelmer; P.O. Box 471; Nababeep	R 1 873 550.05	BEE	QUALITY BUILDERS: Mr F. J Melssenhelmer; P.O. Box 471; Nababeep	R 7 858 290.92	BEE	QUALITY BUILDERS: Mr F. J Melssenhelmer; P.O. Box 471; Nababeep	R -6 147 938.93	BEE
ENVIROMENT.RESOUR.M ANAG.PTY LTD: BLOCK A,SILVERWOOD HOUSE; SILVERWOOD CLOSE; STEENBERG OFFICE PARK	R -	Non-BEE	ENVIROMENT.RESOUR.M ANAG.PTY LTD: BLOCK A,SILVERWOOD HOUSE; SILVERWOOD CLOSE; STEENBERG OFFICE PARK	R 64 791.00	Non-BEE	ENVIROMENT.RESOUR.M ANAG.PTY LTD: BLOCK A,SILVERWOOD HOUSE; SILVERWOOD CLOSE; STEENBERG OFFICE PARK	R 3 510 641.00	Non-BEE
WEST COAST AUTOMATION SYSTEMS cc: P.O.BOX 1388; ORANJEMUND; NAMIBIA	R 875 635.79	Non-BEE	WEST COAST AUTOMATION SYSTEMS cc: P.O.BOX 1388; ORANJEMUND; NAMIBIA	R 3 703 316.56	Non-BEE	WEST COAST AUTOMATION SYSTEMS cc: P.O.BOX 1388; ORANJEMUND; NAMIBIA	R -1 050 107.01	Non-BEE
FENCOR: KWARTSIET STREET; INDUSTRIAL AREA; SPRINGBOK	R 21 732.00	Non-BEE	FENCOR: KWARTSIET STREET; INDUSTRIAL AREA; SPRINGBOK	R -	Non-BEE	FENCOR: KWARTSIET STREET; INDUSTRIAL AREA; SPRINGBOK	R 3 473 821.35	Non-BEE
OCTOBER WIND TRADING 27 (PTY)LTD: VOORTREKKER STRAAT 15; SPRINGBOK;	R 59 730.00	Non-BEE	OCTOBER WIND TRADING 27 (PTY)LTD: VOORTREKKER STRAAT 15; SPRINGBOK;	R 65 445.00	Non-BEE	OCTOBER WIND TRADING 27 (PTY)LTD: VOORTREKKER STRAAT 15; SPRINGBOK;	R 3 271 440.92	Non-BEE
SOUTHEY CONTRACTING (PTY) LTD: P.O. Box 2651; Northriding;	R 608 471.93	Non-BEE	SOUTHEY CONTRACTING (PTY) LTD: P.O. Box 2651; Northriding;	R 9 242 494.92	Non-BEE	SOUTHEY CONTRACTING (PTY) LTD: P.O. Box 2651; Northriding;	R -6 547 370.03	Non-BEE
SENMIN SA (PTY) LTD: BUNSEN STREET; SASOLBURG;	R -	Non-BEE	SENMIN SA (PTY) LTD: BUNSEN STREET; SASOLBURG;	R -	Non-BEE	SENMIN SA (PTY) LTD: BUNSEN STREET; SASOLBURG;	R 3 226 290.29	Non-BEE
AFRICAN EXPLOSIVES LIMITED: PLATFORM BUILDING PLATINUM DRIVE; LONGMEADOW BUSINESS ESTATE; MODDERFONTEIN	R -	BEE	AFRICAN EXPLOSIVES LIMITED: PLATFORM BUILDING PLATINUM DRIVE; LONGMEADOW BUSINESS ESTATE; MODDERFONTEIN	R -	BEE	AFRICAN EXPLOSIVES LIMITED: PLATFORM BUILDING PLATINUM DRIVE; LONGMEADOW BUSINESS ESTATE; MODDERFONTEIN	R 3 094 637.62	BEE
DELOITTE & TOUCHE: PO BOX 578; CAPE TOWN;	R -	Non-BEE	DELOITTE & TOUCHE: PO BOX 578; CAPE TOWN;	R -	Non-BEE	DELOITTE & TOUCHE: PO BOX 578; CAPE TOWN;	R 3 062 360.49	Non-BEE
KUPFERBERG MACHINE & HEAT TREAT: P.O. Box 300; Aggeneys;	R 2 138 101.61	Non-BEE	KUPFERBERG MACHINE & HEAT TREAT: P.O. Box 300; Aggeneys;	R 1 531 456.44	Non-BEE	KUPFERBERG MACHINE & HEAT TREAT: P.O. Box 300; Aggeneys;	R - 617 679.71	Non-BEE
CHRYSO SOUTHERN AFRICA (PTY)LTD: 59 POST NET SUITE; EAST RAND;	R -	Non-BEE	CHRYSO SOUTHERN AFRICA (PTY)LTD: 59 POST NET SUITE; EAST RAND;	R -	Non-BEE	CHRYSO SOUTHERN AFRICA (PTY)LTD: 59 POST NET SUITE; EAST RAND;	R 3 045 420.00	Non-BEE
TL ENGINEERING T/A TL ENGIWELD: PO BOX 375; AGGENEYS;	R 2 226 720.20	Non-BEE	TL ENGINEERING T/A TL ENGIWELD: PO BOX 375; AGGENEYS;	R 5 637 858.28	Non-BEE	TL ENGINEERING T/A TL ENGIWELD: PO BOX 375; AGGENEYS;	R -5 034 755.34	Non-BEE
KAMROD PIPING: PO Box 141; Okiep;	R 2 513 263.41	BEE	KAMROD PIPING: PO Box 141; Okiep;	R 1 976 513.07	BEE	KAMROD PIPING: PO Box 141; Okiep;	R -1 710 462.38	BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
ZEST ELECTRIC MOTORS (PTY) LTD: 47 GALAXY AVENUE; LINBRO BUSINESS PARK; SANDTON	R 430.00	Non-BEE	ZEST ELECTRIC MOTORS (PTY) LTD: 47 GALAXY AVENUE; LINBRO BUSINESS PARK; SANDTON	R -	Non-BEE	ZEST ELECTRIC MOTORS (PTY) LTD: 47 GALAXY AVENUE; LINBRO BUSINESS PARK; SANDTON	R 2 762 446.00	Non-BEE
NAMELEC CC T/A NAMAQUA ELECTRICA: 281 LUCKOFF STRAAT; SPRINGBOK;	R 776 925.18	Non-BEE	NAMELEC CC T/A NAMAQUA ELECTRICA: 281 LUCKOFF STRAAT; SPRINGBOK;	R 180 837.55	Non-BEE	NAMELEC CC T/A NAMAQUA ELECTRICA: 281 LUCKOFF STRAAT; SPRINGBOK;	R 1 803 793.79	Non-BEE
MACDONALD'S TRANS.UPINGT.PTY LTD: 12 SWAKARA STREET; UPINGTON;	R -	BEE	MACDONALD'S TRANS.UPINGT.PTY LTD: 12 SWAKARA STREET; UPINGTON;	R 3 059 645.22	BEE	MACDONALD'S TRANS.UPINGT.PTY LTD: 12 SWAKARA STREET; UPINGTON;	R - 386 148.17	BEE
A Biba Construction & Renovation: Wankiestr 6; Aggeneys;	R 12 240.00	BEE	A Biba Construction & Renovation: Wankiestr 6; Aggeneys;	R 5 071 661.56	BEE	A Biba Construction & Renovation: Wankiestr 6; Aggeneys;	R -2 544 907.27	BEE
W.J.CONVEYANCES PTY LTD: 12 GROBLER STREET; POTCHINDUSTRIA; POTCHEFSTROOM	R 67 277.19	Non-BEE	W.J.CONVEYANCES PTY LTD: 12 GROBLER STREET; POTCHINDUSTRIA; POTCHEFSTROOM	R 42 540.00	Non-BEE	W.J.CONVEYANCES PTY LTD: 12 GROBLER STREET; POTCHINDUSTRIA; POTCHEFSTROOM	R 2 377 561.81	Non-BEE
TRIPLICON CONSTRUCTION CC: 6 UNION ROAD; ROXTON; ALBERTON NORTH	R 80 265.26	Non-BEE	TRIPLICON CONSTRUCTION CC: 6 UNION ROAD; ROXTON; ALBERTON NORTH	R 2 401 563.59	Non-BEE	TRIPLICON CONSTRUCTION CC: 6 UNION ROAD; ROXTON; ALBERTON NORTH	R -881.09	Non-BEE
NAMOMED: PO BOX 51; SPRINGBOK;	R -	Non-BEE	NAMOMED: PO BOX 51; SPRINGBOK;	R -	Non-BEE	NAMOMED: PO BOX 51; SPRINGBOK;	R 2 462 358.74	Non-BEE
SASOL NITRO: 15 BAKER STREET; ROSEBANK;	R -	Non-BEE	SASOL NITRO: 15 BAKER STREET; ROSEBANK;	R -	Non-BEE	SASOL NITRO: 15 BAKER STREET; ROSEBANK;	R 2 439 970.86	Non-BEE
DUNLOP BELTING PRODUCTS PTY LTD: PRIVATE BAG X027; BENONI;	R -	Non-BEE	DUNLOP BELTING PRODUCTS PTY LTD: PRIVATE BAG X027; BENONI;	R -	Non-BEE	DUNLOP BELTING PRODUCTS PTY LTD: PRIVATE BAG X027; BENONI;	R 2 428 772.77	Non-BEE
CHARLES JANSEN BOUERS CC: P.O. Box 1171; Upington;	R 126 683.42	BEE	CHARLES JANSEN BOUERS CC: P.O. Box 1171; Upington;	R 203 094.32	BEE	CHARLES JANSEN BOUERS CC: P.O. Box 1171; Upington;	R 2 058 658.16	BEE
AFRICAN EXPLOSIVES: OCC BUILDINGS; NABABEEP;	R -	BEE	AFRICAN EXPLOSIVES: OCC BUILDINGS; NABABEEP;	R 2 470 959.17	BEE	AFRICAN EXPLOSIVES: OCC BUILDINGS; NABABEEP;	R -84 728.93	BEE
NAMANDLA STEEL(PTY) LTD: NOURSE AVENUE; EPPING 2;	R 35 875.44	BEE	NAMANDLA STEEL(PTY) LTD: NOURSE AVENUE; EPPING 2;	R -	BEE	NAMANDLA STEEL(PTY) LTD: NOURSE AVENUE; EPPING 2;	R 2 272 890.13	BEE
EMA PARTNERS SA (PTY) LTD: 377 RIVONIA BOULEVARD; REVONIA; SANDTON	R -	Non-BEE	EMA PARTNERS SA (PTY) LTD: 377 RIVONIA BOULEVARD; REVONIA; SANDTON	R -	Non-BEE	EMA PARTNERS SA (PTY) LTD: 377 RIVONIA BOULEVARD; REVONIA; SANDTON	R 2 283 333.32	Non-BEE
TELKOM SA LTD: 26 KINGS RD; BEDFORDVIEW; JOHANNESBURG	R -	Non-BEE	TELKOM SA LTD: 26 KINGS RD; BEDFORDVIEW; JOHANNESBURG	R -	Non-BEE	TELKOM SA LTD: 26 KINGS RD; BEDFORDVIEW; JOHANNESBURG	R 2 272 463.08	Non-BEE
JOLOWE CONSTRUCTION CC: 5 HAULAGE STREET; NEW INDUSTRIAL AREA; CARLETONVILLE	R -	Non-BEE	JOLOWE CONSTRUCTION CC: 5 HAULAGE STREET; NEW INDUSTRIAL AREA; CARLETONVILLE	R 2 606 366.51	Non-BEE	JOLOWE CONSTRUCTION CC: 5 HAULAGE STREET; NEW INDUSTRIAL AREA; CARLETONVILLE	R - 344 535.31	Non-BEE
GIJIMA AST HOLDINGS (PTY) LTD: 47 LANDMARKS AVENUE; KOSMOSDAL, SAMRAND; CENTURION	R 1 243 420.87	BEE	GIJIMA AST HOLDINGS (PTY) LTD: 47 LANDMARKS AVENUE; KOSMOSDAL, SAMRAND; CENTURION	R 687 990.24	BEE	GIJIMA AST HOLDINGS (PTY) LTD: 47 LANDMARKS AVENUE; KOSMOSDAL, SAMRAND; CENTURION	R 311 905.94	BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
Digital Borehole Surveying CC: 39D Botha str; Oberholzer; Carletonville	R 1 172 939.74	BEE	Digital Borehole Surveying CC: 39D Botha str; Oberholzer; Carletonville	R 1 056 437.37	BEE	Digital Borehole Surveying CC: 39D Botha str; Oberholzer; Carletonville	R -10 071.46	BEE
GERMONA BUILDING CONSTRUCTION: WANKIE PARKHOME 2; AGGENEYS;	R -	Non-BEE	GERMONA BUILDING CONSTRUCTION: WANKIE PARKHOME 2; AGGENEYS;	R 2 735 861.85	Non-BEE	GERMONA BUILDING CONSTRUCTION: WANKIE PARKHOME 2; AGGENEYS;	R - 521 831.19	Non-BEE
LAROX SA (PTY) LTD: UNIT 12 ALPHIN SQUARE NORTH; CNR 16TH GEORGE STREET; MIDRAND	R 100 268.00	Non-BEE	LAROX SA (PTY) LTD: UNIT 12 ALPHIN SQUARE NORTH; CNR 16TH GEORGE STREET; MIDRAND	R 210 917.96	Non-BEE	LAROX SA (PTY) LTD: UNIT 12 ALPHIN SQUARE NORTH; CNR 16TH GEORGE STREET; MIDRAND	R 1 837 616.15	Non-BEE
MORRIS MATERIAL HANDLING CRANE: Unit 5, Kyalami Park; 36 B Silverstone Street; Killarney Gardens	R 82 956.80	Non-BEE	MORRIS MATERIAL HANDLING CRANE: Unit 5, Kyalami Park; 36 B Silverstone Street; Killarney Gardens	R 5 133 982.48	Non-BEE	MORRIS MATERIAL HANDLING CRANE: Unit 5, Kyalami Park; 36 B Silverstone Street; Killarney Gardens	R -3 074 808.82	Non-BEE
SPRINGB.RUBB. AND MING.SUPPL.CC: VOORTREKKER STREET 83; BUILDING 7; SPRINGBOK	R 21 600.24	Non-BEE	SPRINGB.RUBB. AND MING.SUPPL.CC: VOORTREKKER STREET 83; BUILDING 7; SPRINGBOK	R 1 232 459.24	Non-BEE	SPRINGB.RUBB. AND MING.SUPPL.CC: VOORTREKKER STREET 83; BUILDING 7; SPRINGBOK	R 868 960.26	Non-BEE
EBEN SAAYMAN: PO BOX 46391; ORANGE GROVE;	R -	Non-BEE	EBEN SAAYMAN: PO BOX 46391; ORANGE GROVE;	R -	Non-BEE	EBEN SAAYMAN: PO BOX 46391; ORANGE GROVE;	R 2 098 916.50	Non-BEE
FRANMIL MINING SUPPLIES: KOPER STREET; INDUSTRIAL AREA; SPRINGBOK	R -	BEE	FRANMIL MINING SUPPLIES: KOPER STREET; INDUSTRIAL AREA; SPRINGBOK	R 4 550.00	BEE	FRANMIL MINING SUPPLIES: KOPER STREET; INDUSTRIAL AREA; SPRINGBOK	R 2 088 482.31	BEE
MIKE'S ACCESSORIES S.A. CC.....: 26 St Silas Road; Sunnyside; Athlone	R 400 772.44	Non-BEE	MIKE'S ACCESSORIES S.A. CC.....: 26 St Silas Road; Sunnyside; Athlone	R 116 059.47	Non-BEE	MIKE'S ACCESSORIES S.A. CC.....: 26 St Silas Road; Sunnyside; Athlone	R 1 568 683.62	Non-BEE
TERRAMIN (PTY) LTD (79747A): P.O. Box 17153; Groenkloof; Pretoria	R -	Non-BEE	TERRAMIN (PTY) LTD (79747A): P.O. Box 17153; Groenkloof; Pretoria	R -	Non-BEE	TERRAMIN (PTY) LTD (79747A): P.O. Box 17153; Groenkloof; Pretoria	R 2 034 518.30	Non-BEE
Kim Fire Quip cc: 21 Hull Street; De Beers; Kimberley	R 24 631.59	Non-BEE	Kim Fire Quip cc: 21 Hull Street; De Beers; Kimberley	R 12 175.00	Non-BEE	Kim Fire Quip cc: 21 Hull Street; De Beers; Kimberley	R 1 944 886.80	Non-BEE
Brink & Heath Civils North (Pty): Inry straat; Industrial; Springbok	R 82 339.10	BEE	Brink & Heath Civils North (Pty): Inry straat; Industrial; Springbok	R 309 715.55	BEE	Brink & Heath Civils North (Pty): Inry straat; Industrial; Springbok	R 1 538 772.54	BEE
INTERNATIONAL SOS ASSISTANCE PTY: PO BOX 4561; HALFWAY HOUSE;	R -	Non-BEE	INTERNATIONAL SOS ASSISTANCE PTY: PO BOX 4561; HALFWAY HOUSE;	R -	Non-BEE	INTERNATIONAL SOS ASSISTANCE PTY: PO BOX 4561; HALFWAY HOUSE;	R 1 926 573.14	Non-BEE
BIO COMPTRAIN: 79 CRAIB AVENUE; RIEBCKSTAD; WELKOM	R -	Non-BEE	BIO COMPTRAIN: 79 CRAIB AVENUE; RIEBCKSTAD; WELKOM	R 314 747.00	Non-BEE	BIO COMPTRAIN: 79 CRAIB AVENUE; RIEBCKSTAD; WELKOM	R 1 482 919.12	Non-BEE
SPRINGBOK MOTOR REWINDS (PTY): 4 KOPER STREET INDS.SITE; SPRINGBOK;	R 1 254.46	BEE	SPRINGBOK MOTOR REWINDS (PTY): 4 KOPER STREET INDS.SITE; SPRINGBOK;	R 297 256.21	BEE	SPRINGBOK MOTOR REWINDS (PTY): 4 KOPER STREET INDS.SITE; SPRINGBOK;	R 1 418 579.24	BEE
ALS CHEMEX SA (PTY) LTD: 3 FRIESLAND DRIVE; LONG MEADOW BUSINESS PARK; EDENVALE SOUTH	R 9 438 198.58	Non-BEE	ALS CHEMEX SA (PTY) LTD: 3 FRIESLAND DRIVE; LONG MEADOW BUSINESS PARK; EDENVALE SOUTH	R 1 493 569.78	Non-BEE	ALS CHEMEX SA (PTY) LTD: 3 FRIESLAND DRIVE; LONG MEADOW BUSINESS PARK; EDENVALE SOUTH	R -9 232 594.26	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
AFRI SAM(SOUTH AFRICA)(PTY)LTD: HOLCIM HOUSE,CONSTANTIA; 14TH AVE&HENDRIK PORGIETER RD; WELTEVREDEN PARK	R -	BEE	AFRI SAM(SOUTH AFRICA)(PTY)LTD: HOLCIM HOUSE,CONSTANTIA; 14TH AVE&HENDRIK PORGIETER RD; WELTEVREDEN PARK	R 27 940.00	BEE	AFRI SAM(SOUTH AFRICA)(PTY)LTD: HOLCIM HOUSE,CONSTANTIA; 14TH AVE&HENDRIK PORGIETER RD; WELTEVREDEN PARK	R 1 655 900.27	BEE
AFROX LIMITED: P.O BOX 305; SPRINGBOK;	R -	BEE	AFROX LIMITED: P.O BOX 305; SPRINGBOK;	R 1 134 504.28	BEE	AFROX LIMITED: P.O BOX 305; SPRINGBOK;	R 519 645.18	BEE
FIRST TECHNOLOGY (PTY) LTD: 161 ZASTRON STREET; BLOEMFONTEIN;	R 7 533 459.70	Non-BEE	FIRST TECHNOLOGY (PTY) LTD: 161 ZASTRON STREET; BLOEMFONTEIN;	R 586 132.87	Non-BEE	FIRST TECHNOLOGY (PTY) LTD: 161 ZASTRON STREET; BLOEMFONTEIN;	R -6 515 047.16	Non-BEE
HATCH AFRICA (PTY) LTD: PRIVATE BAG X20; GALLO MANOR;	R -	BEE	HATCH AFRICA (PTY) LTD: PRIVATE BAG X20; GALLO MANOR;	R 2 648.00	BEE	HATCH AFRICA (PTY) LTD: PRIVATE BAG X20; GALLO MANOR;	R 1 560 524.00	BEE
BEARING MAN GROUP: TOLWEG RD; SPRINGBOK;	R 3 550.00	BEE	BEARING MAN GROUP: TOLWEG RD; SPRINGBOK;	R 32 322.50	BEE	BEARING MAN GROUP: TOLWEG RD; SPRINGBOK;	R 1 490 406.82	BEE
AGGENEYS COOLING AND ENGINEERING: P.O. Box 72; Aggeneys;	R 42 020.20	Non-BEE	AGGENEYS COOLING AND ENGINEERING: P.O. Box 72; Aggeneys;	R 996 770.25	Non-BEE	AGGENEYS COOLING AND ENGINEERING: P.O. Box 72; Aggeneys;	R 429 234.73	Non-BEE
PPC LIME LIMITED (JHB): 180 KATHERINE STREET; BARLOWPARK EXTENSION; SANDTON	R -	BEE	PPC LIME LIMITED (JHB): 180 KATHERINE STREET; BARLOWPARK EXTENSION; SANDTON	R -	BEE	PPC LIME LIMITED (JHB): 180 KATHERINE STREET; BARLOWPARK EXTENSION; SANDTON	R 1 467 255.67	BEE
KPMG SERVICES (PTY) LTD: 85 EMPIRE ROAD; PARKTOWN;	R -	Non-BEE	KPMG SERVICES (PTY) LTD: 85 EMPIRE ROAD; PARKTOWN;	R -	Non-BEE	KPMG SERVICES (PTY) LTD: 85 EMPIRE ROAD; PARKTOWN;	R 1 452 964.63	Non-BEE
RENNIES TRAVEL PTY LTD: 2nd FLOOR, THE TERRACES; BLACK RIVER OFFICE PARK; OBSERVATORY	R -	Non-BEE	RENNIES TRAVEL PTY LTD: 2nd FLOOR, THE TERRACES; BLACK RIVER OFFICE PARK; OBSERVATORY	R -	Non-BEE	RENNIES TRAVEL PTY LTD: 2nd FLOOR, THE TERRACES; BLACK RIVER OFFICE PARK; OBSERVATORY	R 1 417 166.49	Non-BEE
KOPERSTREEK MOTORS TJA TREK NISS: VOORTREKKER STRAAT 3; SPRINGBOK;	R 110 295.69	Non-BEE	KOPERSTREEK MOTORS TJA TREK NISS: VOORTREKKER STRAAT 3; SPRINGBOK;	R 480.00	Non-BEE	KOPERSTREEK MOTORS TJA TREK NISS: VOORTREKKER STRAAT 3; SPRINGBOK;	R 1 234 828.58	Non-BEE
ROBERTSON FREIGHT: UNIT 29 FOREGATE SQUARE; TABLE BAY BOULEVARD; FORESHORE CAPE TOWN	R 116 043.32	Non-BEE	ROBERTSON FREIGHT: UNIT 29 FOREGATE SQUARE; TABLE BAY BOULEVARD; FORESHORE CAPE TOWN	R 30 875.00	Non-BEE	ROBERTSON FREIGHT: UNIT 29 FOREGATE SQUARE; TABLE BAY BOULEVARD; FORESHORE CAPE TOWN	R 1 188 144.99	Non-BEE
MEDSCHEME: PO BOX 3711; NORTH END; PORT ELIZABETH	R -	Non-BEE	MEDSCHEME: PO BOX 3711; NORTH END; PORT ELIZABETH	R -	Non-BEE	MEDSCHEME: PO BOX 3711; NORTH END; PORT ELIZABETH	R 1 315 843.10	Non-BEE
ARDENTER LABORE CIVIS (PTY) LTD: 3 KALK STREET; STEINKOPF;	R 210 580.05	BEE	ARDENTER LABORE CIVIS (PTY) LTD: 3 KALK STREET; STEINKOPF;	R 5 520 343.82	BEE	ARDENTER LABORE CIVIS (PTY) LTD: 3 KALK STREET; STEINKOPF;	R -4 474 930.20	BEE
KHAI-MA MUNISIPALITEIT: PO BOX 108; POFADDER;	R -	Non-BEE	KHAI-MA MUNISIPALITEIT: PO BOX 108; POFADDER;	R -	Non-BEE	KHAI-MA MUNISIPALITEIT: PO BOX 108; POFADDER;	R 1 250 265.67	Non-BEE
AFRF PROV-BLACK MOUNTAIN H/PLAN: PO BOX 652071; BENMORE;	R -	Non-BEE	AFRF PROV-BLACK MOUNTAIN H/PLAN: PO BOX 652071; BENMORE;	R -	Non-BEE	AFRF PROV-BLACK MOUNTAIN H/PLAN: PO BOX 652071; BENMORE;	R 1 237 135.45	Non-BEE
Internet Solutions: The Terraces - 11th Floor; 34 Bree Street; Cape Town	R -	Non-BEE	Internet Solutions: The Terraces - 11th Floor; 34 Bree Street; Cape Town	R -	Non-BEE	Internet Solutions: The Terraces - 11th Floor; 34 Bree Street; Cape Town	R 1 230 349.52	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
J J VAN KRADENBURG TAXIS CC: PO BOX 111; POFADDER;	R -	Non-BEE	J J VAN KRADENBURG TAXIS CC: PO BOX 111; POFADDER;	R -	Non-BEE	J J VAN KRADENBURG TAXIS CC: PO BOX 111; POFADDER;	R 1 218 179.00	Non-BEE
AGADAPPIES EDIFICATION CENTRE: 22 ZANDPAN STREET; AGGENEYS;	R -	BEE	AGADAPPIES EDIFICATION CENTRE: 22 ZANDPAN STREET; AGGENEYS;	R -	BEE	AGADAPPIES EDIFICATION CENTRE: 22 ZANDPAN STREET; AGGENEYS;	R 1 205 902.00	BEE
NASHUA NOORDWESTE: P. O. BOX 519; VREDENDAL;	R -	Non-BEE	NASHUA NOORDWESTE: P. O. BOX 519; VREDENDAL;	R -	Non-BEE	NASHUA NOORDWESTE: P. O. BOX 519; VREDENDAL;	R 1 204 123.48	Non-BEE
Nama Khoi Electrical CC t/a NK: Lodge street 4; Springbok;	R 376 985.44	Non-BEE	Nama Khoi Electrical CC t/a NK: Lodge street 4; Springbok;	R 3 095 259.87	Non-BEE	Nama Khoi Electrical CC t/a NK: Lodge street 4; Springbok;	R -2 276 647.07	Non-BEE
AFRICAN CABLES LIMITED: P.O.Box 172; Vereeniging;	R -	Non-BEE	AFRICAN CABLES LIMITED: P.O.Box 172; Vereeniging;	R -	Non-BEE	AFRICAN CABLES LIMITED: P.O.Box 172; Vereeniging;	R 1 194 679.25	Non-BEE
NAMMECH ENGINEERING: ZANDPAN 2; AGGENEYS;	R -	BEE	NAMMECH ENGINEERING: ZANDPAN 2; AGGENEYS;	R 588 347.41	BEE	NAMMECH ENGINEERING: ZANDPAN 2; AGGENEYS;	R 585 742.29	BEE
GENCHARGE REWINDERS CC: P.O. BOX 691; SPRINGBOK;	R -	BEE	GENCHARGE REWINDERS CC: P.O. BOX 691; SPRINGBOK;	R 4 600.00	BEE	GENCHARGE REWINDERS CC: P.O. BOX 691; SPRINGBOK;	R 1 163 645.16	BEE
RAGMAX VALVES & INSTRUMENTATION: REPUBLIEK STRAAT 27; SPRINGBOK;	R 839 944.49	Non-BEE	RAGMAX VALVES & INSTRUMENTATION: REPUBLIEK STRAAT 27; SPRINGBOK;	R 15 758.07	Non-BEE	RAGMAX VALVES & INSTRUMENTATION: REPUBLIEK STRAAT 27; SPRINGBOK;	R 307 571.92	Non-BEE
GOLDER ASSOCIATES AFRICA (PTY) L: P.O. Box 6001; Halfway House;	R -	Non-BEE	GOLDER ASSOCIATES AFRICA (PTY) L: P.O. Box 6001; Halfway House;	R -	Non-BEE	GOLDER ASSOCIATES AFRICA (PTY) L: P.O. Box 6001; Halfway House;	R 1 134 245.08	Non-BEE
DR G.O.JONES: 26 WILLOW ROAD; CONSTANTIA;	R -	Non-BEE	DR G.O.JONES: 26 WILLOW ROAD; CONSTANTIA;	R -	Non-BEE	DR G.O.JONES: 26 WILLOW ROAD; CONSTANTIA;	R 1 112 487.38	Non-BEE
BT COMMUNICATIONS SERVICES SA PT: PRIVATE BAG X 203; BRYANSTON;	R -	Non-BEE	BT COMMUNICATIONS SERVICES SA PT: PRIVATE BAG X 203; BRYANSTON;	R -	Non-BEE	BT COMMUNICATIONS SERVICES SA PT: PRIVATE BAG X 203; BRYANSTON;	R 1 096 894.56	Non-BEE
Black Mountain Electrical: 37 Republiek St; Springbok;	R 3 397.63	Non-BEE	Black Mountain Electrical: 37 Republiek St; Springbok;	R 8 846 742.42	Non-BEE	Black Mountain Electrical: 37 Republiek St; Springbok;	R -7 764 856.27	Non-BEE
POLIFIN LTD - CHEMICALS DIV (U: P.O. Box 395; Umbogintwini);	R -	Non-BEE	POLIFIN LTD - CHEMICALS DIV (U: P.O. Box 395; Umbogintwini);	R -	Non-BEE	POLIFIN LTD - CHEMICALS DIV (U: P.O. Box 395; Umbogintwini);	R 1 044 388.89	Non-BEE
VANRHYNSDORP BOEREDIENSTE CC: STRELA FARM/NEXT TO CAPE LIME; R362 ROAD; VREDENDAL	R 556 458.34	Non-BEE	VANRHYNSDORP BOEREDIENSTE CC: STRELA FARM/NEXT TO CAPE LIME; R362 ROAD; VREDENDAL	R 175 202.26	Non-BEE	VANRHYNSDORP BOEREDIENSTE CC: STRELA FARM/NEXT TO CAPE LIME; R362 ROAD; VREDENDAL	R 302 947.02	Non-BEE
ARB ELECTR.WHOLESALERS(PTY)LTD: 14 TRADE CRESCENT; MONTAGUE GARDENS;	R 146 855.00	Non-BEE	ARB ELECTR.WHOLESALERS(PTY)LTD: 14 TRADE CRESCENT; MONTAGUE GARDENS;	R -	Non-BEE	ARB ELECTR.WHOLESALERS(PTY)LTD: 14 TRADE CRESCENT; MONTAGUE GARDENS;	R 886 900.30	Non-BEE
CBS MINING & ENGINEERING (PTY) L: 7 RIVIER STREET; SPRINGBOK;	R -	Non-BEE	CBS MINING & ENGINEERING (PTY) L: 7 RIVIER STREET; SPRINGBOK;	R 1 642 304.55	Non-BEE	CBS MINING & ENGINEERING (PTY) L: 7 RIVIER STREET; SPRINGBOK;	R - 634 963.22	Non-BEE
Onamagongwa Trading Enterprises: Std 9102; Main Road; Ondangwa	R -	Non-BEE	Onamagongwa Trading Enterprises: Std 9102; Main Road; Ondangwa	R -	Non-BEE	Onamagongwa Trading Enterprises: Std 9102; Main Road; Ondangwa	R 1 000 000.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
OMNIA GROUP PTY LTD: BLOCK F, ST ANDREWE OFFICE PARK; MEADOWBROOKE LANE; EPSOM DOWNS - BRYANSTON	R -	Non-BEE	OMNIA GROUP PTY LTD: BLOCK F, ST ANDREWE OFFICE PARK; MEADOWBROOKE LANE; EPSOM DOWNS - BRYANSTON	R -	Non-BEE	OMNIA GROUP PTY LTD: BLOCK F, ST ANDREWE OFFICE PARK; MEADOWBROOKE LANE; EPSOM DOWNS - BRYANSTON	R 996 965.00	Non-BEE
MULTOTEC RUBBER (PTY)LTD: 28 FORGE ROAD; SPARTAN;	R -	Non-BEE	MULTOTEC RUBBER (PTY)LTD: 28 FORGE ROAD; SPARTAN;	R 24 820.00	Non-BEE	MULTOTEC RUBBER (PTY)LTD: 28 FORGE ROAD; SPARTAN;	R 932 950.69	Non-BEE
ENDRESS - HAUSER (PTY) LTD: P.O. Box 783996; Sandton;	R -	Non-BEE	ENDRESS - HAUSER (PTY) LTD: P.O. Box 783996; Sandton;	R 59 061.25	Non-BEE	ENDRESS - HAUSER (PTY) LTD: P.O. Box 783996; Sandton;	R 898 360.51	Non-BEE
DRILLCORP AFRICA (PTY)LTD: P.O.BOX 902; FOCHVILLE;	R 7 127 170.01	BEE	DRILLCORP AFRICA (PTY)LTD: P.O.BOX 902; FOCHVILLE;	R 38 170.18	BEE	DRILLCORP AFRICA (PTY)LTD: P.O.BOX 902; FOCHVILLE;	R -6 208 102.69	BEE
WEBBER WENTZEL BOWENS: PO BOX 61771; MARSHALLTOWN;	R -	Non-BEE	WEBBER WENTZEL BOWENS: PO BOX 61771; MARSHALLTOWN;	R -	Non-BEE	WEBBER WENTZEL BOWENS: PO BOX 61771; MARSHALLTOWN;	R 928 296.43	Non-BEE
ABERDARE CABLES (PTY) LTD: P.O BOX 2566; EDENVALE;	R -	BEE	ABERDARE CABLES (PTY) LTD: P.O BOX 2566; EDENVALE;	R -	BEE	ABERDARE CABLES (PTY) LTD: P.O BOX 2566; EDENVALE;	R 925 280.42	BEE
MINOVA RSA: P.O. Box 52; Isando;	R 6 400 378.42	Non-BEE	MINOVA RSA: P.O. Box 52; Isando;	R 212 989.98	Non-BEE	MINOVA RSA: P.O. Box 52; Isando;	R -5 693 441.73	Non-BEE
PICTORIAL PRESS PTY LTD: 11 HYSER STREET; HERIOTDALE; JOHANNESBURG	R -	Non-BEE	PICTORIAL PRESS PTY LTD: 11 HYSER STREET; HERIOTDALE; JOHANNESBURG	R -	Non-BEE	PICTORIAL PRESS PTY LTD: 11 HYSER STREET; HERIOTDALE; JOHANNESBURG	R 913 535.47	Non-BEE
KAI MA HYDRAULICS(PTY)LTD: HAVELOCK LANE; AGGENEYS;	R -	BEE	KAI MA HYDRAULICS(PTY)LTD: HAVELOCK LANE; AGGENEYS;	R 457 891.77	BEE	KAI MA HYDRAULICS(PTY)LTD: HAVELOCK LANE; AGGENEYS;	R 435 866.70	BEE
LBJ Global Recruitment (Pty) Ltd: 304 Oak Avenue; Ferndale; Randburg	R 49 464.00	Non-BEE	LBJ Global Recruitment (Pty) Ltd: 304 Oak Avenue; Ferndale; Randburg	R 17 616.00	Non-BEE	LBJ Global Recruitment (Pty) Ltd: 304 Oak Avenue; Ferndale; Randburg	R 818 662.00	Non-BEE
SHAW CONTROLS (PTY) LTD (BOOYSEN: P.O. Box 39195; Booyens;	R -	Non-BEE	SHAW CONTROLS (PTY) LTD (BOOYSEN: P.O. Box 39195; Booyens;	R -	Non-BEE	SHAW CONTROLS (PTY) LTD (BOOYSEN: P.O. Box 39195; Booyens;	R 878 621.36	Non-BEE
BOESMANL.BUILD. CONST.& ACC. CC: DORP STRAAT 243; POFADDER;	R -	BEE	BOESMANL.BUILD. CONST.& ACC. CC: DORP STRAAT 243; POFADDER;	R 376 543.75	BEE	BOESMANL.BUILD. CONST.& ACC. CC: DORP STRAAT 243; POFADDER;	R 491 195.11	BEE
BELL EQUIPMENT SALES S.A PTY LTD: 28 Aviation Str, Phase 4; Airport City; Cape Town	R -	Non-BEE	BELL EQUIPMENT SALES S.A PTY LTD: 28 Aviation Str, Phase 4; Airport City; Cape Town	R -	Non-BEE	BELL EQUIPMENT SALES S.A PTY LTD: 28 Aviation Str, Phase 4; Airport City; Cape Town	R 851 762.98	Non-BEE
HOSCH-FORDERTECHNIK (SA) (PTY) L: P.O. Box 14738; Wadeville;	R -	Non-BEE	HOSCH-FORDERTECHNIK (SA) (PTY) L: P.O. Box 14738; Wadeville;	R -	Non-BEE	HOSCH-FORDERTECHNIK (SA) (PTY) L: P.O. Box 14738; Wadeville;	R 833 210.00	Non-BEE
AGGENEYS RENOVATIONS & SERVICES: PO BOX 418; AGGENEYS;	R 170 881.15	BEE	AGGENEYS RENOVATIONS & SERVICES: PO BOX 418; AGGENEYS;	R 1 078 318.87	BEE	AGGENEYS RENOVATIONS & SERVICES: PO BOX 418; AGGENEYS;	R - 416 214.80	BEE
PATCH INDUSTRIAL SUPPLIES: 49 WESSEL LOURENS DRIVE; VREDEKLOOF; CAPE TOWN	R -	Non-BEE	PATCH INDUSTRIAL SUPPLIES: 49 WESSEL LOURENS DRIVE; VREDEKLOOF; CAPE TOWN	R -	Non-BEE	PATCH INDUSTRIAL SUPPLIES: 49 WESSEL LOURENS DRIVE; VREDEKLOOF; CAPE TOWN	R 816 853.44	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
AGGENEYS PRIMARY SCHOOL: P. O. BOX 98; AGGENEYS;	R -	Non-BEE	AGGENEYS PRIMARY SCHOOL: P. O. BOX 98; AGGENEYS;	R -	Non-BEE	AGGENEYS PRIMARY SCHOOL: P. O. BOX 98; AGGENEYS;	R 798 819.75	Non-BEE
C.F. FIELDING T/A CHRISTY'S CAR: P.O. Box 1047; Steinkopf;	R 216 651.56	Non-BEE	C.F. FIELDING T/A CHRISTY'S CAR: P.O. Box 1047; Steinkopf;	R 5 452 669.32	Non-BEE	C.F. FIELDING T/A CHRISTY'S CAR: P.O. Box 1047; Steinkopf;	R -4 881 022.87	Non-BEE
LUBRITENE (PTY) LTD: VOORTREKKER STREET; SPRINGBOK;	R -	Non-BEE	LUBRITENE (PTY) LTD: VOORTREKKER STREET; SPRINGBOK;	R -	Non-BEE	LUBRITENE (PTY) LTD: VOORTREKKER STREET; SPRINGBOK;	R 783 660.87	Non-BEE
HONOLULU HARDWARE & RENOVATIONS: P.O. Box 521; Springbok;	R -	Non-BEE	HONOLULU HARDWARE & RENOVATIONS: P.O. Box 521; Springbok;	R 1 634.44	Non-BEE	HONOLULU HARDWARE & RENOVATIONS: P.O. Box 521; Springbok;	R 768 159.91	Non-BEE
HOERSKOOL AGGENEYS: PO BOX 88; AGGENEYS;	R -	Non-BEE	HOERSKOOL AGGENEYS: PO BOX 88; AGGENEYS;	R -	Non-BEE	HOERSKOOL AGGENEYS: PO BOX 88; AGGENEYS;	R 767 325.29	Non-BEE
CAREER WISE PTY LTD: P O BOX 30632; BRAAMFONTEIN;	R -	Non-BEE	CAREER WISE PTY LTD: P O BOX 30632; BRAAMFONTEIN;	R -	Non-BEE	CAREER WISE PTY LTD: P O BOX 30632; BRAAMFONTEIN;	R 729 410.39	Non-BEE
RELIANCE ATTACHMENT: Lothlorien Industrial Park; 490 Tedstone Road; Wadeville	R 62 276.89	Non-BEE	RELIANCE ATTACHMENT: Lothlorien Industrial Park; 490 Tedstone Road; Wadeville	R -	Non-BEE	RELIANCE ATTACHMENT: Lothlorien Industrial Park; 490 Tedstone Road; Wadeville	R 661 638.11	Non-BEE
Anatech Instruments (Pty) Ltd: Meadowbrook Business Estate; Jacaranda Avenue; Olivedale; Gauteng	R 321 192.59	Non-BEE	Anatech Instruments (Pty) Ltd: Meadowbrook Business Estate; Jacaranda Avenue; Olivedale; Gauteng	R 308 034.90	Non-BEE	Anatech Instruments (Pty) Ltd: Meadowbrook Business Estate; Jacaranda Avenue; Olivedale; Gauteng	R 92 291.26	Non-BEE
ANALYTICAL RESPONSE T\A AR CONTR: 11 Chrome street; CE6; Vanderbijlpark	R 171 408.00	Non-BEE	ANALYTICAL RESPONSE T\A AR CONTR: 11 Chrome street; CE6; Vanderbijlpark	R -	Non-BEE	ANALYTICAL RESPONSE T\A AR CONTR: 11 Chrome street; CE6; Vanderbijlpark	R 547 522.00	Non-BEE
ABB SA (PTY) LTD: 2 LAKE ROAD; LONGMEADOW BUSINESS PARK; MODDERFONTEIN	R 26 167.55	Non-BEE	ABB SA (PTY) LTD: 2 LAKE ROAD; LONGMEADOW BUSINESS PARK; MODDERFONTEIN	R 468 540.15	Non-BEE	ABB SA (PTY) LTD: 2 LAKE ROAD; LONGMEADOW BUSINESS PARK; MODDERFONTEIN	R 171 984.98	Non-BEE
CH FIBREBOXES CC t/a FIRE: UNIT 4D BRENTWOOD CLOSE; BLACKHEATH;	R 923 370.96	BEE	CH FIBREBOXES CC t/a FIRE: UNIT 4D BRENTWOOD CLOSE; BLACKHEATH;	R 1 486 380.50	BEE	CH FIBREBOXES CC t/a FIRE: UNIT 4D BRENTWOOD CLOSE; BLACKHEATH;	R -1 752 010.35	BEE
GORDONIA VERKOELINGSDIENSTE BPK: VOORUITSTRAAT 8; UPINGTON;	R 36 866.88	Non-BEE	GORDONIA VERKOELINGSDIENSTE BPK: VOORUITSTRAAT 8; UPINGTON;	R 17 626.04	Non-BEE	GORDONIA VERKOELINGSDIENSTE BPK: VOORUITSTRAAT 8; UPINGTON;	R 602 714.00	Non-BEE
SAFIC (Pty) LTD: 32 STEELE STREET; STEELDALE; JOHANNESBURG	R -	Non-BEE	SAFIC (Pty) LTD: 32 STEELE STREET; STEELDALE; JOHANNESBURG	R -	Non-BEE	SAFIC (Pty) LTD: 32 STEELE STREET; STEELDALE; JOHANNESBURG	R 656 427.75	Non-BEE
NASHUA MOBILE (PTY)LTD: 42 JAMES CRESCENT; HALFWAY HOUSE; MIDRAND	R -	Non-BEE	NASHUA MOBILE (PTY)LTD: 42 JAMES CRESCENT; HALFWAY HOUSE; MIDRAND	R -	Non-BEE	NASHUA MOBILE (PTY)LTD: 42 JAMES CRESCENT; HALFWAY HOUSE; MIDRAND	R 651 918.31	Non-BEE
COETHUNDU TRADING BK: PO BOX 160; KLAWER;	R -	Non-BEE	COETHUNDU TRADING BK: PO BOX 160; KLAWER;	R -	Non-BEE	COETHUNDU TRADING BK: PO BOX 160; KLAWER;	R 651 505.37	Non-BEE
BAYMONT CAPE PROJECTS CC: UNIT 6 CIRCLE PARK; SACKS CIRCLE; BELLVILLE SOUTH	R -	Non-BEE	BAYMONT CAPE PROJECTS CC: UNIT 6 CIRCLE PARK; SACKS CIRCLE; BELLVILLE SOUTH	R 134 636.97	Non-BEE	BAYMONT CAPE PROJECTS CC: UNIT 6 CIRCLE PARK; SACKS CIRCLE; BELLVILLE SOUTH	R 514 677.77	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
GENSEC PROPERTY SERVICES: SANLAM LIFE INSURANCE LTD; P O BOX 1; SANLAMHOFF	R -	Non-BEE	GENSEC PROPERTY SERVICES: SANLAM LIFE INSURANCE LTD; P O BOX 1; SANLAMHOFF	R -	Non-BEE	GENSEC PROPERTY SERVICES: SANLAM LIFE INSURANCE LTD; P O BOX 1; SANLAMHOFF	R 647 727.80	Non-BEE
REEF SWITCHBOARD MANUFACTURERS: 12 LEA ROAD; ANDERBOLT;	R -	Non-BEE	REEF SWITCHBOARD MANUFACTURERS: 12 LEA ROAD; ANDERBOLT;	R -	Non-BEE	REEF SWITCHBOARD MANUFACTURERS: 12 LEA ROAD; ANDERBOLT;	R 638 876.00	Non-BEE
Think Ahead Education Solutions: 1 Sandton Drive; ; Sandton	R -	Non-BEE	Think Ahead Education Solutions: 1 Sandton Drive; ; Sandton	R 15 610.00	Non-BEE	Think Ahead Education Solutions: 1 Sandton Drive; ; Sandton	R 622 741.00	Non-BEE
COMPAIR (S.A.) (PTY) LIMITED: 1 FITZMAURICE AVENUE; EPPING 2;	R -	Non-BEE	COMPAIR (S.A.) (PTY) LIMITED: 1 FITZMAURICE AVENUE; EPPING 2;	R 128 009.84	Non-BEE	COMPAIR (S.A.) (PTY) LIMITED: 1 FITZMAURICE AVENUE; EPPING 2;	R 509 033.91	Non-BEE
W&A CLEANING SERVICES: P.O BOX 427; AGGENEYS;	R -	BEE	W&A CLEANING SERVICES: P.O BOX 427; AGGENEYS;	R 3 621 267.64	BEE	W&A CLEANING SERVICES: P.O BOX 427; AGGENEYS;	R -3 000 507.64	BEE
PREMIER VALVES (PTY) LTD: P.O. Box 11735; RANDHART;	R -	Non-BEE	PREMIER VALVES (PTY) LTD: P.O. Box 11735; RANDHART;	R -	Non-BEE	PREMIER VALVES (PTY) LTD: P.O. Box 11735; RANDHART;	R 609 695.82	Non-BEE
HUMAN COMMUNICATION (PTY) LTD: 3 AUTUMN STREET; RIVONIA;	R -	Non-BEE	HUMAN COMMUNICATION (PTY) LTD: 3 AUTUMN STREET; RIVONIA;	R -	Non-BEE	HUMAN COMMUNICATION (PTY) LTD: 3 AUTUMN STREET; RIVONIA;	R 602 910.06	Non-BEE
STEINER HYGIENE: PO BOX 3276; KIMBERLEY;	R -	BEE	STEINER HYGIENE: PO BOX 3276; KIMBERLEY;	R -	BEE	STEINER HYGIENE: PO BOX 3276; KIMBERLEY;	R 601 618.44	BEE
NCP CHLORCHEM (PTY) LTD: CNR ALLANDALE & CHLOOR RD; CHLOORKOP;	R -	Non-BEE	NCP CHLORCHEM (PTY) LTD: CNR ALLANDALE & CHLOOR RD; CHLOORKOP;	R -	Non-BEE	NCP CHLORCHEM (PTY) LTD: CNR ALLANDALE & CHLOOR RD; CHLOORKOP;	R 601 032.55	Non-BEE
HAY GROUP SOUTH AFRICA (PTY)LTD: 1ST FLOOR; VILLAGE WALK, MAUDE STREET; SANDTON	R -	Non-BEE	HAY GROUP SOUTH AFRICA (PTY)LTD: 1ST FLOOR; VILLAGE WALK, MAUDE STREET; SANDTON	R 11 750.00	Non-BEE	HAY GROUP SOUTH AFRICA (PTY)LTD: 1ST FLOOR; VILLAGE WALK, MAUDE STREET; SANDTON	R 582 292.40	Non-BEE
ATLAS COPCO SA COMPRESSOR: P.O. Box 14110; Witfield;	R -	BEE	ATLAS COPCO SA COMPRESSOR: P.O. Box 14110; Witfield;	R 49 856.50	BEE	ATLAS COPCO SA COMPRESSOR: P.O. Box 14110; Witfield;	R 539 543.44	BEE
BOLTserve: P.O. Box 976; Springbok;	R 1 173 463.05	Non-BEE	BOLTserve: P.O. Box 976; Springbok;	R -	Non-BEE	BOLTserve: P.O. Box 976; Springbok;	R - 585 586.75	Non-BEE
Erioloba Consulting: 5 Van Rooy Street; ; Potchefstroom	R -	Non-BEE	Erioloba Consulting: 5 Van Rooy Street; ; Potchefstroom	R -	Non-BEE	Erioloba Consulting: 5 Van Rooy Street; ; Potchefstroom	R 585 695.73	Non-BEE
ATMEI CONSTRUCTION (PTY) LTD.: 30 CHAMDOR STREET; KRUGERSDORP;	R 38 746.36	Non-BEE	ATMEI CONSTRUCTION (PTY) LTD.: 30 CHAMDOR STREET; KRUGERSDORP;	R 60 287.36	Non-BEE	ATMEI CONSTRUCTION (PTY) LTD.: 30 CHAMDOR STREET; KRUGERSDORP;	R 485 284.58	Non-BEE
THE RAND MUTUAL ASSURANCE CO LTD: P. O. BOX 61413; MARSHALLTOWN;	R -	Non-BEE	THE RAND MUTUAL ASSURANCE CO LTD: P. O. BOX 61413; MARSHALLTOWN;	R -	Non-BEE	THE RAND MUTUAL ASSURANCE CO LTD: P. O. BOX 61413; MARSHALLTOWN;	R 574 103.76	Non-BEE
J MAREE-BURGER SKILLS CC t/a: Skills for Africa; PO Box915; Springbok	R -	Non-BEE	J MAREE-BURGER SKILLS CC t/a: Skills for Africa; PO Box915; Springbok	R -	Non-BEE	J MAREE-BURGER SKILLS CC t/a: Skills for Africa; PO Box915; Springbok	R 569 393.05	Non-BEE
PELLA REFRIGIRAT. CONTRAC.(PTY)L: 37 LORNEX STREET; AGGENEYS;	R -	BEE	PELLA REFRIGIRAT. CONTRAC.(PTY)L: 37 LORNEX STREET; AGGENEYS;	R 3 439 827.42	BEE	PELLA REFRIGIRAT. CONTRAC.(PTY)L: 37 LORNEX STREET; AGGENEYS;	R -2 875 394.48	BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
CAE MINING AFRICA (PTY) LTD: 9 FRICKER ROAD; ILLOVO BOULEVARD; JOHANNESBURG	R -	Non-BEE	CAE MINING AFRICA (PTY) LTD: 9 FRICKER ROAD; ILLOVO BOULEVARD; JOHANNESBURG	R -	Non-BEE	CAE MINING AFRICA (PTY) LTD: 9 FRICKER ROAD; ILLOVO BOULEVARD; JOHANNESBURG	R 549 150.25	Non-BEE
RAND-AIR: CNR COMMERCIAL AND DEKOMA ROADS; WADEWILL;	R -	Non-BEE	RAND-AIR: CNR COMMERCIAL AND DEKOMA ROADS; WADEWILL;	R 1 286 707.02	Non-BEE	RAND-AIR: CNR COMMERCIAL AND DEKOMA ROADS; WADEWILL;	R - 739 077.80	Non-BEE
FLEXICON PIPING SPECIALISTS: KOPER STREET IND.SITE; SPRINGBOK;	R -	Non-BEE	FLEXICON PIPING SPECIALISTS: KOPER STREET IND.SITE; SPRINGBOK;	R -	Non-BEE	FLEXICON PIPING SPECIALISTS: KOPER STREET IND.SITE; SPRINGBOK;	R 545 522.41	Non-BEE
ULTRALLOY (PTY) LTD: P.O. Box 2154; Cramerview;	R -	Non-BEE	ULTRALLOY (PTY) LTD: P.O. Box 2154; Cramerview;	R -	Non-BEE	ULTRALLOY (PTY) LTD: P.O. Box 2154; Cramerview;	R 538 283.00	Non-BEE
TMF CONSTRUCTION & ELECTRICAL CC: P.O. Box 12148; Selcourt; Springs	R -	Non-BEE	TMF CONSTRUCTION & ELECTRICAL CC: P.O. Box 12148; Selcourt; Springs	R 55 907.08	Non-BEE	TMF CONSTRUCTION & ELECTRICAL CC: P.O. Box 12148; Selcourt; Springs	R 476 308.76	Non-BEE
DE BEERS CONSOLIDATED MINES LTD: P O BOX 616; KIMBERLEY;	R -	Non-BEE	DE BEERS CONSOLIDATED MINES LTD: P O BOX 616; KIMBERLEY;	R -	Non-BEE	DE BEERS CONSOLIDATED MINES LTD: P O BOX 616; KIMBERLEY;	R 531 292.00	Non-BEE
Debpro Cleaning t/a Envidroclear: 282 Alpha Avenue; Sinoville;	R -	Non-BEE	Debpro Cleaning t/a Envidroclear: 282 Alpha Avenue; Sinoville;	R 3 685 303.01	Non-BEE	Debpro Cleaning t/a Envidroclear: 282 Alpha Avenue; Sinoville;	R -3 163 268.01	Non-BEE
CHEMICAL INITIATIVES PTY LTD: 1 DICKENS ROAD; UMBOGINTWINI;	R -	Non-BEE	CHEMICAL INITIATIVES PTY LTD: 1 DICKENS ROAD; UMBOGINTWINI;	R -	Non-BEE	CHEMICAL INITIATIVES PTY LTD: 1 DICKENS ROAD; UMBOGINTWINI;	R 516 540.00	Non-BEE
NUM: PO BOX 2424; JOHANNESBURG;	R -	Non-BEE	NUM: PO BOX 2424; JOHANNESBURG;	R -	Non-BEE	NUM: PO BOX 2424; JOHANNESBURG;	R 515 069.15	Non-BEE
IRAJ ABEDIAN: 2ND FLOOR, SUMMIT SQUARE; 15 SCHOOL ROAD; MORNINGSIDE JOHANNESBURG	R -	Non-BEE	IRAJ ABEDIAN: 2ND FLOOR, SUMMIT SQUARE; 15 SCHOOL ROAD; MORNINGSIDE JOHANNESBURG	R -	Non-BEE	IRAJ ABEDIAN: 2ND FLOOR, SUMMIT SQUARE; 15 SCHOOL ROAD; MORNINGSIDE JOHANNESBURG	R 500 000.00	Non-BEE
CLARKSON SOUTH AFRICA PTY LTD: PO BOX 5890; RIVONIA;	R -	Non-BEE	CLARKSON SOUTH AFRICA PTY LTD: PO BOX 5890; RIVONIA;	R -	Non-BEE	CLARKSON SOUTH AFRICA PTY LTD: PO BOX 5890; RIVONIA;	R 492 946.54	Non-BEE
ZINCHEM (PTY) LTD: P O Box 6645; Dunswart;	R -	Non-BEE	ZINCHEM (PTY) LTD: P O Box 6645; Dunswart;	R -	Non-BEE	ZINCHEM (PTY) LTD: P O Box 6645; Dunswart;	R 490 145.10	Non-BEE
Stationery in Motion: Unit 16, Creation Park, Computer; road, Montague Gardens; Cape Town	R 1 221 734.87	Non-BEE	Stationery in Motion: Unit 16, Creation Park, Computer; road, Montague Gardens; Cape Town	R -	Non-BEE	Stationery in Motion: Unit 16, Creation Park, Computer; road, Montague Gardens; Cape Town	R - 737 175.99	Non-BEE
WESKUS VERKOELERS BK: 139 VOORTREKKER STREET; SPRINGBOK;	R -	Non-BEE	WESKUS VERKOELERS BK: 139 VOORTREKKER STREET; SPRINGBOK;	R -	Non-BEE	WESKUS VERKOELERS BK: 139 VOORTREKKER STREET; SPRINGBOK;	R 483 880.00	Non-BEE
DIMAKO INDUSTRIES: CNR MAXWELL & HILLIARD STREETS;; JOHANNESBURG	R -	Non-BEE	DIMAKO INDUSTRIES: CNR MAXWELL & HILLIARD STREETS;; JOHANNESBURG	R 1 274.34	Non-BEE	DIMAKO INDUSTRIES: CNR MAXWELL & HILLIARD STREETS;; JOHANNESBURG	R 479 245.66	Non-BEE
M PROJECTS: 17 THE AVENUE EAST; PROSPECTON; DURBAN	R -	Non-BEE	M PROJECTS: 17 THE AVENUE EAST; PROSPECTON; DURBAN	R -	Non-BEE	M PROJECTS: 17 THE AVENUE EAST; PROSPECTON; DURBAN	R 465 300.74	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
SKILLFULL 1123 CC T/A TR: P.O.BOX 1500; NOORDHEUWEL;	R -	Non-BEE	SKILLFULL 1123 CC T/A TR: P.O.BOX 1500; NOORDHEUWEL;	R -	Non-BEE	SKILLFULL 1123 CC T/A TR: P.O.BOX 1500; NOORDHEUWEL;	R 462 740.00	Non-BEE
PEX HYDRAULICS (MILNERTON): P.O. Box 561; Milnerton;	R 41 037.72	Non-BEE	PEX HYDRAULICS (MILNERTON): P.O. Box 561; Milnerton;	R -	Non-BEE	PEX HYDRAULICS (MILNERTON): P.O. Box 561; Milnerton;	R 421 598.14	Non-BEE
BARLOWORLD SOUTH AFRICA PTY LTD: CORNER GIEL BASSON & NATHAN; MALLACH DRIVE; GOODWOOD , N1 CITY	R 315.75	BEE	BARLOWORLD SOUTH AFRICA PTY LTD: CORNER GIEL BASSON & NATHAN; MALLACH DRIVE; GOODWOOD , N1 CITY	R -	BEE	BARLOWORLD SOUTH AFRICA PTY LTD: CORNER GIEL BASSON & NATHAN; MALLACH DRIVE; GOODWOOD , N1 CITY	R 457 749.57	BEE
SOUTH AFRICAN POST OFFICE: AGGENEYS; ;	R -	Non-BEE	SOUTH AFRICAN POST OFFICE: AGGENEYS; ;	R -	Non-BEE	SOUTH AFRICAN POST OFFICE: AGGENEYS; ;	R 456 970.86	Non-BEE
WESKUS FILTERS BK: 139 VOORTREKKER STRAAT; SPRINGBOK;	R 33 251.29	Non-BEE	WESKUS FILTERS BK: 139 VOORTREKKER STRAAT; SPRINGBOK;	R 168 481.64	Non-BEE	WESKUS FILTERS BK: 139 VOORTREKKER STRAAT; SPRINGBOK;	R 250 235.01	Non-BEE
Edge Information Solutions (Pty): ACS House, 370 Rivonia boulevard; Rivonia;	R -	Non-BEE	Edge Information Solutions (Pty): ACS House, 370 Rivonia boulevard; Rivonia;	R 324 911.60	Non-BEE	Edge Information Solutions (Pty): ACS House, 370 Rivonia boulevard; Rivonia;	R 125 642.09	Non-BEE
JOEST (PTY)LTD: 18 BELGRADE AVENUE; AERPORT; SPARTAN X2	R 25 228.91	Non-BEE	JOEST (PTY)LTD: 18 BELGRADE AVENUE; AERPORT; SPARTAN X2	R -	Non-BEE	JOEST (PTY)LTD: 18 BELGRADE AVENUE; AERPORT; SPARTAN X2	R 424 771.09	Non-BEE
DEPARTMENT OF WATER AFFAIRS: PRIVATE BAG X5912; UPINGTON;	R -	Non-BEE	DEPARTMENT OF WATER AFFAIRS: PRIVATE BAG X5912; UPINGTON;	R -	Non-BEE	DEPARTMENT OF WATER AFFAIRS: PRIVATE BAG X5912; UPINGTON;	R 437 212.96	Non-BEE
ANGLO FIELD SERVICES: 45 MAIN STREET; JOHANNESBURG;	R -	Non-BEE	ANGLO FIELD SERVICES: 45 MAIN STREET; JOHANNESBURG;	R 153 382.91	Non-BEE	ANGLO FIELD SERVICES: 45 MAIN STREET; JOHANNESBURG;	R 281 945.59	Non-BEE
IMPROCHEM: P.O. Box 7365; Flamwood; Klerksdorp	R -	BEE	IMPROCHEM: P.O. Box 7365; Flamwood; Klerksdorp	R 8 543.16	BEE	IMPROCHEM: P.O. Box 7365; Flamwood; Klerksdorp	R 424 005.62	BEE
FREE TO GROW SOUTH AFRICA: 47 REITZ STREET; SOMERSET WEST;	R -	Non-BEE	FREE TO GROW SOUTH AFRICA: 47 REITZ STREET; SOMERSET WEST;	R 193 070.60	Non-BEE	FREE TO GROW SOUTH AFRICA: 47 REITZ STREET; SOMERSET WEST;	R 239 354.58	Non-BEE
COLMVEY AUTOLEC MINING SUPPLIES: 1 KOPERSTREET INDUSTRIA; SPRINGBOK;	R -	Non-BEE	COLMVEY AUTOLEC MINING SUPPLIES: 1 KOPERSTREET INDUSTRIA; SPRINGBOK;	R 85.94	Non-BEE	COLMVEY AUTOLEC MINING SUPPLIES: 1 KOPERSTREET INDUSTRIA; SPRINGBOK;	R 428 000.44	Non-BEE
THE COMPENSATION COMMISSIONER: FOR OCCUPATIONAL DISEASES; P.O. BOX 4566; JOHANNESBURG	R -	Non-BEE	THE COMPENSATION COMMISSIONER: FOR OCCUPATIONAL DISEASES; P.O. BOX 4566; JOHANNESBURG	R -	Non-BEE	THE COMPENSATION COMMISSIONER: FOR OCCUPATIONAL DISEASES; P.O. BOX 4566; JOHANNESBURG	R 427 159.64	Non-BEE
AIRGAS COMPRESSORS (PTY) LTD: 1175 DOMKRAG STREET; ROBERTVILLE EXT 1; ROODEPOORT	R 4 247.80	Non-BEE	AIRGAS COMPRESSORS (PTY) LTD: 1175 DOMKRAG STREET; ROBERTVILLE EXT 1; ROODEPOORT	R -	Non-BEE	AIRGAS COMPRESSORS (PTY) LTD: 1175 DOMKRAG STREET; ROBERTVILLE EXT 1; ROODEPOORT	R 411 556.40	Non-BEE
SEW Eurodrive (Pty) Ltd: CNR Racecours & Omuramba Road; Montague Gardens;	R -	Non-BEE	SEW Eurodrive (Pty) Ltd: CNR Racecours & Omuramba Road; Montague Gardens;	R -	Non-BEE	SEW Eurodrive (Pty) Ltd: CNR Racecours & Omuramba Road; Montague Gardens;	R 413 008.00	Non-BEE
JUNKOON AND ASSOCIATES (PTY) LTD: 544 CAVENDISH; CRESCENT; LENASIA	R 406 275.98	Non-BEE	JUNKOON AND ASSOCIATES (PTY) LTD: 544 CAVENDISH; CRESCENT; LENASIA	R 513 578.10	Non-BEE	JUNKOON AND ASSOCIATES (PTY) LTD: 544 CAVENDISH; CRESCENT; LENASIA	R - 507 430.98	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
SOUTH			SOUTH			SOUTH		
WENDY ANNE OWEN: 176 SANDERLING CLOSE; GROTTTO BAY; WEST COAST	R -	Non-BEE	WENDY ANNE OWEN: 176 SANDERLING CLOSE; GROTTTO BAY; WEST COAST	R -	Non-BEE	WENDY ANNE OWEN: 176 SANDERLING CLOSE; GROTTTO BAY; WEST COAST	R 412 180.63	Non-BEE
NESCOM: P.O. Box 289; Springbok;	R -	Non-BEE	NESCOM: P.O. Box 289; Springbok;	R -	Non-BEE	NESCOM: P.O. Box 289; Springbok;	R 389 164.08	Non-BEE
EURUS MINERAL CONSULTANTS: THE BUSINESS CENTRE, SUTTON SQ; 8 GEMSBOK LANE, RIVONIA; JOHANNESBURG	R 477 881.57	Non-BEE	EURUS MINERAL CONSULTANTS: THE BUSINESS CENTRE, SUTTON SQ; 8 GEMSBOK LANE, RIVONIA; JOHANNESBURG	R 21 679.36	Non-BEE	EURUS MINERAL CONSULTANTS: THE BUSINESS CENTRE, SUTTON SQ; 8 GEMSBOK LANE, RIVONIA; JOHANNESBURG	R - 115 201.29	Non-BEE
IRITRON (PTY) LTD: 15 DAVENTRY STREET; #9 JAVENTRY FORUM LYNWOOD MANCE; PRETORIA	R -	Non-BEE	IRITRON (PTY) LTD: 15 DAVENTRY STREET; #9 JAVENTRY FORUM LYNWOOD MANCE; PRETORIA	R 9 513.00	Non-BEE	IRITRON (PTY) LTD: 15 DAVENTRY STREET; #9 JAVENTRY FORUM LYNWOOD MANCE; PRETORIA	R 371 824.16	Non-BEE
T.S.I. COMMUNICATIONS: P.O. Box 1092; Southdale;	R -	Non-BEE	T.S.I. COMMUNICATIONS: P.O. Box 1092; Southdale;	R -	Non-BEE	T.S.I. COMMUNICATIONS: P.O. Box 1092; Southdale;	R 380 185.50	Non-BEE
RICHTERSVELD KONSTRUKSIE: P.O. Box 556; Springbok;	R -	BEE	RICHTERSVELD KONSTRUKSIE: P.O. Box 556; Springbok;	R 82 239.68	BEE	RICHTERSVELD KONSTRUKSIE: P.O. Box 556; Springbok;	R 288 225.32	BEE
MEW AUTO SERVICES (SPRINGSBOK): P.O. Box 162; Springbok;	R 28 278.07	Non-BEE	MEW AUTO SERVICES (SPRINGSBOK): P.O. Box 162; Springbok;	R -	Non-BEE	MEW AUTO SERVICES (SPRINGSBOK): P.O. Box 162; Springbok;	R 336 772.63	Non-BEE
BARLOWORLD ROBOR PIPE SYSTEMS: CNR QUALITY & FURNACE ROADS; ISANDO; JOHANNESBURG	R -	Non-BEE	BARLOWORLD ROBOR PIPE SYSTEMS: CNR QUALITY & FURNACE ROADS; ISANDO; JOHANNESBURG	R -	Non-BEE	BARLOWORLD ROBOR PIPE SYSTEMS: CNR QUALITY & FURNACE ROADS; ISANDO; JOHANNESBURG	R 362 854.84	Non-BEE
POFADDER HOTEL: PO BOX 3; POFADDER;	R -	Non-BEE	POFADDER HOTEL: PO BOX 3; POFADDER;	R -	Non-BEE	POFADDER HOTEL: PO BOX 3; POFADDER;	R 359 286.00	Non-BEE
SRK CONSULTING (SA) (PTY) Ltd.: P.O. Box 55291; Northlands;	R -	BEE	SRK CONSULTING (SA) (PTY) Ltd.: P.O. Box 55291; Northlands;	R 875.52	BEE	SRK CONSULTING (SA) (PTY) Ltd.: P.O. Box 55291; Northlands;	R 353 402.96	BEE
CELTIS GEOTECHNICAL CC: 34 FARNHAM DRIVE; MULBARTON; JOHANNESBURG	R -	Non-BEE	CELTIS GEOTECHNICAL CC: 34 FARNHAM DRIVE; MULBARTON; JOHANNESBURG	R 144 730.00	Non-BEE	CELTIS GEOTECHNICAL CC: 34 FARNHAM DRIVE; MULBARTON; JOHANNESBURG	R 205 980.00	Non-BEE
GE INTELLIGENT PLATFORMS: 29 FORBES REFF ROAD; 1ST FLOOR, WATERKLOOF HEIGHTS; PRETORIA	R -	Non-BEE	GE INTELLIGENT PLATFORMS: 29 FORBES REFF ROAD; 1ST FLOOR, WATERKLOOF HEIGHTS; PRETORIA	R 41 277.50	Non-BEE	GE INTELLIGENT PLATFORMS: 29 FORBES REFF ROAD; 1ST FLOOR, WATERKLOOF HEIGHTS; PRETORIA	R 306 545.68	Non-BEE
EXOTIC FOOD & BEVERAGES: 37 BEACH ROAD; SEAPOINT;	R -	Non-BEE	EXOTIC FOOD & BEVERAGES: 37 BEACH ROAD; SEAPOINT;	R 368 610.46	Non-BEE	EXOTIC FOOD & BEVERAGES: 37 BEACH ROAD; SEAPOINT;	R -28 650.01	Non-BEE
CELACON CC: VOORTREKKER ROAD 1795; PORT NOLLOTH;	R 797 915.96	Non-BEE	CELACON CC: VOORTREKKER ROAD 1795; PORT NOLLOTH;	R 427 081.66	Non-BEE	CELACON CC: VOORTREKKER ROAD 1795; PORT NOLLOTH;	R - 885 667.51	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
ANDERSEN & HURLEY INSTRUM.(PTY)L: CNR.LEDDER & HOFYSTER; STORMILL; ROODEPOORT	R -	Non-BEE	ANDERSEN & HURLEY INSTRUM.(PTY)L: CNR.LEDDER & HOFYSTER; STORMILL; ROODEPOORT	R 52 900.00	Non-BEE	ANDERSEN & HURLEY INSTRUM.(PTY)L: CNR.LEDDER & HOFYSTER; STORMILL; ROODEPOORT	R 280 189.38	Non-BEE
Boltfast (Pty) Ltd t/a Howson: Ramsden; No 5 Border rd, Droste Park;; Benrose, Johannesburg	R -	Non-BEE	Boltfast (Pty) Ltd t/a Howson: Ramsden; No 5 Border rd, Droste Park;; Benrose, Johannesburg	R -	Non-BEE	Boltfast (Pty) Ltd t/a Howson: Ramsden; No 5 Border rd, Droste Park;; Benrose, Johannesburg	R 326 442.19	Non-BEE
MYRFAN SKRYNWERKE BK TA CUPBOARD: P.O. Box 628; Springbok;	R -	Non-BEE	MYRFAN SKRYNWERKE BK TA CUPBOARD: P.O. Box 628; Springbok;	R 418 729.77	Non-BEE	MYRFAN SKRYNWERKE BK TA CUPBOARD: P.O. Box 628; Springbok;	R -95 393.02	Non-BEE
MINING PRESSURE SYSTEMS (PTY): CNR PAUL SMIT & SKEW ROADS; BOKSBURG NORTH;	R -	Non-BEE	MINING PRESSURE SYSTEMS (PTY): CNR PAUL SMIT & SKEW ROADS; BOKSBURG NORTH;	R -	Non-BEE	MINING PRESSURE SYSTEMS (PTY): CNR PAUL SMIT & SKEW ROADS; BOKSBURG NORTH;	R 317 883.40	Non-BEE
REMA TIP TOP INDUSTRIAL (PTY) L: 61 PLATINUM STREET; SALDOKPARK; SALDANHA	R -	Non-BEE	REMA TIP TOP INDUSTRIAL (PTY) L: 61 PLATINUM STREET; SALDOKPARK; SALDANHA	R -	Non-BEE	REMA TIP TOP INDUSTRIAL (PTY) L: 61 PLATINUM STREET; SALDOKPARK; SALDANHA	R 315 551.07	Non-BEE
THE SKILLS MATRIX CC: P.O. Box 14584; Dersley; Pretoria	R -	Non-BEE	THE SKILLS MATRIX CC: P.O. Box 14584; Dersley; Pretoria	R -	Non-BEE	THE SKILLS MATRIX CC: P.O. Box 14584; Dersley; Pretoria	R 313 134.62	Non-BEE
UTI SUN COURIERS DIVISION: CNR OLIEVENHOUTBOSCH &; BRAKFORTEIN ROAD; CENTURION	R -	Non-BEE	UTI SUN COURIERS DIVISION: CNR OLIEVENHOUTBOSCH &; BRAKFORTEIN ROAD; CENTURION	R -	Non-BEE	UTI SUN COURIERS DIVISION: CNR OLIEVENHOUTBOSCH &; BRAKFORTEIN ROAD; CENTURION	R 309 582.04	Non-BEE
MINCOM: P O BOX 2279; RIVONIA;	R -	Non-BEE	MINCOM: P O BOX 2279; RIVONIA;	R -	Non-BEE	MINCOM: P O BOX 2279; RIVONIA;	R 302 587.16	Non-BEE
Limestone Residential Properties: 113 11th Street; ; Parkmore	R -	Non-BEE	Limestone Residential Properties: 113 11th Street; ; Parkmore	R -	Non-BEE	Limestone Residential Properties: 113 11th Street; ; Parkmore	R 300 000.00	Non-BEE
HENTIQ 2885 (PTY)LTD T/A STC: PO Box 788; Florida Hills;	R -	Non-BEE	HENTIQ 2885 (PTY)LTD T/A STC: PO Box 788; Florida Hills;	R 19 075.00	Non-BEE	HENTIQ 2885 (PTY)LTD T/A STC: PO Box 788; Florida Hills;	R 280 752.99	Non-BEE
TEXOFABER CONSULTING (PTY)LTD: 10 LORNEK STREET; AGGENEYS;	R -	Non-BEE	TEXOFABER CONSULTING (PTY)LTD: 10 LORNEK STREET; AGGENEYS;	R 15 200.10	Non-BEE	TEXOFABER CONSULTING (PTY)LTD: 10 LORNEK STREET; AGGENEYS;	R 283 837.06	Non-BEE
MINES RESCUE SERVICES (PTY) LTD: P.O. Box 1635; Carletonville;	R -	Non-BEE	MINES RESCUE SERVICES (PTY) LTD: P.O. Box 1635; Carletonville;	R 43 253.13	Non-BEE	MINES RESCUE SERVICES (PTY) LTD: P.O. Box 1635; Carletonville;	R 254 499.46	Non-BEE
CAREWAYS (PTY) LTD: PO BOX 31461; KAYALAMI; MIDRAND	R -	Non-BEE	CAREWAYS (PTY) LTD: PO BOX 31461; KAYALAMI; MIDRAND	R -	Non-BEE	CAREWAYS (PTY) LTD: PO BOX 31461; KAYALAMI; MIDRAND	R 297 252.87	Non-BEE
VAN WYK'S LUXURY COACHES: P. O. BOX 249; NABABEEP;	R -	Non-BEE	VAN WYK'S LUXURY COACHES: P. O. BOX 249; NABABEEP;	R -	Non-BEE	VAN WYK'S LUXURY COACHES: P. O. BOX 249; NABABEEP;	R 296 790.00	Non-BEE
BLUHM BURTON ENGINEERING (PTY) L: 41 SLOANE STREET; EXT 34; BRYANSTON	R 2 500.00	Non-BEE	BLUHM BURTON ENGINEERING (PTY) L: 41 SLOANE STREET; EXT 34; BRYANSTON	R 480.00	Non-BEE	BLUHM BURTON ENGINEERING (PTY) L: 41 SLOANE STREET; EXT 34; BRYANSTON	R 293 199.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
DRS DIETRICH STREET & PARTNERS: NEELS BOTHMA STREET; N1 CITY; GOODWOOD	R -	Non-BEE	DRS DIETRICH STREET & PARTNERS: NEELS BOTHMA STREET; N1 CITY; GOODWOOD	R -	Non-BEE	DRS DIETRICH STREET & PARTNERS: NEELS BOTHMA STREET; N1 CITY; GOODWOOD	R 293 720.75	Non-BEE
STIMELA RAIL CONSTRUCTION: PLOT 78; KROMDRAAI; WITBANK	R -	BEE	STIMELA RAIL CONSTRUCTION: PLOT 78; KROMDRAAI; WITBANK	R 37 526.81	BEE	STIMELA RAIL CONSTRUCTION: PLOT 78; KROMDRAAI; WITBANK	R 254 963.70	BEE
PORT NOLLOTH BOUMARK BK: SIMON VAN DER STEL MINE; CAROLUSBERG;	R -	Non-BEE	PORT NOLLOTH BOUMARK BK: SIMON VAN DER STEL MINE; CAROLUSBERG;	R 290 145.70	Non-BEE	PORT NOLLOTH BOUMARK BK: SIMON VAN DER STEL MINE; CAROLUSBERG;	R 2 209.90	Non-BEE
KAAP AGRI: 117 VOORTREKKERWEG; SPRINGBOK;	R -	Non-BEE	KAAP AGRI: 117 VOORTREKKERWEG; SPRINGBOK;	R 4 260.00	Non-BEE	KAAP AGRI: 117 VOORTREKKERWEG; SPRINGBOK;	R 286 278.72	Non-BEE
AGRI-BOER CC: Inry straat; Springbok;	R -	Non-BEE	AGRI-BOER CC: Inry straat; Springbok;	R -	Non-BEE	AGRI-BOER CC: Inry straat; Springbok;	R 289 861.00	Non-BEE
Maintest HV Electrics CC: 33 Waterford Place; Invicta Road; Halfway House	R -	Non-BEE	Maintest HV Electrics CC: 33 Waterford Place; Invicta Road; Halfway House	R 77 747.30	Non-BEE	Maintest HV Electrics CC: 33 Waterford Place; Invicta Road; Halfway House	R 210 756.74	Non-BEE
NORTH WEST GOPRO: P.O. Box 734; Stilfontein;	R -	BEE	NORTH WEST GOPRO: P.O. Box 734; Stilfontein;	R -	BEE	NORTH WEST GOPRO: P.O. Box 734; Stilfontein;	R 287 995.89	BEE
OLIVE HILL TRADING 8: KOASTRAAT 3; AGGENEYS;	R -	BEE	OLIVE HILL TRADING 8: KOASTRAAT 3; AGGENEYS;	R 1 864 035.01	BEE	OLIVE HILL TRADING 8: KOASTRAAT 3; AGGENEYS;	R -1 578 549.41	BEE
HEBA VERGRUISERS B.K: VOELKLIP; SPRINGBOK;	R 22 850.00	Non-BEE	HEBA VERGRUISERS B.K: VOELKLIP; SPRINGBOK;	R 270.00	Non-BEE	HEBA VERGRUISERS B.K: VOELKLIP; SPRINGBOK;	R 259 769.64	Non-BEE
STUARTS: P. O. BOX 1100; HALFWAY HOUSE;	R -	BEE	STUARTS: P. O. BOX 1100; HALFWAY HOUSE;	R -	BEE	STUARTS: P. O. BOX 1100; HALFWAY HOUSE;	R 277 481.59	BEE
CC MANUFACTURING CC: P.O. Box 113; Springbok;	R -	Non-BEE	CC MANUFACTURING CC: P.O. Box 113; Springbok;	R 74 101.22	Non-BEE	CC MANUFACTURING CC: P.O. Box 113; Springbok;	R 194 930.21	Non-BEE
KAI-MA ENG.CONSTR.SERV.PTY LTD: ZANDPAN 2; AGGENEYS;	R -	BEE	KAI-MA ENG.CONSTR.SERV.PTY LTD: ZANDPAN 2; AGGENEYS;	R 10 670 516.85	BEE	KAI-MA ENG.CONSTR.SERV.PTY LTD: ZANDPAN 2; AGGENEYS;	R -10 403 336.76	BEE
BARLOWORLD EQUIPMENT CO: P.O. Box 332; Bellville;	R -	Non-BEE	BARLOWORLD EQUIPMENT CO: P.O. Box 332; Bellville;	R -	Non-BEE	BARLOWORLD EQUIPMENT CO: P.O. Box 332; Bellville;	R 263 051.07	Non-BEE
The People Connection: 4 Coombe Place; Rivonia; Sandton	R -	Non-BEE	The People Connection: 4 Coombe Place; Rivonia; Sandton	R -	Non-BEE	The People Connection: 4 Coombe Place; Rivonia; Sandton	R 261 303.40	Non-BEE
Lead Laundry & Catering (Pty) Lt: 1 Jig Avenue; Montague Gardens; Milnerton	R -	Non-BEE	Lead Laundry & Catering (Pty) Lt: 1 Jig Avenue; Montague Gardens; Milnerton	R 292 744.09	Non-BEE	Lead Laundry & Catering (Pty) Lt: 1 Jig Avenue; Montague Gardens; Milnerton	R -33 386.33	Non-BEE
EMMANUEL NVT DIENSTE BK: P.O. Box 23629; Bedworth Park;	R -	Non-BEE	EMMANUEL NVT DIENSTE BK: P.O. Box 23629; Bedworth Park;	R 81 977.48	Non-BEE	EMMANUEL NVT DIENSTE BK: P.O. Box 23629; Bedworth Park;	R 176 772.10	Non-BEE
ARTIC DRIES INTERNATIONAL CC: PO BOX 12654; BENORYN;	R 1 230.00	Non-BEE	ARTIC DRIES INTERNATIONAL CC: PO BOX 12654; BENORYN;	R 480.00	Non-BEE	ARTIC DRIES INTERNATIONAL CC: PO BOX 12654; BENORYN;	R 254 058.99	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
SPIROTECH INTERNATIONAL (PTY)LTD: 17 RESNICK STREET; FACTORIA; KRUGERSDORP	R -	Non-BEE	SPIROTECH INTERNATIONAL (PTY)LTD: 17 RESNICK STREET; FACTORIA; KRUGERSDORP	R -	Non-BEE	SPIROTECH INTERNATIONAL (PTY)LTD: 17 RESNICK STREET; FACTORIA; KRUGERSDORP	R 255 628.09	Non-BEE
GOSCOR ACCESS EQUIPMENT PTY: 24 Garfield Street; Alrode; Alberton	R -	Non-BEE	GOSCOR ACCESS EQUIPMENT PTY: 24 Garfield Street; Alrode; Alberton	R -	Non-BEE	GOSCOR ACCESS EQUIPMENT PTY: 24 Garfield Street; Alrode; Alberton	R 255 000.00	Non-BEE
OSBORN ENGINEERED PRODUCTS SA: 57 JANSEN RD; ELANDSFONTEIN;	R -	Non-BEE	OSBORN ENGINEERED PRODUCTS SA: 57 JANSEN RD; ELANDSFONTEIN;	R -	Non-BEE	OSBORN ENGINEERED PRODUCTS SA: 57 JANSEN RD; ELANDSFONTEIN;	R 254 011.20	Non-BEE
NAMZINC (PTY) LTD: PO BOX 188; ROSH PINAH; NAMIBIA	R -	Non-BEE	NAMZINC (PTY) LTD: PO BOX 188; ROSH PINAH; NAMIBIA	R -	Non-BEE	NAMZINC (PTY) LTD: PO BOX 188; ROSH PINAH; NAMIBIA	R 252 268.48	Non-BEE
DEMOLITION TECHNOLOGIES CC: 48 MILNER RD.; PAARDEN EILAND;	R -	Non-BEE	DEMOLITION TECHNOLOGIES CC: 48 MILNER RD.; PAARDEN EILAND;	R -	Non-BEE	DEMOLITION TECHNOLOGIES CC: 48 MILNER RD.; PAARDEN EILAND;	R 251 787.00	Non-BEE
L & D ELECTRICAL (SPRINGBOK): P.O. Box 328; Springbok;	R -	Non-BEE	L & D ELECTRICAL (SPRINGBOK): P.O. Box 328; Springbok;	R 10 750.00	Non-BEE	L & D ELECTRICAL (SPRINGBOK): P.O. Box 328; Springbok;	R 238 627.10	Non-BEE
NEFCO INDUSTRIAL SUPPLIES: Cnr EVENS & V/D BIJL STREET; ALRODE SOUTH; ALBERTON	R -	Non-BEE	NEFCO INDUSTRIAL SUPPLIES: Cnr EVENS & V/D BIJL STREET; ALRODE SOUTH; ALBERTON	R 210 411.00	Non-BEE	NEFCO INDUSTRIAL SUPPLIES: Cnr EVENS & V/D BIJL STREET; ALRODE SOUTH; ALBERTON	R 37 854.72	Non-BEE
MJ NELSON: LORRAINE STRAAT 11; AGGENEYS;	R -	Non-BEE	MJ NELSON: LORRAINE STRAAT 11; AGGENEYS;	R -	Non-BEE	MJ NELSON: LORRAINE STRAAT 11; AGGENEYS;	R 247 725.00	Non-BEE
WILKINSON ARCHITECTS CC: 282 TROYE STREET; MUCKLENEUK; PRETORIA	R -	Non-BEE	WILKINSON ARCHITECTS CC: 282 TROYE STREET; MUCKLENEUK; PRETORIA	R 4 145.00	Non-BEE	WILKINSON ARCHITECTS CC: 282 TROYE STREET; MUCKLENEUK; PRETORIA	R 238 095.00	Non-BEE
DABMAR MANUFACTURING CO.(PTY)LTD: P.O.BOX 22; HATTINGSPRUIT;	R -	Non-BEE	DABMAR MANUFACTURING CO.(PTY)LTD: P.O.BOX 22; HATTINGSPRUIT;	R -	Non-BEE	DABMAR MANUFACTURING CO.(PTY)LTD: P.O.BOX 22; HATTINGSPRUIT;	R 242 004.40	Non-BEE
MOMAR SALES (CLAREINCH): P.O. Box 2257; Clareinch;	R -	Non-BEE	MOMAR SALES (CLAREINCH): P.O. Box 2257; Clareinch;	R -	Non-BEE	MOMAR SALES (CLAREINCH): P.O. Box 2257; Clareinch;	R 241 705.00	Non-BEE
MERCK NT LABORATORY SUPPLIES (PT: 259 DAVIDSON RD(CNR PEDDIE; WADEVILLE; GERMISTON	R -	Non-BEE	MERCK NT LABORATORY SUPPLIES (PT: 259 DAVIDSON RD(CNR PEDDIE; WADEVILLE; GERMISTON	R -	Non-BEE	MERCK NT LABORATORY SUPPLIES (PT: 259 DAVIDSON RD(CNR PEDDIE; WADEVILLE; GERMISTON	R 239 492.83	Non-BEE
JAYKEL TRADING CC: 20 HERCULES WAY; GRASSY PARK;	R -	BEE	JAYKEL TRADING CC: 20 HERCULES WAY; GRASSY PARK;	R -	BEE	JAYKEL TRADING CC: 20 HERCULES WAY; GRASSY PARK;	R 236 424.79	BEE
DOC-IT: 196 Oxford Manor; Oxford Road; Illovo	R -	Non-BEE	DOC-IT: 196 Oxford Manor; Oxford Road; Illovo	R 24 965.00	Non-BEE	DOC-IT: 196 Oxford Manor; Oxford Road; Illovo	R 209 418.47	Non-BEE
TOP'S MEUBEL GROOTHANDELAARS: P.O. Box 773; Vredendal;	R 1 270 794.45	Non-BEE	TOP'S MEUBEL GROOTHANDELAARS: P.O. Box 773; Vredendal;	R 213 008.50	Non-BEE	TOP'S MEUBEL GROOTHANDELAARS: P.O. Box 773; Vredendal;	R -1 251 100.31	Non-BEE
HYDROVEND CC (BELLVILLE): P.O. Box 1556; Bellville;	R -	Non-BEE	HYDROVEND CC (BELLVILLE): P.O. Box 1556; Bellville;	R -	Non-BEE	HYDROVEND CC (BELLVILLE): P.O. Box 1556; Bellville;	R 231 450.80	Non-BEE
EVE BLACK - 6036548: AGGENEYS; ;	R -	Non-BEE	EVE BLACK - 6036548: AGGENEYS; ;	R -	Non-BEE	EVE BLACK - 6036548: AGGENEYS; ;	R 230 221.90	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
FAILSAFE FIRE PROJECTS PTY LTD: P.O. Box 96; Gillitts;	R -	Non-BEE	FAILSAFE FIRE PROJECTS PTY LTD: P.O. Box 96; Gillitts;	R -	Non-BEE	FAILSAFE FIRE PROJECTS PTY LTD: P.O. Box 96; Gillitts;	R 228 975.00	Non-BEE
TITANIA OFFICE EQUIPMENT (PTY) L: P O Box 977; Roodepoort;	R 3 024 973.59	Non-BEE	TITANIA OFFICE EQUIPMENT (PTY) L: P O Box 977; Roodepoort;	R -	Non-BEE	TITANIA OFFICE EQUIPMENT (PTY) L: P O Box 977; Roodepoort;	R -2 796 535.09	Non-BEE
AQUAPUMP PTY LTD: SUITE 222; PRIVATE BAG X7; NORTHRIDING	R -	Non-BEE	AQUAPUMP PTY LTD: SUITE 222; PRIVATE BAG X7; NORTHRIDING	R -	Non-BEE	AQUAPUMP PTY LTD: SUITE 222; PRIVATE BAG X7; NORTHRIDING	R 227 774.00	Non-BEE
Mass Staffing Solutions: 1410 Eglin Office Park;3rd Floor; 4 Eglin Road; Sunninghill; Gauteng	R -	Non-BEE	Mass Staffing Solutions: 1410 Eglin Office Park;3rd Floor; 4 Eglin Road; Sunninghill; Gauteng	R -	Non-BEE	Mass Staffing Solutions: 1410 Eglin Office Park;3rd Floor; 4 Eglin Road; Sunninghill; Gauteng	R 225 552.48	Non-BEE
BUSINESSLEADERSHIP SA: ST MARGARET'S; 3 ROCKRIDGE ROAD; PARKTOWN	R -	Non-BEE	BUSINESSLEADERSHIP SA: ST MARGARET'S; 3 ROCKRIDGE ROAD; PARKTOWN	R -	Non-BEE	BUSINESSLEADERSHIP SA: ST MARGARET'S; 3 ROCKRIDGE ROAD; PARKTOWN	R 220 000.00	Non-BEE
PROCESS AUTOMATION (PTY) LTD: 15 NAAF STREET; STRIJDOM PARK EXT. 2; RANDBURG	R -	Non-BEE	PROCESS AUTOMATION (PTY) LTD: 15 NAAF STREET; STRIJDOM PARK EXT. 2; RANDBURG	R -	Non-BEE	PROCESS AUTOMATION (PTY) LTD: 15 NAAF STREET; STRIJDOM PARK EXT. 2; RANDBURG	R 219 591.25	Non-BEE
CLEAR EDGE FILTRATION SA (PTY) L: 44 JASPER RD; ROBERTSHAM; JOHANNESBURG	R -	BEE	CLEAR EDGE FILTRATION SA (PTY) L: 44 JASPER RD; ROBERTSHAM; JOHANNESBURG	R -	BEE	CLEAR EDGE FILTRATION SA (PTY) L: 44 JASPER RD; ROBERTSHAM; JOHANNESBURG	R 218 265.60	BEE
MARBLE LOGISTICS: 9 SWAKARA STREET; INDUSTRIAL SITE; UPINGTON	R -	BEE	MARBLE LOGISTICS: 9 SWAKARA STREET; INDUSTRIAL SITE; UPINGTON	R 222 911.00	BEE	MARBLE LOGISTICS: 9 SWAKARA STREET; INDUSTRIAL SITE; UPINGTON	R -5 071.00	BEE
D VON AHLFTEN: P O BOX 51237; WATERFRONT;	R -	Non-BEE	D VON AHLFTEN: P O BOX 51237; WATERFRONT;	R -	Non-BEE	D VON AHLFTEN: P O BOX 51237; WATERFRONT;	R 217 789.93	Non-BEE
SANJAY PATEL: 212 KYALAMI GLEN; KYALAMI; GAUTENG, SOUTH AFRICA	R -	Non-BEE	SANJAY PATEL: 212 KYALAMI GLEN; KYALAMI; GAUTENG, SOUTH AFRICA	R -	Non-BEE	SANJAY PATEL: 212 KYALAMI GLEN; KYALAMI; GAUTENG, SOUTH AFRICA	R 216 760.00	Non-BEE
AXIAL FLOW FAN REPAIRS CC: 7 BONIFACE ROAD,SELECTION PARK; INDUSTRIAL SITES; SPRINGS	R -	Non-BEE	AXIAL FLOW FAN REPAIRS CC: 7 BONIFACE ROAD,SELECTION PARK; INDUSTRIAL SITES; SPRINGS	R -	Non-BEE	AXIAL FLOW FAN REPAIRS CC: 7 BONIFACE ROAD,SELECTION PARK; INDUSTRIAL SITES; SPRINGS	R 213 600.00	Non-BEE
SMM INSTRUMENTS CAPE A DIVISION: Private Bag X7; Chempet;	R -	Non-BEE	SMM INSTRUMENTS CAPE A DIVISION: Private Bag X7; Chempet;	R 7 400.00	Non-BEE	SMM INSTRUMENTS CAPE A DIVISION: Private Bag X7; Chempet;	R 195 912.66	Non-BEE
RJ JOSOP PLANT HIRE & RELATED: DORP STRAAT 28; POFADDER;	R -	BEE	RJ JOSOP PLANT HIRE & RELATED: DORP STRAAT 28; POFADDER;	R 74 807.30	BEE	RJ JOSOP PLANT HIRE & RELATED: DORP STRAAT 28; POFADDER;	R 127 768.14	BEE
A C & M MAVROKORDATOS: T/A MAVRO PARK; P O BOX 59; STRATHAVON	R -	Non-BEE	A C & M MAVROKORDATOS: T/A MAVRO PARK; P O BOX 59; STRATHAVON	R -	Non-BEE	A C & M MAVROKORDATOS: T/A MAVRO PARK; P O BOX 59; STRATHAVON	R 202 538.06	Non-BEE
TRAKA AFRICA (PTY) LTD: BLOCK G3, PINELANDS OFFICE PARK; ARDEER ROAD; MODDERFONTEIN	R -	Non-BEE	TRAKA AFRICA (PTY) LTD: BLOCK G3, PINELANDS OFFICE PARK; ARDEER ROAD; MODDERFONTEIN	R 49 126.12	Non-BEE	TRAKA AFRICA (PTY) LTD: BLOCK G3, PINELANDS OFFICE PARK; ARDEER ROAD; MODDERFONTEIN	R 153 020.88	Non-BEE
KSB PUMPS & VALVES (PTY) LTD: PRIMROSE; GERMISTON;	R -	Non-BEE	KSB PUMPS & VALVES (PTY) LTD: PRIMROSE; GERMISTON;	R -	Non-BEE	KSB PUMPS & VALVES (PTY) LTD: PRIMROSE; GERMISTON;	R 201 490.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
EATON ELECTRIC SA (PTY) LTD: EATON ELECTRIC; 8 THOR CIRCLE; THORNTON; CAPE TOWN	R 41 079.00	Non-BEE	EATON ELECTRIC SA (PTY) LTD: EATON ELECTRIC; 8 THOR CIRCLE; THORNTON; CAPE TOWN	R 22 345.00	Non-BEE	EATON ELECTRIC SA (PTY) LTD: EATON ELECTRIC; 8 THOR CIRCLE; THORNTON; CAPE TOWN	R 137 373.60	Non-BEE
GEORGE CAMBANIS: PO BOX 59; STRATHAVON;	R -	Non-BEE	GEORGE CAMBANIS: PO BOX 59; STRATHAVON;	R -	Non-BEE	GEORGE CAMBANIS: PO BOX 59; STRATHAVON;	R 198 426.01	Non-BEE
NAMMIC ENGINEERING CC: 1A LODGE STREET; SPRINGBOK;	R -	BEE	NAMMIC ENGINEERING CC: 1A LODGE STREET; SPRINGBOK;	R -	BEE	NAMMIC ENGINEERING CC: 1A LODGE STREET; SPRINGBOK;	R 194 992.26	BEE
AARD MINING EQUIPMENT (PTY)LTD: 9 PHILLANS STREET; CHAMDOR; KRUGERSDORP	R -	BEE	AARD MINING EQUIPMENT (PTY)LTD: 9 PHILLANS STREET; CHAMDOR; KRUGERSDORP	R -	BEE	AARD MINING EQUIPMENT (PTY)LTD: 9 PHILLANS STREET; CHAMDOR; KRUGERSDORP	R 194 180.00	BEE
AFRICA X-RAY INDUSTRIAL &MEDICAL: 121 GAZALE AVENUE; COPERATE PARK; MIDRAND	R -	Non-BEE	AFRICA X-RAY INDUSTRIAL &MEDICAL: 121 GAZALE AVENUE; COPERATE PARK; MIDRAND	R -	Non-BEE	AFRICA X-RAY INDUSTRIAL &MEDICAL: 121 GAZALE AVENUE; COPERATE PARK; MIDRAND	R 192 346.33	Non-BEE
CHORUS CALL (PTY)LTD: 2ND FLOOR; VILLAGE WALK OFFICES; SANDTON	R -	Non-BEE	CHORUS CALL (PTY)LTD: 2ND FLOOR; VILLAGE WALK OFFICES; SANDTON	R 302 442.70	Non-BEE	CHORUS CALL (PTY)LTD: 2ND FLOOR; VILLAGE WALK OFFICES; SANDTON	R - 111 226.37	Non-BEE
Inclledon DPI: Bridge road; Stikland;	R -	BEE	Inclledon DPI: Bridge road; Stikland;	R -	BEE	Inclledon DPI: Bridge road; Stikland;	R 189 529.89	BEE
IMAGEMAKERS (PTY) LTD: 21 QUEENSPARK AVENUE; SALT RIVER; CAPE TOWN	R -	Non-BEE	IMAGEMAKERS (PTY) LTD: 21 QUEENSPARK AVENUE; SALT RIVER; CAPE TOWN	R -	Non-BEE	IMAGEMAKERS (PTY) LTD: 21 QUEENSPARK AVENUE; SALT RIVER; CAPE TOWN	R 188 839.08	Non-BEE
ADVANCE TRANSPORT: 18 RAILWAY ROAD; MONTAGUE GARDENS;	R -	BEE	ADVANCE TRANSPORT: 18 RAILWAY ROAD; MONTAGUE GARDENS;	R 86 408.43	BEE	ADVANCE TRANSPORT: 18 RAILWAY ROAD; MONTAGUE GARDENS;	R 101 121.57	BEE
JP BERNATH: BLOCK C GROUND FLOOR EAST; HINGHAM FIELD OFFICE PARK; BOEING ROAD EAST	R -	Non-BEE	JP BERNATH: BLOCK C GROUND FLOOR EAST; HINGHAM FIELD OFFICE PARK; BOEING ROAD EAST	R -	Non-BEE	JP BERNATH: BLOCK C GROUND FLOOR EAST; HINGHAM FIELD OFFICE PARK; BOEING ROAD EAST	R 185 748.00	Non-BEE
J DUZ CLEANING SERVICES: P O BOX 341; AGGENEYS;	R -	Non-BEE	J DUZ CLEANING SERVICES: P O BOX 341; AGGENEYS;	R 17 911.00	Non-BEE	J DUZ CLEANING SERVICES: P O BOX 341; AGGENEYS;	R 167 639.12	Non-BEE
EJC LOURENS: FIRLANDS SMALLHOLDING 213; GORDONSBAY;	R -	Non-BEE	EJC LOURENS: FIRLANDS SMALLHOLDING 213; GORDONSBAY;	R -	Non-BEE	EJC LOURENS: FIRLANDS SMALLHOLDING 213; GORDONSBAY;	R 185 023.39	Non-BEE
LANDDROS POFADDER: PRIVATE BAG X1; POFADDER;	R -	Non-BEE	LANDDROS POFADDER: PRIVATE BAG X1; POFADDER;	R -	Non-BEE	LANDDROS POFADDER: PRIVATE BAG X1; POFADDER;	R 184 750.00	Non-BEE
PRIMA INDUSTRIAL HOLDINGS (PTY): P.O. Box 282; Benoni;	R -	Non-BEE	PRIMA INDUSTRIAL HOLDINGS (PTY): P.O. Box 282; Benoni;	R -	Non-BEE	PRIMA INDUSTRIAL HOLDINGS (PTY): P.O. Box 282; Benoni;	R 183 749.28	Non-BEE
TECHNICAL AUDITING SERVICES: ANTELOPE STREET; CONSTANTIA KLOOF; ROODEPOORT	R -	Non-BEE	TECHNICAL AUDITING SERVICES: ANTELOPE STREET; CONSTANTIA KLOOF; ROODEPOORT	R 52 592.15	Non-BEE	TECHNICAL AUDITING SERVICES: ANTELOPE STREET; CONSTANTIA KLOOF; ROODEPOORT	R 130 560.65	Non-BEE
FLOWROX(PTY) LTD: UNIT 16 ,BRENTWOOD BUSINESS PARK; 37 ROAD NO 3; BRENTWOOD , BENONI	R -	Non-BEE	FLOWROX(PTY) LTD: UNIT 16 ,BRENTWOOD BUSINESS PARK; 37 ROAD NO 3; BRENTWOOD , BENONI	R -	Non-BEE	FLOWROX(PTY) LTD: UNIT 16 ,BRENTWOOD BUSINESS PARK; 37 ROAD NO 3; BRENTWOOD , BENONI	R 183 102.34	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
OPEN ARCHITECTURE SYSTEMS PTY LT: P.O. Box 1290; Highlands North; Johannesburg	R -	Non-BEE	OPEN ARCHITECTURE SYSTEMS PTY LT: P.O. Box 1290; Highlands North; Johannesburg	R 2 764.80	Non-BEE	OPEN ARCHITECTURE SYSTEMS PTY LT: P.O. Box 1290; Highlands North; Johannesburg	R 180 110.20	Non-BEE
BRL SCRAP METALS & RECYCLING PTY: PLOT 4374; VOORTREKKER ROAD; SPRINGBOK	R -	Non-BEE	BRL SCRAP METALS & RECYCLING PTY: PLOT 4374; VOORTREKKER ROAD; SPRINGBOK	R 37 641.40	Non-BEE	BRL SCRAP METALS & RECYCLING PTY: PLOT 4374; VOORTREKKER ROAD; SPRINGBOK	R 144 943.61	Non-BEE
SIEMENS LIMITED (74050K): Private Bag X71; Halfway House;	R -	Non-BEE	SIEMENS LIMITED (74050K): Private Bag X71; Halfway House;	R -	Non-BEE	SIEMENS LIMITED (74050K): Private Bag X71; Halfway House;	R 181 588.90	Non-BEE
Montiblox: 9 Meerlust; Pinelands; Cape Town	R -	Non-BEE	Montiblox: 9 Meerlust; Pinelands; Cape Town	R 526.51	Non-BEE	Montiblox: 9 Meerlust; Pinelands; Cape Town	R 180 033.12	Non-BEE
WEST RAND ENGINEERING A DIVISION: LITTLE BIRMINGHAM STREET; KRUGERSDORP;	R -	BEE	WEST RAND ENGINEERING A DIVISION: LITTLE BIRMINGHAM STREET; KRUGERSDORP;	R -	BEE	WEST RAND ENGINEERING A DIVISION: LITTLE BIRMINGHAM STREET; KRUGERSDORP;	R 179 005.72	BEE
Quest Technical Services: 105 Pandora Rd; Malvern East; Germiston	R -	Non-BEE	Quest Technical Services: 105 Pandora Rd; Malvern East; Germiston	R 1 761.00	Non-BEE	Quest Technical Services: 105 Pandora Rd; Malvern East; Germiston	R 177 164.00	Non-BEE
LYNDON PROJECTS: 6011 WHIPPET STREET; GARSFONTEIN EAST; PRETORIA	R -	Non-BEE	LYNDON PROJECTS: 6011 WHIPPET STREET; GARSFONTEIN EAST; PRETORIA	R 8 808.78	Non-BEE	LYNDON PROJECTS: 6011 WHIPPET STREET; GARSFONTEIN EAST; PRETORIA	R 169 275.22	Non-BEE
GEOSPEC INSTRUMENTS (PTY) LTD: 207 MONUMENT AVENUE; LYTTTELTON;	R -	Non-BEE	GEOSPEC INSTRUMENTS (PTY) LTD: 207 MONUMENT AVENUE; LYTTTELTON;	R 30 725.00	Non-BEE	GEOSPEC INSTRUMENTS (PTY) LTD: 207 MONUMENT AVENUE; LYTTTELTON;	R 147 151.00	Non-BEE
VREDENDAL KWEKERY: P O BOX 34; VREDENDAL;	R 426 221.68	Non-BEE	VREDENDAL KWEKERY: P O BOX 34; VREDENDAL;	R 45 323.00	Non-BEE	VREDENDAL KWEKERY: P O BOX 34; VREDENDAL;	R 295 586.04	Non-BEE
Hire Resolve CC: Block A; Unit 1; Millennium Business Park; Century City; Cape Town	R -	Non-BEE	Hire Resolve CC: Block A; Unit 1; Millennium Business Park; Century City; Cape Town	R -	Non-BEE	Hire Resolve CC: Block A; Unit 1; Millennium Business Park; Century City; Cape Town	R 174 953.28	Non-BEE
QUIKSTEP 713 (PTY) LTD T\A TRANS: P O Box125; Upington;	R -	Non-BEE	QUIKSTEP 713 (PTY) LTD T\A TRANS: P O Box125; Upington;	R -	Non-BEE	QUIKSTEP 713 (PTY) LTD T\A TRANS: P O Box125; Upington;	R 171 631.94	Non-BEE
EMC RETICULATION (PTY)LTD: H/V INRY-EN PEGMATIETSTR; SPRINGBOK;	R -	Non-BEE	EMC RETICULATION (PTY)LTD: H/V INRY-EN PEGMATIETSTR; SPRINGBOK;	R 1 440.00	Non-BEE	EMC RETICULATION (PTY)LTD: H/V INRY-EN PEGMATIETSTR; SPRINGBOK;	R 169 813.48	Non-BEE
PanAfrican Investment & Research: 2nd Floor Summit Square; 15 School Road; Cnr Rivonia Rd; Morningside	R -	BEE	PanAfrican Investment & Research: 2nd Floor Summit Square; 15 School Road; Cnr Rivonia Rd; Morningside	R -	BEE	PanAfrican Investment & Research: 2nd Floor Summit Square; 15 School Road; Cnr Rivonia Rd; Morningside	R 170 000.00	BEE
MSA (AFRICA)(PROPRIETARY) LIMITE: P.O. Box 83669; South Hills;	R -	Non-BEE	MSA (AFRICA)(PROPRIETARY) LIMITE: P.O. Box 83669; South Hills;	R -	Non-BEE	MSA (AFRICA)(PROPRIETARY) LIMITE: P.O. Box 83669; South Hills;	R 169 955.80	Non-BEE
GANARAMA PRODUCTIONS: 9 MARDIEP MANSIONS; MCKINLEY ROAD; KENILWORTH	R -	Non-BEE	GANARAMA PRODUCTIONS: 9 MARDIEP MANSIONS; MCKINLEY ROAD; KENILWORTH	R -	Non-BEE	GANARAMA PRODUCTIONS: 9 MARDIEP MANSIONS; MCKINLEY ROAD; KENILWORTH	R 169 500.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
YSTERPLAAT MEDICAL SUPPLIES CC: 3 TWICKENHAM PARK, MARCONI ROAD; MONTAGUE GARDENS;	R -	Non-BEE	YSTERPLAAT MEDICAL SUPPLIES CC: 3 TWICKENHAM PARK, MARCONI ROAD; MONTAGUE GARDENS;	R 2 572.80	Non-BEE	YSTERPLAAT MEDICAL SUPPLIES CC: 3 TWICKENHAM PARK, MARCONI ROAD; MONTAGUE GARDENS;	R 166 822.62	Non-BEE
Simulation Eng. Teghnologies: Bastion House; 52 Lyttelton Road; Clubview, Centurion	R -	Non-BEE	Simulation Eng. Teghnologies: Bastion House; 52 Lyttelton Road; Clubview, Centurion	R 4 200.00	Non-BEE	Simulation Eng. Teghnologies: Bastion House; 52 Lyttelton Road; Clubview, Centurion	R 164 900.00	Non-BEE
ZEST MANUFACTURING (PTY) LTD: Unit 5A, Macias Industrial Park; Cnr Montague and BP Roads; Montague Gardens	R 21 578.73	Non-BEE	ZEST MANUFACTURING (PTY) LTD: Unit 5A, Macias Industrial Park; Cnr Montague and BP Roads; Montague Gardens	R -	Non-BEE	ZEST MANUFACTURING (PTY) LTD: Unit 5A, Macias Industrial Park; Cnr Montague and BP Roads; Montague Gardens	R 146 953.27	Non-BEE
MAN-DIRK (PTY) LTD: UNIT 8 BOLT PARK; 11 BOLT AVENUE; MONTAGUE GARDENS	R -	BEE	MAN-DIRK (PTY) LTD: UNIT 8 BOLT PARK; 11 BOLT AVENUE; MONTAGUE GARDENS	R -	BEE	MAN-DIRK (PTY) LTD: UNIT 8 BOLT PARK; 11 BOLT AVENUE; MONTAGUE GARDENS	R 164 677.75	BEE
UPINGTON ATELJEE CC: POBOX 156; UPINGTON;	R -	Non-BEE	UPINGTON ATELJEE CC: POBOX 156; UPINGTON;	R 480.00	Non-BEE	UPINGTON ATELJEE CC: POBOX 156; UPINGTON;	R 163 048.44	Non-BEE
AFRICAN HOE (PTY) LTD: P.O. Box 477; Springs;	R -	Non-BEE	AFRICAN HOE (PTY) LTD: P.O. Box 477; Springs;	R -	Non-BEE	AFRICAN HOE (PTY) LTD: P.O. Box 477; Springs;	R 162 096.23	Non-BEE
INSTITUTE OF MINE SEISM.(PTY)LTD: 23 ELECTRON STREET; TECHNOPARK; STELLENBOSCH	R -	Non-BEE	INSTITUTE OF MINE SEISM.(PTY)LTD: 23 ELECTRON STREET; TECHNOPARK; STELLENBOSCH	R 2 925.00	Non-BEE	INSTITUTE OF MINE SEISM.(PTY)LTD: 23 ELECTRON STREET; TECHNOPARK; STELLENBOSCH	R 158 242.38	Non-BEE
SABRE SHUBANE TECH (PTY) LTD: 5 PROTEA STREET; AUREUS; RANDFONTEIN	R -	Non-BEE	SABRE SHUBANE TECH (PTY) LTD: 5 PROTEA STREET; AUREUS; RANDFONTEIN	R -	Non-BEE	SABRE SHUBANE TECH (PTY) LTD: 5 PROTEA STREET; AUREUS; RANDFONTEIN	R 156 660.86	Non-BEE
INTERBRIDGE CC: P O BOX 905; STELLENBOSCH;	R -	Non-BEE	INTERBRIDGE CC: P O BOX 905; STELLENBOSCH;	R -	Non-BEE	INTERBRIDGE CC: P O BOX 905; STELLENBOSCH;	R 156 451.20	Non-BEE
Anchor Testing & Rigging Service: 20 Old Mill Road; Ndabeni;	R -	Non-BEE	Anchor Testing & Rigging Service: 20 Old Mill Road; Ndabeni;	R 448 167.15	Non-BEE	Anchor Testing & Rigging Service: 20 Old Mill Road; Ndabeni;	R - 292 088.12	Non-BEE
MAX ARCUS & SON (PTY) LTD: 32A LOWESTOFT STREET; PAARDEN EILAND; CAPE TOWN	R -	BEE	MAX ARCUS & SON (PTY) LTD: 32A LOWESTOFT STREET; PAARDEN EILAND; CAPE TOWN	R -	BEE	MAX ARCUS & SON (PTY) LTD: 32A LOWESTOFT STREET; PAARDEN EILAND; CAPE TOWN	R 155 934.47	BEE
IFM ELECTRONIC (PTY)LTD: SHORTTOCK HOUSE; ROUTE 21 COPOTATE PARK; NELLMAPIUS DRIVE,IRENE EXT 30	R -	Non-BEE	IFM ELECTRONIC (PTY)LTD: SHORTTOCK HOUSE; ROUTE 21 COPOTATE PARK; NELLMAPIUS DRIVE,IRENE EXT 30	R -	Non-BEE	IFM ELECTRONIC (PTY)LTD: SHORTTOCK HOUSE; ROUTE 21 COPOTATE PARK; NELLMAPIUS DRIVE,IRENE EXT 30	R 155 697.84	Non-BEE
LINBURG ENGINEERING CC: 12 GRANIET STRAAT; BOKSBURG;	R -	Non-BEE	LINBURG ENGINEERING CC: 12 GRANIET STRAAT; BOKSBURG;	R -	Non-BEE	LINBURG ENGINEERING CC: 12 GRANIET STRAAT; BOKSBURG;	R 153 413.00	Non-BEE
S & H SCALES: P.O. Box 316; Vredenburg;	R -	Non-BEE	S & H SCALES: P.O. Box 316; Vredenburg;	R 430 219.77	Non-BEE	S & H SCALES: P.O. Box 316; Vredenburg;	R - 277 276.45	Non-BEE
AC VISSER: P O BOX 401; GORDONSBAAI;	R -	Non-BEE	AC VISSER: P O BOX 401; GORDONSBAAI;	R -	Non-BEE	AC VISSER: P O BOX 401; GORDONSBAAI;	R 151 340.36	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
NG KERK AGGENEYS - OASE GASTEHUI: PO BOX 132; AGGENEYS;	R -	Non-BEE	NG KERK AGGENEYS - OASE GASTEHUI: PO BOX 132; AGGENEYS;	R -	Non-BEE	NG KERK AGGENEYS - OASE GASTEHUI: PO BOX 132; AGGENEYS;	R 151 200.00	Non-BEE
RUS 'N BIETJIE: 21 DEELKRAAL STREET; AGGENEYS;	R -	Non-BEE	RUS 'N BIETJIE: 21 DEELKRAAL STREET; AGGENEYS;	R -	Non-BEE	RUS 'N BIETJIE: 21 DEELKRAAL STREET; AGGENEYS;	R 151 000.00	Non-BEE
Crane Load Technology: 2159 Raceway Industrial Park; Indianapolis Blv, Gosforth Park; Germiston	R -	Non-BEE	Crane Load Technology: 2159 Raceway Industrial Park; Indianapolis Blv, Gosforth Park; Germiston	R -	Non-BEE	Crane Load Technology: 2159 Raceway Industrial Park; Indianapolis Blv, Gosforth Park; Germiston	R 148 150.00	Non-BEE
THUTELLO TRAINING: 43 WILKINSON AVENUE; VANDERBIJL PARK;	R -	BEE	THUTELLO TRAINING: 43 WILKINSON AVENUE; VANDERBIJL PARK;	R 237 362.90	BEE	THUTELLO TRAINING: 43 WILKINSON AVENUE; VANDERBIJL PARK;	R -90 200.40	BEE
KWIK CAR WASH: P.O. Box 384; Henley-On-Klip;	R -	Non-BEE	KWIK CAR WASH: P.O. Box 384; Henley-On-Klip;	R 36 082.80	Non-BEE	KWIK CAR WASH: P.O. Box 384; Henley-On-Klip;	R 110 895.61	Non-BEE
DE BRUYN SPECTORSCOPIC SOLUTIONS: 70 CHATTAN ROAD; GLENFERNESS; MIDRAND	R -	Non-BEE	DE BRUYN SPECTORSCOPIC SOLUTIONS: 70 CHATTAN ROAD; GLENFERNESS; MIDRAND	R -	Non-BEE	DE BRUYN SPECTORSCOPIC SOLUTIONS: 70 CHATTAN ROAD; GLENFERNESS; MIDRAND	R 145 814.00	Non-BEE
Dr. Arnold Mol: 59 Sidney Avenue; Waterkloof; Pretoria	R -	Non-BEE	Dr. Arnold Mol: 59 Sidney Avenue; Waterkloof; Pretoria	R 5 400.00	Non-BEE	Dr. Arnold Mol: 59 Sidney Avenue; Waterkloof; Pretoria	R 138 860.00	Non-BEE
Dr Phillip Desmet: 84 Clearwater Road; Lynnwood Glen;	R -	Non-BEE	Dr Phillip Desmet: 84 Clearwater Road; Lynnwood Glen;	R -	Non-BEE	Dr Phillip Desmet: 84 Clearwater Road; Lynnwood Glen;	R 144 031.25	Non-BEE
R.G. NIEMOLLER (PTY)LTD: 103 VOORTREKKER STREET; POFADDER;	R -	Non-BEE	R.G. NIEMOLLER (PTY)LTD: 103 VOORTREKKER STREET; POFADDER;	R 342 232.37	Non-BEE	R.G. NIEMOLLER (PTY)LTD: 103 VOORTREKKER STREET; POFADDER;	R - 198 504.63	Non-BEE
PRO-PACK REMOVALS: c/o WILLOW AND GAMKA; KUILSRIVIER;	R -	Non-BEE	PRO-PACK REMOVALS: c/o WILLOW AND GAMKA; KUILSRIVIER;	R 79 492.98	Non-BEE	PRO-PACK REMOVALS: c/o WILLOW AND GAMKA; KUILSRIVIER;	R 62 900.02	Non-BEE
THE NALEDI3D FACTORY (PTY) LTD: P O BOX 30; INNOVATION HUB; PRETORIA	R -	Non-BEE	THE NALEDI3D FACTORY (PTY) LTD: P O BOX 30; INNOVATION HUB; PRETORIA	R -	Non-BEE	THE NALEDI3D FACTORY (PTY) LTD: P O BOX 30; INNOVATION HUB; PRETORIA	R 141 369.74	Non-BEE
Harwood Kirsten Leigh McCoy Pty: Building B 4; Kikuyu Road, Sunninghill; Johannesburg, South Africa	R -	Non-BEE	Harwood Kirsten Leigh McCoy Pty: Building B 4; Kikuyu Road, Sunninghill; Johannesburg, South Africa	R -	Non-BEE	Harwood Kirsten Leigh McCoy Pty: Building B 4; Kikuyu Road, Sunninghill; Johannesburg, South Africa	R 140 250.00	Non-BEE
Momentum Group Limited: 4 Merchant Place,; 1 Fredmandrive; Sandton	R -	BEE	Momentum Group Limited: 4 Merchant Place,; 1 Fredmandrive; Sandton	R -	BEE	Momentum Group Limited: 4 Merchant Place,; 1 Fredmandrive; Sandton	R 138 680.45	BEE
DRAGER SA (PTY) LTD: P.O. Box 68601; Bryanston;	R 43 777.01	Non-BEE	DRAGER SA (PTY) LTD: P.O. Box 68601; Bryanston;	R 1 361 791.02	Non-BEE	DRAGER SA (PTY) LTD: P.O. Box 68601; Bryanston;	R -1 267 250.03	Non-BEE
R&P MAGANIESE DIENSTE: 65 VAN RIEBEECKSTRAAT; SPRINGBOK;	R -	Non-BEE	R&P MAGANIESE DIENSTE: 65 VAN RIEBEECKSTRAAT; SPRINGBOK;	R 480.00	Non-BEE	R&P MAGANIESE DIENSTE: 65 VAN RIEBEECKSTRAAT; SPRINGBOK;	R 137 392.96	Non-BEE
UMSOBOMVU AUTOLEC: VAN RIEBEECK STREET; SPRINGBOK;	R -	Non-BEE	UMSOBOMVU AUTOLEC: VAN RIEBEECK STREET; SPRINGBOK;	R 72 679.60	Non-BEE	UMSOBOMVU AUTOLEC: VAN RIEBEECK STREET; SPRINGBOK;	R 64 561.02	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
Antal International (Pty) Ltd: Suite 13; Entrance C; 145 Blaauwberg Road; Tableview	R -	Non-BEE	Antal International (Pty) Ltd: Suite 13; Entrance C; 145 Blaauwberg Road; Tableview	R -	Non-BEE	Antal International (Pty) Ltd: Suite 13; Entrance C; 145 Blaauwberg Road; Tableview	R 136 928.32	Non-BEE
MB AIRCON DISTRIBUTORS CC: 45 MAIN ROAD; STRAND;	R -	Non-BEE	MB AIRCON DISTRIBUTORS CC: 45 MAIN ROAD; STRAND;	R -	Non-BEE	MB AIRCON DISTRIBUTORS CC: 45 MAIN ROAD; STRAND;	R 136 854.52	Non-BEE
INGERSOLL RAND CO SA (PTY) LTD: LIEBENBERG STREET; ALRODE;	R 235 244.34	Non-BEE	INGERSOLL RAND CO SA (PTY) LTD: LIEBENBERG STREET; ALRODE;	R 2 339 636.53	Non-BEE	INGERSOLL RAND CO SA (PTY) LTD: LIEBENBERG STREET; ALRODE;	R -2 438 310.87	Non-BEE
GEO-EXPLORE STORE (PTY) LTD: 67 WATT STREET; MEADONDALE; EDENVALE	R -	Non-BEE	GEO-EXPLORE STORE (PTY) LTD: 67 WATT STREET; MEADONDALE; EDENVALE	R -	Non-BEE	GEO-EXPLORE STORE (PTY) LTD: 67 WATT STREET; MEADONDALE; EDENVALE	R 134 523.31	Non-BEE
CAPE GATE FENCE & WIRE WORKS (PT: P.O BOX 17; PAROW;	R -	Non-BEE	CAPE GATE FENCE & WIRE WORKS (PT: P.O BOX 17; PAROW;	R -	Non-BEE	CAPE GATE FENCE & WIRE WORKS (PT: P.O BOX 17; PAROW;	R 132 966.00	Non-BEE
WALTONS (PROPRIETARY) LIMITED: SENTRAAL STR 7; VREDENDAL;	R 17 264.50	BEE	WALTONS (PROPRIETARY) LIMITED: SENTRAAL STR 7; VREDENDAL;	R -	BEE	WALTONS (PROPRIETARY) LIMITED: SENTRAAL STR 7; VREDENDAL;	R 115 016.04	BEE
BUREAU VERITAS: UNIT A3 CENTURION BUSINESS PARK; BOSMANSDAM ROAD; MILNERTON	R -	Non-BEE	BUREAU VERITAS: UNIT A3 CENTURION BUSINESS PARK; BOSMANSDAM ROAD; MILNERTON	R 51 616.67	Non-BEE	BUREAU VERITAS: UNIT A3 CENTURION BUSINESS PARK; BOSMANSDAM ROAD; MILNERTON	R 80 351.97	Non-BEE
AGGENEYS CAFE: P. O. BOX 196; AGGENEYS;	R -	Non-BEE	AGGENEYS CAFE: P. O. BOX 196; AGGENEYS;	R -	Non-BEE	AGGENEYS CAFE: P. O. BOX 196; AGGENEYS;	R 131 675.95	Non-BEE
NAMIB ELECTRONIC TRADING SERVICE: SPITZKOP FARM; ROSH PINAH;	R 531 945.73	Non-BEE	NAMIB ELECTRONIC TRADING SERVICE: SPITZKOP FARM; ROSH PINAH;	R -	Non-BEE	NAMIB ELECTRONIC TRADING SERVICE: SPITZKOP FARM; ROSH PINAH;	R - 400 604.23	Non-BEE
ALCHEMY BUSINESS CONSULTANTS: 1ST FLOOR WEST WING; OAKFIN BUILDING; 367 OAK AVE, RANDBURG	R -	Non-BEE	ALCHEMY BUSINESS CONSULTANTS: 1ST FLOOR WEST WING; OAKFIN BUILDING; 367 OAK AVE, RANDBURG	R -	Non-BEE	ALCHEMY BUSINESS CONSULTANTS: 1ST FLOOR WEST WING; OAKFIN BUILDING; 367 OAK AVE, RANDBURG	R 130 951.95	Non-BEE
ALCOM RADIO DISTRIBUTORS RIVON: P.O. Box 128;; SANLAMHOF; CAPE TOWN	R -	Non-BEE	ALCOM RADIO DISTRIBUTORS RIVON: P.O. Box 128;; SANLAMHOF; CAPE TOWN	R -	Non-BEE	ALCOM RADIO DISTRIBUTORS RIVON: P.O. Box 128;; SANLAMHOF; CAPE TOWN	R 130 283.09	Non-BEE
RENNIES SHIPS AGENCY (PTY) LTD: P O BOX 225; SALDANHA;	R -	Non-BEE	RENNIES SHIPS AGENCY (PTY) LTD: P O BOX 225; SALDANHA;	R -	Non-BEE	RENNIES SHIPS AGENCY (PTY) LTD: P O BOX 225; SALDANHA;	R 129 715.72	Non-BEE
THE AISCT LEARNING ACADEMY: 42 SOETVLEI AVENUE; CONSTANTIA;	R -	Non-BEE	THE AISCT LEARNING ACADEMY: 42 SOETVLEI AVENUE; CONSTANTIA;	R -	Non-BEE	THE AISCT LEARNING ACADEMY: 42 SOETVLEI AVENUE; CONSTANTIA;	R 129 451.73	Non-BEE
ROAN MINING EQUIPMENT (PTY) LTD: GUNNERS CIRCLE; EPPING 1;	R -	Non-BEE	ROAN MINING EQUIPMENT (PTY) LTD: GUNNERS CIRCLE; EPPING 1;	R -	Non-BEE	ROAN MINING EQUIPMENT (PTY) LTD: GUNNERS CIRCLE; EPPING 1;	R 128 636.81	Non-BEE
KIMFLY CHARTERS (PTY)LTD: P.O.BOX 1515; KIMBERLEY;	R -	Non-BEE	KIMFLY CHARTERS (PTY)LTD: P.O.BOX 1515; KIMBERLEY;	R -	Non-BEE	KIMFLY CHARTERS (PTY)LTD: P.O.BOX 1515; KIMBERLEY;	R 128 411.87	Non-BEE
BONCHEM CAPE (PTY) LTD: UNIT 5B; BELLVILLE BUSINESS PARK; BELLVILLE	R -	Non-BEE	BONCHEM CAPE (PTY) LTD: UNIT 5B; BELLVILLE BUSINESS PARK; BELLVILLE	R 78 690.08	Non-BEE	BONCHEM CAPE (PTY) LTD: UNIT 5B; BELLVILLE BUSINESS PARK; BELLVILLE	R 49 054.32	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
VIS-CIL MEUBELVERVOER BK T/A: UPINGTON MEUBELVERVOER; P O BOX 234; UPINGTON	R -	Non-BEE	VIS-CIL MEUBELVERVOER BK T/A: UPINGTON MEUBELVERVOER; P O BOX 234; UPINGTON	R -	Non-BEE	VIS-CIL MEUBELVERVOER BK T/A: UPINGTON MEUBELVERVOER; P O BOX 234; UPINGTON	R 127 000.00	Non-BEE
LIEWE HEKSIE PREPRIMERE SKOOL: P O BOX 105; AGGENEYS;	R -	Non-BEE	LIEWE HEKSIE PREPRIMERE SKOOL: P O BOX 105; AGGENEYS;	R -	Non-BEE	LIEWE HEKSIE PREPRIMERE SKOOL: P O BOX 105; AGGENEYS;	R 125 303.00	Non-BEE
Vonmeg Staalwerke CC: 44 Voortrekkerstraat; Springbok;	R 2 850.00	Non-BEE	Vonmeg Staalwerke CC: 44 Voortrekkerstraat; Springbok;	R 6 295.42	Non-BEE	Vonmeg Staalwerke CC: 44 Voortrekkerstraat; Springbok;	R 115 854.38	Non-BEE
INTER TEKENS UPINGTON EDMS BPK: MARK STRAAT 17; UPINGTON;	R -	Non-BEE	INTER TEKENS UPINGTON EDMS BPK: MARK STRAAT 17; UPINGTON;	R -	Non-BEE	INTER TEKENS UPINGTON EDMS BPK: MARK STRAAT 17; UPINGTON;	R 124 626.02	Non-BEE
TELE NOVA SPRINGBOK: P O Box 673; Springbok;	R 31 204.00	Non-BEE	TELE NOVA SPRINGBOK: P O Box 673; Springbok;	R -	Non-BEE	TELE NOVA SPRINGBOK: P O Box 673; Springbok;	R 93 394.88	Non-BEE
NAB NAMA CONSTRUCTION CC: 377 LONG STREET; NABABEEP;	R -	Non-BEE	NAB NAMA CONSTRUCTION CC: 377 LONG STREET; NABABEEP;	R 96 081.11	Non-BEE	NAB NAMA CONSTRUCTION CC: 377 LONG STREET; NABABEEP;	R 28 070.88	Non-BEE
UNIVERSITY OF CAPE TOWN: UNIVERSITY CAPE TOWM; CAPE TOWN;	R -	Non-BEE	UNIVERSITY OF CAPE TOWN: UNIVERSITY CAPE TOWM; CAPE TOWN;	R -	Non-BEE	UNIVERSITY OF CAPE TOWN: UNIVERSITY CAPE TOWM; CAPE TOWN;	R 124 100.00	Non-BEE
Loadtech Loadcells (Pty) Ltd: 134 Sarel Baar Cresent; Gateway Industrial Park; Centurion	R -	Non-BEE	Loadtech Loadcells (Pty) Ltd: 134 Sarel Baar Cresent; Gateway Industrial Park; Centurion	R 750.00	Non-BEE	Loadtech Loadcells (Pty) Ltd: 134 Sarel Baar Cresent; Gateway Industrial Park; Centurion	R 121 879.80	Non-BEE
HEMISEC (PTY)LTD T/A STATUTECH: 2 B HIGH STREET; MODDERFONTEIN;	R -	Non-BEE	HEMISEC (PTY)LTD T/A STATUTECH: 2 B HIGH STREET; MODDERFONTEIN;	R 473 238.65	Non-BEE	HEMISEC (PTY)LTD T/A STATUTECH: 2 B HIGH STREET; MODDERFONTEIN;	R 350 630.51	Non-BEE
Rainbow Inflatables: 38 Mckay Estates; Brockett Street; Risiville	R -	Non-BEE	Rainbow Inflatables: 38 Mckay Estates; Brockett Street; Risiville	R -	Non-BEE	Rainbow Inflatables: 38 Mckay Estates; Brockett Street; Risiville	R 119 721.24	Non-BEE
MICROSEP (CAPETOWN): P.O. Box 3072; Tygervalley; Cape Town	R -	Non-BEE	MICROSEP (CAPETOWN): P.O. Box 3072; Tygervalley; Cape Town	R 51 616.67	Non-BEE	MICROSEP (CAPETOWN): P.O. Box 3072; Tygervalley; Cape Town	R 67 888.33	Non-BEE
Calberg Lubrication cc: 6 Kouga street; Kaymor; Stikland Industrial	R 450.01	BEE	Calberg Lubrication cc: 6 Kouga street; Kaymor; Stikland Industrial	R 3 067.74	BEE	Calberg Lubrication cc: 6 Kouga street; Kaymor; Stikland Industrial	R 115 479.24	BEE
Spectrum Technical (Pty) Ltd: 150 Dollar Drive; Alton; Richards Bay	R -	Non-BEE	Spectrum Technical (Pty) Ltd: 150 Dollar Drive; Alton; Richards Bay	R 2 690.83	Non-BEE	Spectrum Technical (Pty) Ltd: 150 Dollar Drive; Alton; Richards Bay	R 116 107.62	Non-BEE
NAMAKWA PAINT 'N SIGN CC: VAN RIEBEECK STREET 7; SPRINGBOK;	R -	Non-BEE	NAMAKWA PAINT 'N SIGN CC: VAN RIEBEECK STREET 7; SPRINGBOK;	R -	Non-BEE	NAMAKWA PAINT 'N SIGN CC: VAN RIEBEECK STREET 7; SPRINGBOK;	R 117 927.58	Non-BEE
DEEBAR INDUSTRIES (PTY) LTD: 15 MAIN REEF ROAD; PRIMROSE EXT.1; GERMISTON	R -	Non-BEE	DEEBAR INDUSTRIES (PTY) LTD: 15 MAIN REEF ROAD; PRIMROSE EXT.1; GERMISTON	R -	Non-BEE	DEEBAR INDUSTRIES (PTY) LTD: 15 MAIN REEF ROAD; PRIMROSE EXT.1; GERMISTON	R 116 397.96	Non-BEE
Thyssenkrupp Eng T/A Polysius: 71 Nnyuki Road; ; Sunninghill	R -	Non-BEE	Thyssenkrupp Eng T/A Polysius: 71 Nnyuki Road; ; Sunninghill	R 14 130.00	Non-BEE	Thyssenkrupp Eng T/A Polysius: 71 Nnyuki Road; ; Sunninghill	R 101 546.00	Non-BEE
ACR SERVICES (EAST CAPE) PTY LTD: 154 FORDYCE ROAD; WALMER; PORT ELIZABETH	R -	Non-BEE	ACR SERVICES (EAST CAPE) PTY LTD: 154 FORDYCE ROAD; WALMER; PORT ELIZABETH	R -	Non-BEE	ACR SERVICES (EAST CAPE) PTY LTD: 154 FORDYCE ROAD; WALMER; PORT ELIZABETH	R 115 662.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
NORMAN'S RELINING SERVICES CC: P O BOX 147; GLEN HARMONY;	R -	Non-BEE	NORMAN'S RELINING SERVICES CC: P O BOX 147; GLEN HARMONY;	R 37 567.27	Non-BEE	NORMAN'S RELINING SERVICES CC: P O BOX 147; GLEN HARMONY;	R 77 822.73	Non-BEE
NORDBAK (PTY) LTD: 193 IMMELMAN ROAD; WADEVILLE;	R -	Non-BEE	NORDBAK (PTY) LTD: 193 IMMELMAN ROAD; WADEVILLE;	R -	Non-BEE	NORDBAK (PTY) LTD: 193 IMMELMAN ROAD; WADEVILLE;	R 113 110.00	Non-BEE
Elite Polyurethane Engineering: 8 Langkloof St; Alrode South; Alberton	R -	Non-BEE	Elite Polyurethane Engineering: 8 Langkloof St; Alrode South; Alberton	R -	Non-BEE	Elite Polyurethane Engineering: 8 Langkloof St; Alrode South; Alberton	R 112 854.00	Non-BEE
DP GROBLER BOORDIENSTE BK: 4 MAGASYN STREET; SPRINGBOK;	R 1 649 725.46	Non-BEE	DP GROBLER BOORDIENSTE BK: 4 MAGASYN STREET; SPRINGBOK;	R 1 050.00	Non-BEE	DP GROBLER BOORDIENSTE BK: 4 MAGASYN STREET; SPRINGBOK;	R -1 538 151.46	Non-BEE
Alfred H Knight (SA): 85 Dollar Drive; Richards Bay;	R -	Non-BEE	Alfred H Knight (SA): 85 Dollar Drive; Richards Bay;	R 160 634.44	Non-BEE	Alfred H Knight (SA): 85 Dollar Drive; Richards Bay;	R -49 298.01	Non-BEE
ATEC PROJ.MAMAG.& CONS.(PTY) LTD: UNIT 11, CAMBRIDGE PARK; 5 BAUHINIA STREET; HIGHVELD TECHNOPARK,CENTURION	R -	BEE	ATEC PROJ.MAMAG.& CONS.(PTY) LTD: UNIT 11, CAMBRIDGE PARK; 5 BAUHINIA STREET; HIGHVELD TECHNOPARK,CENTURION	R 774 544.80	BEE	ATEC PROJ.MAMAG.& CONS.(PTY) LTD: UNIT 11, CAMBRIDGE PARK; 5 BAUHINIA STREET; HIGHVELD TECHNOPARK,CENTURION	R - 663 277.30	BEE
BRELKO ENG CC (MARSHALLTOWN): P O Box 62392; Marshalltown;	R -	BEE	BRELKO ENG CC (MARSHALLTOWN): P O Box 62392; Marshalltown;	R -	BEE	BRELKO ENG CC (MARSHALLTOWN): P O Box 62392; Marshalltown;	R 111 058.50	BEE
DR S.J. CHANDLER PRAKTYK: P O BOX 51; AGGENEYS;	R -	Non-BEE	DR S.J. CHANDLER PRAKTYK: P O BOX 51; AGGENEYS;	R -	Non-BEE	DR S.J. CHANDLER PRAKTYK: P O BOX 51; AGGENEYS;	R 110 508.78	Non-BEE
ROTORK AFRICA (PTY) LTD: P.O. BOX 178; ENDENVALE;	R -	Non-BEE	ROTORK AFRICA (PTY) LTD: P.O. BOX 178; ENDENVALE;	R -	Non-BEE	ROTORK AFRICA (PTY) LTD: P.O. BOX 178; ENDENVALE;	R 110 463.40	Non-BEE
SUDOR FLANGE MANUFACTURERS SPRIN: P O Box 405; Springs;	R -	Non-BEE	SUDOR FLANGE MANUFACTURERS SPRIN: P O Box 405; Springs;	R -	Non-BEE	SUDOR FLANGE MANUFACTURERS SPRIN: P O Box 405; Springs;	R 110 453.50	Non-BEE
ICEBERG TRAD.T/A SLURRY MASTER: 92 GEOEGE STREET; KIMBERLEY;	R -	BEE	ICEBERG TRAD.T/A SLURRY MASTER: 92 GEOEGE STREET; KIMBERLEY;	R -	BEE	ICEBERG TRAD.T/A SLURRY MASTER: 92 GEOEGE STREET; KIMBERLEY;	R 110 000.00	BEE
DIOMEDIA TRADING CC: 91; 14TH STREET; PARKHURST	R -	BEE	DIOMEDIA TRADING CC: 91; 14TH STREET; PARKHURST	R 398 395.15	BEE	DIOMEDIA TRADING CC: 91; 14TH STREET; PARKHURST	R - 288 395.15	BEE
Mashaka Consulting cc: 1032 Wilhelm St.; Eldoraigane;	R -	BEE	Mashaka Consulting cc: 1032 Wilhelm St.; Eldoraigane;	R 60 269.00	BEE	Mashaka Consulting cc: 1032 Wilhelm St.; Eldoraigane;	R 49 309.00	BEE
SPOORNET: PRIVATE BAG 11; VREDENBURG;	R -	Non-BEE	SPOORNET: PRIVATE BAG 11; VREDENBURG;	R -	Non-BEE	SPOORNET: PRIVATE BAG 11; VREDENBURG;	R 108 843.94	Non-BEE
GS ANDREWS: 37 WEST ROAD SOUTH; MORNINGSIDE;	R -	Non-BEE	GS ANDREWS: 37 WEST ROAD SOUTH; MORNINGSIDE;	R -	Non-BEE	GS ANDREWS: 37 WEST ROAD SOUTH; MORNINGSIDE;	R 108 567.00	Non-BEE
WHISTLE BLOWERS: PO BOX 51006; MUSGRAVE;	R -	Non-BEE	WHISTLE BLOWERS: PO BOX 51006; MUSGRAVE;	R -	Non-BEE	WHISTLE BLOWERS: PO BOX 51006; MUSGRAVE;	R 108 369.90	Non-BEE
JONES AND WAGENER PTY LTD: 59 BEVAN ROAD; RIVONIA;	R -	Non-BEE	JONES AND WAGENER PTY LTD: 59 BEVAN ROAD; RIVONIA;	R 31 280.50	Non-BEE	JONES AND WAGENER PTY LTD: 59 BEVAN ROAD; RIVONIA;	R 75 230.24	Non-BEE
AGAROBKWEKERY: ANVIL STREET 3; AGGENEYS;	R -	Non-BEE	AGAROBKWEKERY: ANVIL STREET 3; AGGENEYS;	R 68 584.59	Non-BEE	AGAROBKWEKERY: ANVIL STREET 3; AGGENEYS;	R 37 585.61	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
INKOLEKO TRADING 702 CC T/A: HENTOK PANEELKLOPPERS; COPERSTRAAT 3, INDUSTRIAL AREA; SPRINGBOK	R -	BEE	INKOLEKO TRADING 702 CC T/A: HENTOK PANEELKLOPPERS; COPERSTRAAT 3, INDUSTRIAL AREA; SPRINGBOK	R -	BEE	INKOLEKO TRADING 702 CC T/A: HENTOK PANEELKLOPPERS; COPERSTRAAT 3, INDUSTRIAL AREA; SPRINGBOK	R 106 060.95	BEE
SKYCOM (PTY) LTD: 99 INTERSITE AVE; UMGENI BUSINESS PARK;	R -	Non-BEE	SKYCOM (PTY) LTD: 99 INTERSITE AVE; UMGENI BUSINESS PARK;	R 1 680.00	Non-BEE	SKYCOM (PTY) LTD: 99 INTERSITE AVE; UMGENI BUSINESS PARK;	R 102 982.00	Non-BEE
MARSHALL FOWLER (S.A.) (PTY.) LT: P.O. Box 90; Randfontein;	R -	Non-BEE	MARSHALL FOWLER (S.A.) (PTY.) LT: P.O. Box 90; Randfontein;	R -	Non-BEE	MARSHALL FOWLER (S.A.) (PTY.) LT: P.O. Box 90; Randfontein;	R 104 449.00	Non-BEE
MASS & HEAT TRANDF.TECH.PTY LTD: 6 PANORAMA OFFICE ESTATE; 971 KUDU STREET; ALLEN'S NEK, ROODEPOORT	R -	Non-BEE	MASS & HEAT TRANDF.TECH.PTY LTD: 6 PANORAMA OFFICE ESTATE; 971 KUDU STREET; ALLEN'S NEK, ROODEPOORT	R 10 950.00	Non-BEE	MASS & HEAT TRANDF.TECH.PTY LTD: 6 PANORAMA OFFICE ESTATE; 971 KUDU STREET; ALLEN'S NEK, ROODEPOORT	R 92 910.00	Non-BEE
DIE TIMMERMAN: P.O. Box 1988; Vryburg;	R -	Non-BEE	DIE TIMMERMAN: P.O. Box 1988; Vryburg;	R -	Non-BEE	DIE TIMMERMAN: P.O. Box 1988; Vryburg;	R 102 720.00	Non-BEE
BOWMAN GILFILLAN ATTORNEYS: PO BOX 785812; SANDTON;	R -	Non-BEE	BOWMAN GILFILLAN ATTORNEYS: PO BOX 785812; SANDTON;	R -	Non-BEE	BOWMAN GILFILLAN ATTORNEYS: PO BOX 785812; SANDTON;	R 102 720.00	Non-BEE
NAMA HARDEWARE&T/A BUILT IT: VAN RIEBEEKSTRAAT 16; SPRINGBOK;	R 272 585.23	Non-BEE	NAMA HARDEWARE&T/A BUILT IT: VAN RIEBEEKSTRAAT 16; SPRINGBOK;	R 11 485.00	Non-BEE	NAMA HARDEWARE&T/A BUILT IT: VAN RIEBEEKSTRAAT 16; SPRINGBOK;	R - 182 849.69	Non-BEE
TAFELBERG FURNITURE STORES LTD B: P O Box 155; Bellville;	R 3 319 792.46	Non-BEE	TAFELBERG FURNITURE STORES LTD B: P O Box 155; Bellville;	R -	Non-BEE	TAFELBERG FURNITURE STORES LTD B: P O Box 155; Bellville;	R -3 219 536.46	Non-BEE
BRUNSWICK SOUTH AFRICA LTD: 23 FRICKER ROAD; ILLOVO BOULEVARD; JOHANNESBURG	R -	Non-BEE	BRUNSWICK SOUTH AFRICA LTD: 23 FRICKER ROAD; ILLOVO BOULEVARD; JOHANNESBURG	R -	Non-BEE	BRUNSWICK SOUTH AFRICA LTD: 23 FRICKER ROAD; ILLOVO BOULEVARD; JOHANNESBURG	R 100 000.00	Non-BEE
BUSINESS UNITY SOUTH AFRICA: PO BOX 652807; BENMORE;	R -	Non-BEE	BUSINESS UNITY SOUTH AFRICA: PO BOX 652807; BENMORE;	R -	Non-BEE	BUSINESS UNITY SOUTH AFRICA: PO BOX 652807; BENMORE;	R 100 000.00	Non-BEE
BURDEN & BURDEN BK: P.O.BOX 1033; SPRINGBOK;	R -	Non-BEE	BURDEN & BURDEN BK: P.O.BOX 1033; SPRINGBOK;	R 21 391.91	Non-BEE	BURDEN & BURDEN BK: P.O.BOX 1033; SPRINGBOK;	R 76 948.09	Non-BEE
Acquire Technology Solutions SA: Nelson Mandela Square; 2nd Floor, West Tower, Maude str; Sandown	R 12 465.00	Non-BEE	Acquire Technology Solutions SA: Nelson Mandela Square; 2nd Floor, West Tower, Maude str; Sandown	R 58 693.66	Non-BEE	Acquire Technology Solutions SA: Nelson Mandela Square; 2nd Floor, West Tower, Maude str; Sandown	R 26 334.66	Non-BEE
PSYGRO CONSULTING PSYCHOLOGISTS: PO BOX 868; DURBANVILLE;	R -	Non-BEE	PSYGRO CONSULTING PSYCHOLOGISTS: PO BOX 868; DURBANVILLE;	R -	Non-BEE	PSYGRO CONSULTING PSYCHOLOGISTS: PO BOX 868; DURBANVILLE;	R 97 292.00	Non-BEE
PENKOP KONTRAKTEURS: HOLRIVIER ROAD; VREDENDAL;	R -	Non-BEE	PENKOP KONTRAKTEURS: HOLRIVIER ROAD; VREDENDAL;	R 41 900.00	Non-BEE	PENKOP KONTRAKTEURS: HOLRIVIER ROAD; VREDENDAL;	R 55 150.50	Non-BEE
United Valve Company S. Africa: 44 Harry Street; Robertsham; Johannesburg	R -	Non-BEE	United Valve Company S. Africa: 44 Harry Street; Robertsham; Johannesburg	R 3 672.00	Non-BEE	United Valve Company S. Africa: 44 Harry Street; Robertsham; Johannesburg	R 92 780.60	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
INTELLIGENT GLASS CC T/A P.G. AU: P.O. Box 289; Springbok;	R -	Non-BEE	INTELLIGENT GLASS CC T/A P.G. AU: P.O. Box 289; Springbok;	R 19 769.81	Non-BEE	INTELLIGENT GLASS CC T/A P.G. AU: P.O. Box 289; Springbok;	R 75 903.61	Non-BEE
Bernard V. Bakos: 10 Sandhurst Estate; 101 Empire Place; Sandton	R -	Non-BEE	Bernard V. Bakos: 10 Sandhurst Estate; 101 Empire Place; Sandton	R -	Non-BEE	Bernard V. Bakos: 10 Sandhurst Estate; 101 Empire Place; Sandton	R 95 610.00	Non-BEE
UNIVERSAL STORAGE SYSTEM PTY LTD: 6 KRUGER STREET; STRYDOMPARK; RANDBURG	R -	Non-BEE	UNIVERSAL STORAGE SYSTEM PTY LTD: 6 KRUGER STREET; STRYDOMPARK; RANDBURG	R -	Non-BEE	UNIVERSAL STORAGE SYSTEM PTY LTD: 6 KRUGER STREET; STRYDOMPARK; RANDBURG	R 94 832.78	Non-BEE
MANITOU SA (PTY)LTD.: 122 PLANE RD; SPARTAN; KEMPTON PARK	R -	Non-BEE	MANITOU SA (PTY)LTD.: 122 PLANE RD; SPARTAN; KEMPTON PARK	R -	Non-BEE	MANITOU SA (PTY)LTD.: 122 PLANE RD; SPARTAN; KEMPTON PARK	R 94 541.14	Non-BEE
UBS Executive Development: Carl Cronje Drive; Belville;	R -	Non-BEE	UBS Executive Development: Carl Cronje Drive; Belville;	R -	Non-BEE	UBS Executive Development: Carl Cronje Drive; Belville;	R 94 000.00	Non-BEE
Sylmou Carriers Pty Ltd: CNR of Main + Industry Road; Vredenburg;	R -	Non-BEE	Sylmou Carriers Pty Ltd: CNR of Main + Industry Road; Vredenburg;	R 41 436.40	Non-BEE	Sylmou Carriers Pty Ltd: CNR of Main + Industry Road; Vredenburg;	R 50 972.00	Non-BEE
MACSTEEL FLUID CONTROL A DIV O: UNIT 10 STEELPARK; SYMPHONY WAY; BELVILLE SOUTH	R -	Non-BEE	MACSTEEL FLUID CONTROL A DIV O: UNIT 10 STEELPARK; SYMPHONY WAY; BELVILLE SOUTH	R -	Non-BEE	MACSTEEL FLUID CONTROL A DIV O: UNIT 10 STEELPARK; SYMPHONY WAY; BELVILLE SOUTH	R 91 621.00	Non-BEE
RENTTECH SOUTH AFRICA PTY LTD: 1 MANCHESTER ROAD; WADEVILLE;	R -	Non-BEE	RENTTECH SOUTH AFRICA PTY LTD: 1 MANCHESTER ROAD; WADEVILLE;	R -	Non-BEE	RENTTECH SOUTH AFRICA PTY LTD: 1 MANCHESTER ROAD; WADEVILLE;	R 91 541.76	Non-BEE
Hein Spingies: 3174 Canthum Crescent; Amberfield Ridge, 500 Lenchen Rd; Rooi Huiskraal North X22	R -	Non-BEE	Hein Spingies: 3174 Canthum Crescent; Amberfield Ridge, 500 Lenchen Rd; Rooi Huiskraal North X22	R 82 004.44	Non-BEE	Hein Spingies: 3174 Canthum Crescent; Amberfield Ridge, 500 Lenchen Rd; Rooi Huiskraal North X22	R 8 910.06	Non-BEE
COETHUNDU TRADING BK: Kalkrandstraat 4; Klawer;	R -	Non-BEE	COETHUNDU TRADING BK: Kalkrandstraat 4; Klawer;	R 12 980.00	Non-BEE	COETHUNDU TRADING BK: Kalkrandstraat 4; Klawer;	R 77 180.00	Non-BEE
THERESA VAN ZYL T/A DECOR-D-ZIGN: VOORTREKKER STRAAT 30; VREDENDAL;	R -	Non-BEE	THERESA VAN ZYL T/A DECOR-D-ZIGN: VOORTREKKER STRAAT 30; VREDENDAL;	R -	Non-BEE	THERESA VAN ZYL T/A DECOR-D-ZIGN: VOORTREKKER STRAAT 30; VREDENDAL;	R 89 369.00	Non-BEE
Ultra Control Valves CC: 31 Plantation Rd; Eastleigh, Edenvale; Gauteng	R -	Non-BEE	Ultra Control Valves CC: 31 Plantation Rd; Eastleigh, Edenvale; Gauteng	R -	Non-BEE	Ultra Control Valves CC: 31 Plantation Rd; Eastleigh, Edenvale; Gauteng	R 88 898.25	Non-BEE
T J ELECTRONIC: P.O. Box 20010; Matlosane; Klerksdorp	R -	Non-BEE	T J ELECTRONIC: P.O. Box 20010; Matlosane; Klerksdorp	R -	Non-BEE	T J ELECTRONIC: P.O. Box 20010; Matlosane; Klerksdorp	R 86 913.02	Non-BEE
GESELLSCHAFT fur GERaTEBAU (PTY): 7 VOORTREKKER ROAD; MINALORE NORTH; KRUGERSDORP	R -	Non-BEE	GESELLSCHAFT fur GERaTEBAU (PTY): 7 VOORTREKKER ROAD; MINALORE NORTH; KRUGERSDORP	R 13 277.00	Non-BEE	GESELLSCHAFT fur GERaTEBAU (PTY): 7 VOORTREKKER ROAD; MINALORE NORTH; KRUGERSDORP	R 72 379.53	Non-BEE
KLEINPLASIE GUESTHOUSE: KOEBOEGAS 1; SPRINGBOK;	R -	Non-BEE	KLEINPLASIE GUESTHOUSE: KOEBOEGAS 1; SPRINGBOK;	R -	Non-BEE	KLEINPLASIE GUESTHOUSE: KOEBOEGAS 1; SPRINGBOK;	R 84 580.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
BRINK & VISSER: 4 BORDER STREET; MIDDELPOS; UPINGTON	R -	Non-BEE	BRINK & VISSER: 4 BORDER STREET; MIDDELPOS; UPINGTON	R -	Non-BEE	BRINK & VISSER: 4 BORDER STREET; MIDDELPOS; UPINGTON	R 83 645.00	Non-BEE
S.A. COTTON WASTE MANUFACTURING: P.O. Box 304; Germiston;	R -	Non-BEE	S.A. COTTON WASTE MANUFACTURING: P.O. Box 304; Germiston;	R -	Non-BEE	S.A. COTTON WASTE MANUFACTURING: P.O. Box 304; Germiston;	R 81 250.00	Non-BEE
INSPECTION AND LEADTESTING SERV.: 27 RANGE ROAD; BLACKHEATH; CAPE TOWN, RSA	R -	Non-BEE	INSPECTION AND LEADTESTING SERV.: 27 RANGE ROAD; BLACKHEATH; CAPE TOWN, RSA	R 18 640.00	Non-BEE	INSPECTION AND LEADTESTING SERV.: 27 RANGE ROAD; BLACKHEATH; CAPE TOWN, RSA	R 62 074.13	Non-BEE
AGGENEYS KAFEE: P.O. Box 196; Aggeneys;	R -	Non-BEE	AGGENEYS KAFEE: P.O. Box 196; Aggeneys;	R -	Non-BEE	AGGENEYS KAFEE: P.O. Box 196; Aggeneys;	R 80 206.91	Non-BEE
F B WELDON PR ENG T/A: 10 MARIA LIEVENS ST (ERF 269); DE ZALZE WINELANDS GOLF ESTATE; R44 STELLENBOSCH	R -	Non-BEE	F B WELDON PR ENG T/A: 10 MARIA LIEVENS ST (ERF 269); DE ZALZE WINELANDS GOLF ESTATE; R44 STELLENBOSCH	R 78 801.47	Non-BEE	F B WELDON PR ENG T/A: 10 MARIA LIEVENS ST (ERF 269); DE ZALZE WINELANDS GOLF ESTATE; R44 STELLENBOSCH	R -703.65	Non-BEE
XYLEM WATER SOLUTIONS: UNIT B3 & B4,CTX BUSINESS PARK; FREIGHT AGENT ROAD; AIRPORT INDUSTRIAL,CAPE TOWN	R -	Non-BEE	XYLEM WATER SOLUTIONS: UNIT B3 & B4,CTX BUSINESS PARK; FREIGHT AGENT ROAD; AIRPORT INDUSTRIAL,CAPE TOWN	R -	Non-BEE	XYLEM WATER SOLUTIONS: UNIT B3 & B4,CTX BUSINESS PARK; FREIGHT AGENT ROAD; AIRPORT INDUSTRIAL,CAPE TOWN	R 78 028.00	Non-BEE
HORNE HYDRAULICS CC: 7 BRONZE ROAD; SPARTAN EXT. 16; KEMPTON PARK	R -	Non-BEE	HORNE HYDRAULICS CC: 7 BRONZE ROAD; SPARTAN EXT. 16; KEMPTON PARK	R -	Non-BEE	HORNE HYDRAULICS CC: 7 BRONZE ROAD; SPARTAN EXT. 16; KEMPTON PARK	R 77 331.70	Non-BEE
SOUTHERN PUMPS S.A. CAPE TOWN: P.O. Box 519; Milnerton; Cape Town	R -	Non-BEE	SOUTHERN PUMPS S.A. CAPE TOWN: P.O. Box 519; Milnerton; Cape Town	R -	Non-BEE	SOUTHERN PUMPS S.A. CAPE TOWN: P.O. Box 519; Milnerton; Cape Town	R 77 160.00	Non-BEE
Zyho Truck & Trailer: Inrystraat; Springbok;	R 131 496.80	BEE	Zyho Truck & Trailer: Inrystraat; Springbok;	R 11 707.06	BEE	Zyho Truck & Trailer: Inrystraat; Springbok;	R -66 328.88	BEE
SUN AFRICA TRADING 52 CC: 15 PORSCHE STREET; WIERDA PARK;	R -	Non-BEE	SUN AFRICA TRADING 52 CC: 15 PORSCHE STREET; WIERDA PARK;	R -	Non-BEE	SUN AFRICA TRADING 52 CC: 15 PORSCHE STREET; WIERDA PARK;	R 76 860.00	Non-BEE
MERSEN SOUTH AFRICA (PTY) LTD: 23A MAIL STREET; EPPING;	R -	Non-BEE	MERSEN SOUTH AFRICA (PTY) LTD: 23A MAIL STREET; EPPING;	R -	Non-BEE	MERSEN SOUTH AFRICA (PTY) LTD: 23A MAIL STREET; EPPING;	R 76 787.84	Non-BEE
TRANS FREIGHT INTERNATIONAL: PO BOX 15623; LYTTELTON;	R -	Non-BEE	TRANS FREIGHT INTERNATIONAL: PO BOX 15623; LYTTELTON;	R 23 910.70	Non-BEE	TRANS FREIGHT INTERNATIONAL: PO BOX 15623; LYTTELTON;	R 52 694.56	Non-BEE
C.S.I.R.(16595C) AUCLAND PARK: Private Bag X 28; Auckland Park;	R -	Non-BEE	C.S.I.R.(16595C) AUCLAND PARK: Private Bag X 28; Auckland Park;	R -	Non-BEE	C.S.I.R.(16595C) AUCLAND PARK: Private Bag X 28; Auckland Park;	R 76 560.00	Non-BEE
ENDEMIC VISION ENVIRONMENTAL: AGGENEYS; 8893;	R -	Non-BEE	ENDEMIC VISION ENVIRONMENTAL: AGGENEYS; 8893;	R 29 863.32	Non-BEE	ENDEMIC VISION ENVIRONMENTAL: AGGENEYS; 8893;	R 45 404.22	Non-BEE
MOLOTO BEE VERIFICATIONS CC: 1054 IRVINE ROAD; BLUE VALLEY GOLF ESTATE; CENTURION	R -	BEE	MOLOTO BEE VERIFICATIONS CC: 1054 IRVINE ROAD; BLUE VALLEY GOLF ESTATE; CENTURION	R -	BEE	MOLOTO BEE VERIFICATIONS CC: 1054 IRVINE ROAD; BLUE VALLEY GOLF ESTATE; CENTURION	R 75 000.00	BEE
ANGLO TECHNICAL DIVISION (ATD): P.O. Box 61587; Marshalltown;	R -	Non-BEE	ANGLO TECHNICAL DIVISION (ATD): P.O. Box 61587; Marshalltown;	R 317.92	Non-BEE	ANGLO TECHNICAL DIVISION (ATD): P.O. Box 61587; Marshalltown;	R 74 637.08	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
B.M. GOLF CLUB: PO BOX 4; AGGENEYS;	R -	Non-BEE	B.M. GOLF CLUB: PO BOX 4; AGGENEYS;	R -	Non-BEE	B.M. GOLF CLUB: PO BOX 4; AGGENEYS;	R 74 389.27	Non-BEE
NCS ENGINEERING: NO.24,5TH STREET; VOSTERKROON; NIGEL	R -	Non-BEE	NCS ENGINEERING: NO.24,5TH STREET; VOSTERKROON; NIGEL	R -	Non-BEE	NCS ENGINEERING: NO.24,5TH STREET; VOSTERKROON; NIGEL	R 74 192.42	Non-BEE
MC KINNON CHAIN A MEMBER OF SCAW: P.O. Box 7770; Johannesburg;	R -	Non-BEE	MC KINNON CHAIN A MEMBER OF SCAW: P.O. Box 7770; Johannesburg;	R -	Non-BEE	MC KINNON CHAIN A MEMBER OF SCAW: P.O. Box 7770; Johannesburg;	R 73 371.00	Non-BEE
LIVE UP FARMING CC: GOUDSTRAAT 83; WITBANK;	R -	Non-BEE	LIVE UP FARMING CC: GOUDSTRAAT 83; WITBANK;	R -	Non-BEE	LIVE UP FARMING CC: GOUDSTRAAT 83; WITBANK;	R 72 546.13	Non-BEE
SANDVIK MINING AND CONSTRUCTION: P O Box 25804; East Rand;	R -	Non-BEE	SANDVIK MINING AND CONSTRUCTION: P O Box 25804; East Rand;	R -	Non-BEE	SANDVIK MINING AND CONSTRUCTION: P O Box 25804; East Rand;	R 71 956.30	Non-BEE
SIGNAL AUTO CC: P.O.BOX 572; CONCORDIA;	R -	BEE	SIGNAL AUTO CC: P.O.BOX 572; CONCORDIA;	R 67 305.15	BEE	SIGNAL AUTO CC: P.O.BOX 572; CONCORDIA;	R 4 003.85	BEE
JHB VAN DER MERWE INGELYF: 10 BUITEKANTSTREET; POFADDER;	R -	Non-BEE	JHB VAN DER MERWE INGELYF: 10 BUITEKANTSTREET; POFADDER;	R -	Non-BEE	JHB VAN DER MERWE INGELYF: 10 BUITEKANTSTREET; POFADDER;	R 71 254.87	Non-BEE
Atlas Plastics (Pty) Ltd: 31 Neutron Road; Uraniaville; Klerksdorp	R -	Non-BEE	Atlas Plastics (Pty) Ltd: 31 Neutron Road; Uraniaville; Klerksdorp	R -	Non-BEE	Atlas Plastics (Pty) Ltd: 31 Neutron Road; Uraniaville; Klerksdorp	R 71 155.20	Non-BEE
INGERSOLL RAND CO SA (PTY) LTD: MONTRAEEL DRIVE; AIRPORT INDUSTRIAL; CAPE TOWN	R -	Non-BEE	INGERSOLL RAND CO SA (PTY) LTD: MONTRAEEL DRIVE; AIRPORT INDUSTRIAL; CAPE TOWN	R 204 122.59	Non-BEE	INGERSOLL RAND CO SA (PTY) LTD: MONTRAEEL DRIVE; AIRPORT INDUSTRIAL; CAPE TOWN	R - 133 125.62	Non-BEE
Nebavest 48 (Pty) Ltd: 4 Fenton Rd; Kimberley;	R -	Non-BEE	Nebavest 48 (Pty) Ltd: 4 Fenton Rd; Kimberley;	R -	Non-BEE	Nebavest 48 (Pty) Ltd: 4 Fenton Rd; Kimberley;	R 70 903.00	Non-BEE
HY-JACK CAPE (PTY) LTD (PAARDEN: P.O. Box 506; Paarden Eiland;	R -	Non-BEE	HY-JACK CAPE (PTY) LTD (PAARDEN: P.O. Box 506; Paarden Eiland;	R -	Non-BEE	HY-JACK CAPE (PTY) LTD (PAARDEN: P.O. Box 506; Paarden Eiland;	R 70 002.02	Non-BEE
RELAY SETTINGS (PTY) LTD: 3 BORAX STREET; ALRODE EXT. 7; ALBERTON	R -	Non-BEE	RELAY SETTINGS (PTY) LTD: 3 BORAX STREET; ALRODE EXT. 7; ALBERTON	R -	Non-BEE	RELAY SETTINGS (PTY) LTD: 3 BORAX STREET; ALRODE EXT. 7; ALBERTON	R 70 000.00	Non-BEE
EDWARD NATHAN SONNENBERGS INC: 150 WEST STREET, SANDOWN; SANDTON; JOHANNESBURG	R -	Non-BEE	EDWARD NATHAN SONNENBERGS INC: 150 WEST STREET, SANDOWN; SANDTON; JOHANNESBURG	R -	Non-BEE	EDWARD NATHAN SONNENBERGS INC: 150 WEST STREET, SANDOWN; SANDTON; JOHANNESBURG	R 69 568.35	Non-BEE
SEPORO RAILWAY CONSULTANTS (PTY): PO BOX 61067; MARSHALLTOWN;	R -	Non-BEE	SEPORO RAILWAY CONSULTANTS (PTY): PO BOX 61067; MARSHALLTOWN;	R 11 251.25	Non-BEE	SEPORO RAILWAY CONSULTANTS (PTY): PO BOX 61067; MARSHALLTOWN;	R 58 225.85	Non-BEE
PRISM INTER AFRICA: 85 MAIN ROAD; BENONI EXT 10;	R -	Non-BEE	PRISM INTER AFRICA: 85 MAIN ROAD; BENONI EXT 10;	R -	Non-BEE	PRISM INTER AFRICA: 85 MAIN ROAD; BENONI EXT 10;	R 68 300.00	Non-BEE
BOSAL AFRIKA (PTY) LTD: CNR ROOIBOK & KOEDOE STREET; KOEDOESPOORT INDUSTRIAL SITES;	R -	Non-BEE	BOSAL AFRIKA (PTY) LTD: CNR ROOIBOK & KOEDOE STREET; KOEDOESPOORT INDUSTRIAL SITES;	R -	Non-BEE	BOSAL AFRIKA (PTY) LTD: CNR ROOIBOK & KOEDOE STREET; KOEDOESPOORT INDUSTRIAL SITES;	R 67 355.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
SAFICON INDUSTRIAL EQUIPMENT: SWAKARASTRAAT 6,INDUSTR.GEBIED; INDUSTRIAL AREA; UPINGTON	R -	Non-BEE	SAFICON INDUSTRIAL EQUIPMENT: SWAKARASTRAAT 6,INDUSTR.GEBIED; INDUSTRIAL AREA; UPINGTON	R 53 011.88	Non-BEE	SAFICON INDUSTRIAL EQUIPMENT: SWAKARASTRAAT 6,INDUSTR.GEBIED; INDUSTRIAL AREA; UPINGTON	R 14 204.12	Non-BEE
VARI-GRO: VOORTREKKERSTREET; SPRINGBOK;	R -	Non-BEE	VARI-GRO: VOORTREKKERSTREET; SPRINGBOK;	R -	Non-BEE	VARI-GRO: VOORTREKKERSTREET; SPRINGBOK;	R 66 996.00	Non-BEE
LABOTEC (PTY) LTD: 21 BAVARIA AVENUE; RANDJESPAK; MIDRAND	R -	Non-BEE	LABOTEC (PTY) LTD: 21 BAVARIA AVENUE; RANDJESPAK; MIDRAND	R -	Non-BEE	LABOTEC (PTY) LTD: 21 BAVARIA AVENUE; RANDJESPAK; MIDRAND	R 66 529.10	Non-BEE
Access Freight Africa: Shed 10, Off Martzburg Street; Kaserne; Johannesburg	R -	Non-BEE	Access Freight Africa: Shed 10, Off Martzburg Street; Kaserne; Johannesburg	R -	Non-BEE	Access Freight Africa: Shed 10, Off Martzburg Street; Kaserne; Johannesburg	R 66 197.00	Non-BEE
BRIGHT LIGHTS POFADDER: FRANCOIS VISSER STRAAT 239; POFADDER;	R -	Non-BEE	BRIGHT LIGHTS POFADDER: FRANCOIS VISSER STRAAT 239; POFADDER;	R -	Non-BEE	BRIGHT LIGHTS POFADDER: FRANCOIS VISSER STRAAT 239; POFADDER;	R 65 670.00	Non-BEE
Cape Lime (Pty) Ltd: Karoovlakte; Vredendal;	R -	BEE	Cape Lime (Pty) Ltd: Karoovlakte; Vredendal;	R -	BEE	Cape Lime (Pty) Ltd: Karoovlakte; Vredendal;	R 64 806.39	BEE
CONVEYOR SAFETY & TOOL (PTY) LTD: P.O. Box 10276; Beaconsfield;	R -	Non-BEE	CONVEYOR SAFETY & TOOL (PTY) LTD: P.O. Box 10276; Beaconsfield;	R -	Non-BEE	CONVEYOR SAFETY & TOOL (PTY) LTD: P.O. Box 10276; Beaconsfield;	R 64 710.84	Non-BEE
CE AT UP TRUST: GRADUATE CENTRE UP MAIN CAMPUS; C/O LUNNON & HEROLD STREETS; HATFIELD	R -	Non-BEE	CE AT UP TRUST: GRADUATE CENTRE UP MAIN CAMPUS; C/O LUNNON & HEROLD STREETS; HATFIELD	R -	Non-BEE	CE AT UP TRUST: GRADUATE CENTRE UP MAIN CAMPUS; C/O LUNNON & HEROLD STREETS; HATFIELD	R 64 625.00	Non-BEE
SALDANHA BAY WATER QUALITY TRUST: PO BOX 446; LANGEBAAN;	R -	Non-BEE	SALDANHA BAY WATER QUALITY TRUST: PO BOX 446; LANGEBAAN;	R -	Non-BEE	SALDANHA BAY WATER QUALITY TRUST: PO BOX 446; LANGEBAAN;	R 64 200.00	Non-BEE
VAN DEIJL JEWELLERS PTY LTD: SHOP 42; SOMERSET MALL; SOMERSET WES	R -	Non-BEE	VAN DEIJL JEWELLERS PTY LTD: SHOP 42; SOMERSET MALL; SOMERSET WES	R -	Non-BEE	VAN DEIJL JEWELLERS PTY LTD: SHOP 42; SOMERSET MALL; SOMERSET WES	R 63 131.58	Non-BEE
KENTZ TRAINING SOLUTIONS PTY LTD: PO BOX 3504; VANDERBIJLPARK;	R -	Non-BEE	KENTZ TRAINING SOLUTIONS PTY LTD: PO BOX 3504; VANDERBIJLPARK;	R -	Non-BEE	KENTZ TRAINING SOLUTIONS PTY LTD: PO BOX 3504; VANDERBIJLPARK;	R 63 059.84	Non-BEE
LEMAR CONSULTING: PO BOX 5240; WELTEVREDEN PARK;	R -	Non-BEE	LEMAR CONSULTING: PO BOX 5240; WELTEVREDEN PARK;	R -	Non-BEE	LEMAR CONSULTING: PO BOX 5240; WELTEVREDEN PARK;	R 63 000.00	Non-BEE
LANDDROS SPRINGBOK: PRIVATE BAG X3; SPRINGBOK;	R -	Non-BEE	LANDDROS SPRINGBOK: PRIVATE BAG X3; SPRINGBOK;	R -	Non-BEE	LANDDROS SPRINGBOK: PRIVATE BAG X3; SPRINGBOK;	R 62 920.00	Non-BEE
Music Profile Management: Nottingham Estate Road 4; Faerie Glen; Pretoria	R -	Non-BEE	Music Profile Management: Nottingham Estate Road 4; Faerie Glen; Pretoria	R -	Non-BEE	Music Profile Management: Nottingham Estate Road 4; Faerie Glen; Pretoria	R 62 850.00	Non-BEE
COMMERCE EDGE SOUTH AFRICA PTY: 20 Santa Monica Boulevard; Centurion Golf Estate; Centurion	R -	Non-BEE	COMMERCE EDGE SOUTH AFRICA PTY: 20 Santa Monica Boulevard; Centurion Golf Estate; Centurion	R 69 488.81	Non-BEE	COMMERCE EDGE SOUTH AFRICA PTY: 20 Santa Monica Boulevard; Centurion Golf Estate; Centurion	R -6 908.81	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
ALEXANDER FORBES LIFE LIMITED: 61 KATHERINE STREET; SANDOWN;	R -	Non-BEE	ALEXANDER FORBES LIFE LIMITED: 61 KATHERINE STREET; SANDOWN;	R -	Non-BEE	ALEXANDER FORBES LIFE LIMITED: 61 KATHERINE STREET; SANDOWN;	R 62 508.56	Non-BEE
IQ OIL FILTRATION CC: UNIT 6 TROIKA INDUSTRIAL PARK; cnr ESSEX & KOORNHOF STRAAT; MEADOWDALE	R -	Non-BEE	IQ OIL FILTRATION CC: UNIT 6 TROIKA INDUSTRIAL PARK; cnr ESSEX & KOORNHOF STRAAT; MEADOWDALE	R 1 950.00	Non-BEE	IQ OIL FILTRATION CC: UNIT 6 TROIKA INDUSTRIAL PARK; cnr ESSEX & KOORNHOF STRAAT; MEADOWDALE	R 60 519.00	Non-BEE
Vredendal Beer Distributors: Cnr Bult & Voortrekker Rds; Vredendal;	R -	Non-BEE	Vredendal Beer Distributors: Cnr Bult & Voortrekker Rds; Vredendal;	R -	Non-BEE	Vredendal Beer Distributors: Cnr Bult & Voortrekker Rds; Vredendal;	R 62 272.95	Non-BEE
MEDI-CLINIC GROUP OF HOSPITALS: PO BOX 2941; UPINGTON;	R -	Non-BEE	MEDI-CLINIC GROUP OF HOSPITALS: PO BOX 2941; UPINGTON;	R -	Non-BEE	MEDI-CLINIC GROUP OF HOSPITALS: PO BOX 2941; UPINGTON;	R 61 022.27	Non-BEE
CONTROL VALVE TECHNOLOGY CC: 6 DAYTONA STREET; KILLANEY GARDEN;	R -	Non-BEE	CONTROL VALVE TECHNOLOGY CC: 6 DAYTONA STREET; KILLANEY GARDEN;	R 13 694.15	Non-BEE	CONTROL VALVE TECHNOLOGY CC: 6 DAYTONA STREET; KILLANEY GARDEN;	R 47 074.85	Non-BEE
Open House Management: 77 Dr James Moroka Avenue; Potchefstroom;	R -	Non-BEE	Open House Management: 77 Dr James Moroka Avenue; Potchefstroom;	R -	Non-BEE	Open House Management: 77 Dr James Moroka Avenue; Potchefstroom;	R 60 600.00	Non-BEE
DEI GRATIA TRAN. & DEV. SOLUTION: 16 Tawny Ridge; 25 Challenger Street; Steiltes Nelspruit	R -	Non-BEE	DEI GRATIA TRAN. & DEV. SOLUTION: 16 Tawny Ridge; 25 Challenger Street; Steiltes Nelspruit	R -	Non-BEE	DEI GRATIA TRAN. & DEV. SOLUTION: 16 Tawny Ridge; 25 Challenger Street; Steiltes Nelspruit	R 60 589.81	Non-BEE
BE SAFE PARAMEDICAL CC: FUTURA 15,UNIT 7; BARKROAD; STEENBERG	R 450.00	Non-BEE	BE SAFE PARAMEDICAL CC: FUTURA 15,UNIT 7; BARKROAD; STEENBERG	R -	Non-BEE	BE SAFE PARAMEDICAL CC: FUTURA 15,UNIT 7; BARKROAD; STEENBERG	R 59 550.00	Non-BEE
THERMO RAMSEY: P.O. Box 100; Edenvale;	R -	Non-BEE	THERMO RAMSEY: P.O. Box 100; Edenvale;	R -	Non-BEE	THERMO RAMSEY: P.O. Box 100; Edenvale;	R 60 000.00	Non-BEE
Pro Linear Dynamics: 2 Stirling Street; Paarl; Western Cape	R -	Non-BEE	Pro Linear Dynamics: 2 Stirling Street; Paarl; Western Cape	R -	Non-BEE	Pro Linear Dynamics: 2 Stirling Street; Paarl; Western Cape	R 59 500.00	Non-BEE
ENVIRONMENTAL LEGAL CONCEPTS CC: UNIT 7; BEYERS OFFICE PARK; BOSBOK ROAD ,RANDPARK RIDGE	R -	Non-BEE	ENVIRONMENTAL LEGAL CONCEPTS CC: UNIT 7; BEYERS OFFICE PARK; BOSBOK ROAD ,RANDPARK RIDGE	R 12 870.00	Non-BEE	ENVIRONMENTAL LEGAL CONCEPTS CC: UNIT 7; BEYERS OFFICE PARK; BOSBOK ROAD ,RANDPARK RIDGE	R 45 980.00	Non-BEE
KALAHARI STRETCH TENTS: 2ND AVENUE NO 4; KAKAMAS;	R -	Non-BEE	KALAHARI STRETCH TENTS: 2ND AVENUE NO 4; KAKAMAS;	R 17 875.55	Non-BEE	KALAHARI STRETCH TENTS: 2ND AVENUE NO 4; KAKAMAS;	R 40 814.45	Non-BEE
NOLTE'S ENGINEERING: VAN RIEBEECK STRAAT; SPRINGBOK;	R -	Non-BEE	NOLTE'S ENGINEERING: VAN RIEBEECK STRAAT; SPRINGBOK;	R 3 423.72	Non-BEE	NOLTE'S ENGINEERING: VAN RIEBEECK STRAAT; SPRINGBOK;	R 54 910.28	Non-BEE
CN Business Furniture: 49 Long Street; ; Kimberley	R -	Non-BEE	CN Business Furniture: 49 Long Street; ; Kimberley	R -	Non-BEE	CN Business Furniture: 49 Long Street; ; Kimberley	R 57 950.15	Non-BEE
CM ELEKTRIES: 26A HEUNINGKLIP ROAD; VREDENBURG;	R -	Non-BEE	CM ELEKTRIES: 26A HEUNINGKLIP ROAD; VREDENBURG;	R 6 650.00	Non-BEE	CM ELEKTRIES: 26A HEUNINGKLIP ROAD; VREDENBURG;	R 51 132.29	Non-BEE
CHRIS KRIEK: 10 DIEDRIKKIE AVENUE; ROOIHUISKRAAL NORTH; CENTURION	R -	Non-BEE	CHRIS KRIEK: 10 DIEDRIKKIE AVENUE; ROOIHUISKRAAL NORTH; CENTURION	R -	Non-BEE	CHRIS KRIEK: 10 DIEDRIKKIE AVENUE; ROOIHUISKRAAL NORTH; CENTURION	R 57 250.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
Eagle Eye Bird Control Trust: Unit 16; SAX Centre; Muscat Street; Saxenburg Park 1; Kuilsriver	R -	Non-BEE	Eagle Eye Bird Control Trust: Unit 16; SAX Centre; Muscat Street; Saxenburg Park 1; Kuilsriver	R 170.00	Non-BEE	Eagle Eye Bird Control Trust: Unit 16; SAX Centre; Muscat Street; Saxenburg Park 1; Kuilsriver	R 56 925.00	Non-BEE
REMCO INDUSTRIES (PTY) LTD: KRUGERSTRAAT NO.8; 2nd FLOOR COLAND BUILDING; KRUGERSDORP	R -	BEE	REMCO INDUSTRIES (PTY) LTD: KRUGERSTRAAT NO.8; 2nd FLOOR COLAND BUILDING; KRUGERSDORP	R -	BEE	REMCO INDUSTRIES (PTY) LTD: KRUGERSTRAAT NO.8; 2nd FLOOR COLAND BUILDING; KRUGERSDORP	R 56 981.70	BEE
RIGGELECT WORKS CC: 183 PAMPAS STREET; OKIEP;	R -	Non-BEE	RIGGELECT WORKS CC: 183 PAMPAS STREET; OKIEP;	R 1 231.20	Non-BEE	RIGGELECT WORKS CC: 183 PAMPAS STREET; OKIEP;	R 54 908.80	Non-BEE
AXIAL CONSULTING CC: 24 ASCOT ROAD; KENILWORTH; CAPE TOWN	R -	Non-BEE	AXIAL CONSULTING CC: 24 ASCOT ROAD; KENILWORTH; CAPE TOWN	R 25 650.00	Non-BEE	AXIAL CONSULTING CC: 24 ASCOT ROAD; KENILWORTH; CAPE TOWN	R 29 990.00	Non-BEE
BECKER MINING AFRICA: PO Box 124185; Alrode; Alberton	R -	BEE	BECKER MINING AFRICA: PO Box 124185; Alrode; Alberton	R -	BEE	BECKER MINING AFRICA: PO Box 124185; Alrode; Alberton	R 55 104.00	BEE
UNITED ASSOCIATION OF SA: P. O. BOX 565; FLORIDA;	R -	Non-BEE	UNITED ASSOCIATION OF SA: P. O. BOX 565; FLORIDA;	R -	Non-BEE	UNITED ASSOCIATION OF SA: P. O. BOX 565; FLORIDA;	R 54 641.55	Non-BEE
BOISS INTERNATIONAL (PTY)LTD: 53 UPPER RECREATION ROAD; FISH HOEK;	R -	Non-BEE	BOISS INTERNATIONAL (PTY)LTD: 53 UPPER RECREATION ROAD; FISH HOEK;	R -	Non-BEE	BOISS INTERNATIONAL (PTY)LTD: 53 UPPER RECREATION ROAD; FISH HOEK;	R 54 400.00	Non-BEE
ZAK STEEL (A DIV. OF CLYDE INDUS: P.O. Box 1105; Springs;	R -	BEE	ZAK STEEL (A DIV. OF CLYDE INDUS: P.O. Box 1105; Springs;	R -	BEE	ZAK STEEL (A DIV. OF CLYDE INDUS: P.O. Box 1105; Springs;	R 54 397.84	BEE
AKLIN CARBIDE (PTY) LTD: 9 TELFORD STREET; DUNCANVILLE; VEREENIGING	R -	Non-BEE	AKLIN CARBIDE (PTY) LTD: 9 TELFORD STREET; DUNCANVILLE; VEREENIGING	R -	Non-BEE	AKLIN CARBIDE (PTY) LTD: 9 TELFORD STREET; DUNCANVILLE; VEREENIGING	R 54 300.00	Non-BEE
Van Heerden Solar Power CC: Corner of Muscadel & Barlinkastr; Montagu;	R -	Non-BEE	Van Heerden Solar Power CC: Corner of Muscadel & Barlinkastr; Montagu;	R -	Non-BEE	Van Heerden Solar Power CC: Corner of Muscadel & Barlinkastr; Montagu;	R 53 662.00	Non-BEE
CD VENTER LANDMETER: 22 UNIE STREET; SPRINGBOK;	R -	Non-BEE	CD VENTER LANDMETER: 22 UNIE STREET; SPRINGBOK;	R 44 002.10	Non-BEE	CD VENTER LANDMETER: 22 UNIE STREET; SPRINGBOK;	R 8 864.91	Non-BEE
NH3 REFRIGERATION CC: The Castle; 36 3rd Street; Maitland	R -	BEE	NH3 REFRIGERATION CC: The Castle; 36 3rd Street; Maitland	R 2 640.00	BEE	NH3 REFRIGERATION CC: The Castle; 36 3rd Street; Maitland	R 49 805.58	BEE
SWIFT INDUSTRIAL SUPPLY CO. (PTY: P.O. Box 23; Germiston;	R -	Non-BEE	SWIFT INDUSTRIAL SUPPLY CO. (PTY: P.O. Box 23; Germiston;	R -	Non-BEE	SWIFT INDUSTRIAL SUPPLY CO. (PTY: P.O. Box 23; Germiston;	R 51 962.01	Non-BEE
PRO MAX SOUND: P O BOX 517; SPRINGBOK;	R -	Non-BEE	PRO MAX SOUND: P O BOX 517; SPRINGBOK;	R -	Non-BEE	PRO MAX SOUND: P O BOX 517; SPRINGBOK;	R 51 781.38	Non-BEE
CORFLEX ENGINEERING (PTY) LTD: 18 RAIL ROAD; ROODEKOP; GERMISTON	R -	Non-BEE	CORFLEX ENGINEERING (PTY) LTD: 18 RAIL ROAD; ROODEKOP; GERMISTON	R -	Non-BEE	CORFLEX ENGINEERING (PTY) LTD: 18 RAIL ROAD; ROODEKOP; GERMISTON	R 51 720.00	Non-BEE
FIRST AFRICA PUMPS (PTY)LTD: 18 BAUXITE BAY; ALTON; RICHARDS BAY	R -	Non-BEE	FIRST AFRICA PUMPS (PTY)LTD: 18 BAUXITE BAY; ALTON; RICHARDS BAY	R -	Non-BEE	FIRST AFRICA PUMPS (PTY)LTD: 18 BAUXITE BAY; ALTON; RICHARDS BAY	R 51 440.15	Non-BEE
Leoni Cornelissen: 5 Du Plessis Street; SPRINGBOK;	R -	Non-BEE	Leoni Cornelissen: 5 Du Plessis Street; SPRINGBOK;	R -	Non-BEE	Leoni Cornelissen: 5 Du Plessis Street; SPRINGBOK;	R 51 336.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
HAYVIC BK T/A HAYCO TRANSPORT: INRY STREET; INDUSTRIAL AREA; SPRINGBOK	R -	Non-BEE	HAYVIC BK T/A HAYCO TRANSPORT: INRY STREET; INDUSTRIAL AREA; SPRINGBOK	R -	Non-BEE	HAYVIC BK T/A HAYCO TRANSPORT: INRY STREET; INDUSTRIAL AREA; SPRINGBOK	R 51 300.00	Non-BEE
DECOM TECHNICAL SERVICES CC: UNIT 6 AKRUPTA PARK; 375 BERGVLEI ROAD; WADEVILLE	R -	Non-BEE	DECOM TECHNICAL SERVICES CC: UNIT 6 AKRUPTA PARK; 375 BERGVLEI ROAD; WADEVILLE	R -	Non-BEE	DECOM TECHNICAL SERVICES CC: UNIT 6 AKRUPTA PARK; 375 BERGVLEI ROAD; WADEVILLE	R 51 150.00	Non-BEE
SABS Commercial (Pty) Ltd: 1 Dr Lategan road; Groenkloof; Pretoria	R -	Non-BEE	SABS Commercial (Pty) Ltd: 1 Dr Lategan road; Groenkloof; Pretoria	R 10 158.25	Non-BEE	SABS Commercial (Pty) Ltd: 1 Dr Lategan road; Groenkloof; Pretoria	R 40 937.75	Non-BEE
PICKFORDS REMOVALS SA PTY LTD: SKILDERSTREET; SILVERTONDALE; PRETORIA	R -	Non-BEE	PICKFORDS REMOVALS SA PTY LTD: SKILDERSTREET; SILVERTONDALE; PRETORIA	R 1 150.00	Non-BEE	PICKFORDS REMOVALS SA PTY LTD: SKILDERSTREET; SILVERTONDALE; PRETORIA	R 49 540.00	Non-BEE
CARLTONVILLE HYDRAULICS (PTY) LT: P.O. Box 6219; Oberholzer;	R -	Non-BEE	CARLTONVILLE HYDRAULICS (PTY) LT: P.O. Box 6219; Oberholzer;	R -	Non-BEE	CARLTONVILLE HYDRAULICS (PTY) LT: P.O. Box 6219; Oberholzer;	R 50 158.18	Non-BEE
INTERNATIONAL ZINC ASSOCIATION: EXXARO CORPORATE CENTRE; ROGER DYASON ROAD; PRETORIA WEST	R -	Non-BEE	INTERNATIONAL ZINC ASSOCIATION: EXXARO CORPORATE CENTRE; ROGER DYASON ROAD; PRETORIA WEST	R -	Non-BEE	INTERNATIONAL ZINC ASSOCIATION: EXXARO CORPORATE CENTRE; ROGER DYASON ROAD; PRETORIA WEST	R 50 000.00	Non-BEE
HARTMUT WINKLER: 131 SIXTEENTH STREET; PARKHURST; JOHANNESBURG	R -	Non-BEE	HARTMUT WINKLER: 131 SIXTEENTH STREET; PARKHURST; JOHANNESBURG	R -	Non-BEE	HARTMUT WINKLER: 131 SIXTEENTH STREET; PARKHURST; JOHANNESBURG	R 49 550.00	Non-BEE
AINSWORTH ENGINEERING WELKOMCC: 65-3RD STREET; INDUSTRIA; WELKOM	R 12 540.60	Non-BEE	AINSWORTH ENGINEERING WELKOMCC: 65-3RD STREET; INDUSTRIA; WELKOM	R -	Non-BEE	AINSWORTH ENGINEERING WELKOMCC: 65-3RD STREET; INDUSTRIA; WELKOM	R 37 007.40	Non-BEE
SPRING GREEN TRAITD.T/A UP.CANVAS: LABORIASINGEL 22; UPINGTON;	R -	Non-BEE	SPRING GREEN TRAITD.T/A UP.CANVAS: LABORIASINGEL 22; UPINGTON;	R -	Non-BEE	SPRING GREEN TRAITD.T/A UP.CANVAS: LABORIASINGEL 22; UPINGTON;	R 49 225.00	Non-BEE
Clariant Southern Africa Pty ltd: 19 van Eck street; Chamdor; Krugersdorp	R -	Non-BEE	Clariant Southern Africa Pty ltd: 19 van Eck street; Chamdor; Krugersdorp	R -	Non-BEE	Clariant Southern Africa Pty ltd: 19 van Eck street; Chamdor; Krugersdorp	R 49 050.00	Non-BEE
GLOBAL PROSPECTUS TRAINING: 7 PARAMOUNT PLACE; NORTHDAL; PIETERMARITZBURG	R -	BEE	GLOBAL PROSPECTUS TRAINING: 7 PARAMOUNT PLACE; NORTHDAL; PIETERMARITZBURG	R 8 640.00	BEE	GLOBAL PROSPECTUS TRAINING: 7 PARAMOUNT PLACE; NORTHDAL; PIETERMARITZBURG	R 39 225.80	BEE
SANGROVE HUMAN RESOURCE CONSULT: 26 MEWS 1; 67 ROSMEAD AVENUE; KENILWORTH	R -	Non-BEE	SANGROVE HUMAN RESOURCE CONSULT: 26 MEWS 1; 67 ROSMEAD AVENUE; KENILWORTH	R -	Non-BEE	SANGROVE HUMAN RESOURCE CONSULT: 26 MEWS 1; 67 ROSMEAD AVENUE; KENILWORTH	R 47 805.33	Non-BEE
CLARKLIFT SOUTH AFRICA (PTY) LTD: P.O. Box 380; Isando;	R -	Non-BEE	CLARKLIFT SOUTH AFRICA (PTY) LTD: P.O. Box 380; Isando;	R -	Non-BEE	CLARKLIFT SOUTH AFRICA (PTY) LTD: P.O. Box 380; Isando;	R 47 176.42	Non-BEE
CSHELL 54 (PTY) LTD T/A TENNAT W: UNIT 26, EAST PRIME PARK; MONTAGUE GARDENS; CAPE TOWN	R -	Non-BEE	CSHELL 54 (PTY) LTD T/A TENNAT W: UNIT 26, EAST PRIME PARK; MONTAGUE GARDENS; CAPE TOWN	R -	Non-BEE	CSHELL 54 (PTY) LTD T/A TENNAT W: UNIT 26, EAST PRIME PARK; MONTAGUE GARDENS; CAPE TOWN	R 47 169.18	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
NAMAQUALAND CAMPUS: P O BOX 88; OKIEP;	R -	Non-BEE	NAMAQUALAND CAMPUS: P O BOX 88; OKIEP;	R -	Non-BEE	NAMAQUALAND CAMPUS: P O BOX 88; OKIEP;	R 47 008.00	Non-BEE
Siemag Tecberg (PTY) LTD: Unit 15, Lakeview Business Park; Yaldwyn rd, Jet Park; Boksburg	R -	Non-BEE	Siemag Tecberg (PTY) LTD: Unit 15, Lakeview Business Park; Yaldwyn rd, Jet Park; Boksburg	R 19 183.80	Non-BEE	Siemag Tecberg (PTY) LTD: Unit 15, Lakeview Business Park; Yaldwyn rd, Jet Park; Boksburg	R 27 590.20	Non-BEE
G4S SECURE SOLUTIONS SA (PTY)LTD: 1209 SCHOEMAN STREET; HATFIELD; PRETORIA	R -	Non-BEE	G4S SECURE SOLUTIONS SA (PTY)LTD: 1209 SCHOEMAN STREET; HATFIELD; PRETORIA	R 3 658.03	Non-BEE	G4S SECURE SOLUTIONS SA (PTY)LTD: 1209 SCHOEMAN STREET; HATFIELD; PRETORIA	R 42 706.97	Non-BEE
ORANGE MOTHER MINING CC: DISA STRAAT 497; PELLA;	R -	BEE	ORANGE MOTHER MINING CC: DISA STRAAT 497; PELLA;	R 8 875.00	BEE	ORANGE MOTHER MINING CC: DISA STRAAT 497; PELLA;	R 37 299.40	BEE
ALGOA OIL & PIPELINE SERVICES (P: P.O BOX 1916; PORT ELIZABETH;	R -	Non-BEE	ALGOA OIL & PIPELINE SERVICES (P: P.O BOX 1916; PORT ELIZABETH;	R -	Non-BEE	ALGOA OIL & PIPELINE SERVICES (P: P.O BOX 1916; PORT ELIZABETH;	R 46 094.40	Non-BEE
ANGLOGOLD ASHANTI LIMITED: WEST WITS MAIN OFFICE; DISTRICT CERLETONING;	R -	Non-BEE	ANGLOGOLD ASHANTI LIMITED: WEST WITS MAIN OFFICE; DISTRICT CERLETONING;	R -	Non-BEE	ANGLOGOLD ASHANTI LIMITED: WEST WITS MAIN OFFICE; DISTRICT CERLETONING;	R 45 300.00	Non-BEE
GOLD FIELDS SHARED SERVICES PTY: PRIVATE BAG X11; WESTONARIA;	R -	Non-BEE	GOLD FIELDS SHARED SERVICES PTY: PRIVATE BAG X11; WESTONARIA;	R 3 100.00	Non-BEE	GOLD FIELDS SHARED SERVICES PTY: PRIVATE BAG X11; WESTONARIA;	R 41 914.00	Non-BEE
NAMA AUTO REPAIRS AND SERVICES C: P.O. Box 560; Springbok;	R -	Non-BEE	NAMA AUTO REPAIRS AND SERVICES C: P.O. Box 560; Springbok;	R 46 200.00	Non-BEE	NAMA AUTO REPAIRS AND SERVICES C: P.O. Box 560; Springbok;	R -1 501.56	Non-BEE
MINING & TECHNICAL PRODUCTS: P.O. Box 835; Kimberley;	R -	Non-BEE	MINING & TECHNICAL PRODUCTS: P.O. Box 835; Kimberley;	R -	Non-BEE	MINING & TECHNICAL PRODUCTS: P.O. Box 835; Kimberley;	R 44 650.00	Non-BEE
MOUNTAIN VIEW GUEST HOUSE: 2 OVERBERG; SPRINGBOK;	R -	Non-BEE	MOUNTAIN VIEW GUEST HOUSE: 2 OVERBERG; SPRINGBOK;	R -	Non-BEE	MOUNTAIN VIEW GUEST HOUSE: 2 OVERBERG; SPRINGBOK;	R 44 256.10	Non-BEE
ONE TIME ENGINEERING CC: 373 Duine Street; Pella;	R -	Non-BEE	ONE TIME ENGINEERING CC: 373 Duine Street; Pella;	R 167 430.50	Non-BEE	ONE TIME ENGINEERING CC: 373 Duine Street; Pella;	R - 123 407.50	Non-BEE
CHRIS BREEN: 35 AANDWIND STREET; KIRSTENHOF;	R -	BEE	CHRIS BREEN: 35 AANDWIND STREET; KIRSTENHOF;	R -	BEE	CHRIS BREEN: 35 AANDWIND STREET; KIRSTENHOF;	R 44 000.00	BEE
UNIVERSITY OF THE WITWATERSRAND: PRIVATE BAG 3; WITS; SOUTH AFRICA	R -	Non-BEE	UNIVERSITY OF THE WITWATERSRAND: PRIVATE BAG 3; WITS; SOUTH AFRICA	R 9 000.00	Non-BEE	UNIVERSITY OF THE WITWATERSRAND: PRIVATE BAG 3; WITS; SOUTH AFRICA	R 34 705.00	Non-BEE
AFROX SAFETY (Pty) Ltd.: 23 WEBBER STREET; SELBY; JOHANNESBURG	R -	Non-BEE	AFROX SAFETY (Pty) Ltd.: 23 WEBBER STREET; SELBY; JOHANNESBURG	R 350.00	Non-BEE	AFROX SAFETY (Pty) Ltd.: 23 WEBBER STREET; SELBY; JOHANNESBURG	R 43 259.40	Non-BEE
ASTROTECH TRAINING (PTY) LTD: PRIVATE BAG X 80500; HOUGHTON;	R -	Non-BEE	ASTROTECH TRAINING (PTY) LTD: PRIVATE BAG X 80500; HOUGHTON;	R -	Non-BEE	ASTROTECH TRAINING (PTY) LTD: PRIVATE BAG X 80500; HOUGHTON;	R 43 551.50	Non-BEE
CROSSROADS DISTRIBUTION PTY LTD: P O BOX 8807; EDENGLLEN;	R -	BEE	CROSSROADS DISTRIBUTION PTY LTD: P O BOX 8807; EDENGLLEN;	R -	BEE	CROSSROADS DISTRIBUTION PTY LTD: P O BOX 8807; EDENGLLEN;	R 42 974.37	BEE
MASSBUILD T/A BUILDERS TRADE DEP: P.O. Box 150; Springbok;	R -	Non-BEE	MASSBUILD T/A BUILDERS TRADE DEP: P.O. Box 150; Springbok;	R -	Non-BEE	MASSBUILD T/A BUILDERS TRADE DEP: P.O. Box 150; Springbok;	R 42 776.84	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
CHEMSERVE SYSTEMS (PTY) LTD: P.O. Box 123; Eppindust;	R -	Non-BEE	CHEMSERVE SYSTEMS (PTY) LTD: P.O. Box 123; Eppindust;	R -	Non-BEE	CHEMSERVE SYSTEMS (PTY) LTD: P.O. Box 123; Eppindust;	R 42 700.00	Non-BEE
ALEC CAMERON & ASSOCIATES: 115 SWART STREET; KEMPTON PARK;	R -	Non-BEE	ALEC CAMERON & ASSOCIATES: 115 SWART STREET; KEMPTON PARK;	R -	Non-BEE	ALEC CAMERON & ASSOCIATES: 115 SWART STREET; KEMPTON PARK;	R 42 340.00	Non-BEE
BUILDERS TRADE DEPO: 79 Zending Street; Rustenburg;	R -	Non-BEE	BUILDERS TRADE DEPO: 79 Zending Street; Rustenburg;	R -	Non-BEE	BUILDERS TRADE DEPO: 79 Zending Street; Rustenburg;	R 42 159.30	Non-BEE
UNISA: Private Bag X6094; KIMBERLEY;	R -	Non-BEE	UNISA: Private Bag X6094; KIMBERLEY;	R -	Non-BEE	UNISA: Private Bag X6094; KIMBERLEY;	R 42 070.00	Non-BEE
MIKE'S SPORTS: P.O. Box 142; CAPE TOWN;	R -	Non-BEE	MIKE'S SPORTS: P.O. Box 142; CAPE TOWN;	R -	Non-BEE	MIKE'S SPORTS: P.O. Box 142; CAPE TOWN;	R 41 473.70	Non-BEE
MERCO INDUSTRIES (PTY) LTD: 48 GEOFFREY STREET; MERCIO HOUSE; ROODEPOORT	R -	Non-BEE	MERCO INDUSTRIES (PTY) LTD: 48 GEOFFREY STREET; MERCIO HOUSE; ROODEPOORT	R -	Non-BEE	MERCO INDUSTRIES (PTY) LTD: 48 GEOFFREY STREET; MERCIO HOUSE; ROODEPOORT	R 41 125.00	Non-BEE
BLUEGINGER (PTY) LTD: 8 SEDGEWICK ROAD; MODDERFONTEIN;	R -	Non-BEE	BLUEGINGER (PTY) LTD: 8 SEDGEWICK ROAD; MODDERFONTEIN;	R -	Non-BEE	BLUEGINGER (PTY) LTD: 8 SEDGEWICK ROAD; MODDERFONTEIN;	R 41 115.00	Non-BEE
Priviscan: P. O. Box 46391; Orange Grove; Johannesburg	R -	Non-BEE	Priviscan: P. O. Box 46391; Orange Grove; Johannesburg	R -	Non-BEE	Priviscan: P. O. Box 46391; Orange Grove; Johannesburg	R 40 560.00	Non-BEE
BEKA: PO Box 3726; Bloemfontein;	R 503 684.01	Non-BEE	BEKA: PO Box 3726; Bloemfontein;	R -	Non-BEE	BEKA: PO Box 3726; Bloemfontein;	R - 463 428.33	Non-BEE
IJ VAN NIEKERK: P O BOX 196; NABABEEP;	R -	BEE	IJ VAN NIEKERK: P O BOX 196; NABABEEP;	R -	BEE	IJ VAN NIEKERK: P O BOX 196; NABABEEP;	R 40 000.00	BEE
INTELLIGENCE TRANSFER CENTRE: PO BOX 1155; PINEGOWRIE;	R -	Non-BEE	INTELLIGENCE TRANSFER CENTRE: PO BOX 1155; PINEGOWRIE;	R -	Non-BEE	INTELLIGENCE TRANSFER CENTRE: PO BOX 1155; PINEGOWRIE;	R 39 996.00	Non-BEE
GEAR FORCE ENGINEERING CC: 5 STATION TERRAGE STATION RD; MONTAGUE GARDENS;	R -	Non-BEE	GEAR FORCE ENGINEERING CC: 5 STATION TERRAGE STATION RD; MONTAGUE GARDENS;	R 17 656.96	Non-BEE	GEAR FORCE ENGINEERING CC: 5 STATION TERRAGE STATION RD; MONTAGUE GARDENS;	R 22 045.24	Non-BEE
SULZER (SOUTH AFRICA) LTD (CAPE: P O Box 2007; Cape Town;	R -	Non-BEE	SULZER (SOUTH AFRICA) LTD (CAPE: P O Box 2007; Cape Town;	R -	Non-BEE	SULZER (SOUTH AFRICA) LTD (CAPE: P O Box 2007; Cape Town;	R 39 474.25	Non-BEE
SA INSTITUTE OF TRIBOLOGY: SCIENCE PARK; 1 NORTHWAY; KELVIN, JOHANNESBURG	R -	Non-BEE	SA INSTITUTE OF TRIBOLOGY: SCIENCE PARK; 1 NORTHWAY; KELVIN, JOHANNESBURG	R -	Non-BEE	SA INSTITUTE OF TRIBOLOGY: SCIENCE PARK; 1 NORTHWAY; KELVIN, JOHANNESBURG	R 39 250.00	Non-BEE
Oil Watch Tribology Services CC: Unit 3, Technosquare; 42, Morningside; N'Dabeni	R -	Non-BEE	Oil Watch Tribology Services CC: Unit 3, Technosquare; 42, Morningside; N'Dabeni	R -	Non-BEE	Oil Watch Tribology Services CC: Unit 3, Technosquare; 42, Morningside; N'Dabeni	R 39 060.00	Non-BEE
BALTIMORE AIRCOIL CO (SA) PTY LT: THE PALLISADES; UNIT G7&G8,39 KELLY RD, JET PARK; BOKSBURG	R -	Non-BEE	BALTIMORE AIRCOIL CO (SA) PTY LT: THE PALLISADES; UNIT G7&G8,39 KELLY RD, JET PARK; BOKSBURG	R 32 700.51	Non-BEE	BALTIMORE AIRCOIL CO (SA) PTY LT: THE PALLISADES; UNIT G7&G8,39 KELLY RD, JET PARK; BOKSBURG	R 6 153.24	Non-BEE
EPPINGDUST INDUSTRIAL SUPPLIERS: 7 HAWKENS AVE.; EPPING 1; EPPING INDUSTRIA	R -	Non-BEE	EPPINGDUST INDUSTRIAL SUPPLIERS: 7 HAWKENS AVE.; EPPING 1; EPPING INDUSTRIA	R -	Non-BEE	EPPINGDUST INDUSTRIAL SUPPLIERS: 7 HAWKENS AVE.; EPPING 1; EPPING INDUSTRIA	R 38 622.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
HYFLO SA (PTY) LTD: P.O. Box 240; Paarden Eiland;	R -	Non-BEE	HYFLO SA (PTY) LTD: P.O. Box 240; Paarden Eiland;	R -	Non-BEE	HYFLO SA (PTY) LTD: P.O. Box 240; Paarden Eiland;	R 38 506.74	Non-BEE
EMINENT CONFERENCING: UNIT 11 HADDON LODGE; HADDON; GAUTENG	R -	Non-BEE	EMINENT CONFERENCING: UNIT 11 HADDON LODGE; HADDON; GAUTENG	R -	Non-BEE	EMINENT CONFERENCING: UNIT 11 HADDON LODGE; HADDON; GAUTENG	R 38 495.00	Non-BEE
HAMBLY MATTHEWS: DORN ROSA STREET; CHARLESTON HILL; PAARL	R -	Non-BEE	HAMBLY MATTHEWS: DORN ROSA STREET; CHARLESTON HILL; PAARL	R -	Non-BEE	HAMBLY MATTHEWS: DORN ROSA STREET; CHARLESTON HILL; PAARL	R 38 200.00	Non-BEE
RAILWAY SAFETY REGULATOR: No2 ERNEST OPPERHEIMER DRIVE; WATERVIEW CORNER,GROUND FLOOR; BRUMA	R -	Non-BEE	RAILWAY SAFETY REGULATOR: No2 ERNEST OPPERHEIMER DRIVE; WATERVIEW CORNER,GROUND FLOOR; BRUMA	R -	Non-BEE	RAILWAY SAFETY REGULATOR: No2 ERNEST OPPERHEIMER DRIVE; WATERVIEW CORNER,GROUND FLOOR; BRUMA	R 38 150.00	Non-BEE
LABSPACE: P O BOX 50929; WATERFRONT; CAPE TOWN	R -	Non-BEE	LABSPACE: P O BOX 50929; WATERFRONT; CAPE TOWN	R -	Non-BEE	LABSPACE: P O BOX 50929; WATERFRONT; CAPE TOWN	R 38 000.00	Non-BEE
MULTI CHOICE: PO BOX 1502; RANDBURG;	R -	Non-BEE	MULTI CHOICE: PO BOX 1502; RANDBURG;	R -	Non-BEE	MULTI CHOICE: PO BOX 1502; RANDBURG;	R 37 871.14	Non-BEE
NASHUA NOORDWESTE (SPRINGBOK): P.O. Box 673; Springbok;	R 420.12	Non-BEE	NASHUA NOORDWESTE (SPRINGBOK): P.O. Box 673; Springbok;	R -	Non-BEE	NASHUA NOORDWESTE (SPRINGBOK): P.O. Box 673; Springbok;	R 37 355.46	Non-BEE
SOTHEBYS INTERNATIONAL REALTY: PO BOX 53510; KENILWORTH;	R -	Non-BEE	SOTHEBYS INTERNATIONAL REALTY: PO BOX 53510; KENILWORTH;	R -	Non-BEE	SOTHEBYS INTERNATIONAL REALTY: PO BOX 53510; KENILWORTH;	R 37 705.06	Non-BEE
PRICEWATERHOUSE COOPERS INCORPOR: 2 EGLIN ROAD; SUNNINGHILL;	R -	Non-BEE	PRICEWATERHOUSE COOPERS INCORPOR: 2 EGLIN ROAD; SUNNINGHILL;	R -	Non-BEE	PRICEWATERHOUSE COOPERS INCORPOR: 2 EGLIN ROAD; SUNNINGHILL;	R 37 695.15	Non-BEE
NMG CONSULTANTS AND ACTUARIES: PO BOX 3075; RANDBURG;	R -	Non-BEE	NMG CONSULTANTS AND ACTUARIES: PO BOX 3075; RANDBURG;	R -	Non-BEE	NMG CONSULTANTS AND ACTUARIES: PO BOX 3075; RANDBURG;	R 36 800.00	Non-BEE
WILDSPAN BOERDERY BK: FARM WILDSPAN; CAMPBELL;	R -	Non-BEE	WILDSPAN BOERDERY BK: FARM WILDSPAN; CAMPBELL;	R -	Non-BEE	WILDSPAN BOERDERY BK: FARM WILDSPAN; CAMPBELL;	R 36 506.32	Non-BEE
EMC PANEELKLOPPERS: CNR INRY PEGMATIEK STREET; SPRINGBOK;	R 55 386.00	Non-BEE	EMC PANEELKLOPPERS: CNR INRY PEGMATIEK STREET; SPRINGBOK;	R 42 501.65	Non-BEE	EMC PANEELKLOPPERS: CNR INRY PEGMATIEK STREET; SPRINGBOK;	R -61 529.61	Non-BEE
Thomson Reuters (Markets) SA: 4 th Floor, The Chelsea; 138 West Street; Sandton	R -	Non-BEE	Thomson Reuters (Markets) SA: 4 th Floor, The Chelsea; 138 West Street; Sandton	R -	Non-BEE	Thomson Reuters (Markets) SA: 4 th Floor, The Chelsea; 138 West Street; Sandton	R 36 177.75	Non-BEE
LANDDROS MOTHIBISTADT: PRIVATE BAG X102; KUDUMANE; MOTHIBISTADT	R -	Non-BEE	LANDDROS MOTHIBISTADT: PRIVATE BAG X102; KUDUMANE; MOTHIBISTADT	R -	Non-BEE	LANDDROS MOTHIBISTADT: PRIVATE BAG X102; KUDUMANE; MOTHIBISTADT	R 35 700.00	Non-BEE
Marandi Boerdery: Perseel 168; Violsdrift;	R -	Non-BEE	Marandi Boerdery: Perseel 168; Violsdrift;	R -	Non-BEE	Marandi Boerdery: Perseel 168; Violsdrift;	R 35 585.00	Non-BEE
MT FANCY DECOR BK: SKOOL STRAAT 16; AGGENEYS;	R -	Non-BEE	MT FANCY DECOR BK: SKOOL STRAAT 16; AGGENEYS;	R 6 120.00	Non-BEE	MT FANCY DECOR BK: SKOOL STRAAT 16; AGGENEYS;	R 29 456.00	Non-BEE
ADCORP TECHNICAL TRAINING (PTY): 49 A BISSET ROAD; JET PARK;	R -	Non-BEE	ADCORP TECHNICAL TRAINING (PTY): 49 A BISSET ROAD; JET PARK;	R 3 800.00	Non-BEE	ADCORP TECHNICAL TRAINING (PTY): 49 A BISSET ROAD; JET PARK;	R 31 762.20	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
MANAGING TRANSFORMATION: 8 MOODIES ESTATES; BARBERTON;	R -	Non-BEE	MANAGING TRANSFORMATION: 8 MOODIES ESTATES; BARBERTON;	R -	Non-BEE	MANAGING TRANSFORMATION: 8 MOODIES ESTATES; BARBERTON;	R 35 483.50	Non-BEE
HAGGIE RAND LTD: P.O. Box 1061; Cape Town;	R -	Non-BEE	HAGGIE RAND LTD: P.O. Box 1061; Cape Town;	R -	Non-BEE	HAGGIE RAND LTD: P.O. Box 1061; Cape Town;	R 35 378.89	Non-BEE
DURASET A DIVISION OF GRINAKER-L: 12 JURIE STREET; ALRODE; ALBERTON	R -	BEE	DURASET A DIVISION OF GRINAKER-L: 12 JURIE STREET; ALRODE; ALBERTON	R -	BEE	DURASET A DIVISION OF GRINAKER-L: 12 JURIE STREET; ALRODE; ALBERTON	R 35 320.08	BEE
ENVIROCON INSTRUMENTATION CC: 202 MISA CENTRE,12 FIR DRIVE; NORTHCLIFF; JOHANNESBURG	R -	Non-BEE	ENVIROCON INSTRUMENTATION CC: 202 MISA CENTRE,12 FIR DRIVE; NORTHCLIFF; JOHANNESBURG	R -	Non-BEE	ENVIROCON INSTRUMENTATION CC: 202 MISA CENTRE,12 FIR DRIVE; NORTHCLIFF; JOHANNESBURG	R 34 955.00	Non-BEE
NORTH WESTERN CAPE EXPO: 9 HEUWEL STREET; POSTMASBURG;	R -	Non-BEE	NORTH WESTERN CAPE EXPO: 9 HEUWEL STREET; POSTMASBURG;	R -	Non-BEE	NORTH WESTERN CAPE EXPO: 9 HEUWEL STREET; POSTMASBURG;	R 34 500.00	Non-BEE
Watek Konstruksie BK: 2 Liebenberg Straat; Middelberg; Upington	R -	Non-BEE	Watek Konstruksie BK: 2 Liebenberg Straat; Middelberg; Upington	R 60 542.29	Non-BEE	Watek Konstruksie BK: 2 Liebenberg Straat; Middelberg; Upington	R -26 284.49	Non-BEE
PEST CONTROL SERVICES: 1 VOORTREKKER STRAAT; SPRINGBOK;	R -	Non-BEE	PEST CONTROL SERVICES: 1 VOORTREKKER STRAAT; SPRINGBOK;	R 1 033.24	Non-BEE	PEST CONTROL SERVICES: 1 VOORTREKKER STRAAT; SPRINGBOK;	R 33 016.76	Non-BEE
Lianie May Produksies: Posbus 37279; Langehoven Park; Bloemfontein	R -	Non-BEE	Lianie May Produksies: Posbus 37279; Langehoven Park; Bloemfontein	R -	Non-BEE	Lianie May Produksies: Posbus 37279; Langehoven Park; Bloemfontein	R 34 000.00	Non-BEE
C.T. SYSTEMS CC: 45 LAKE AVENUE; BENONI;	R -	Non-BEE	C.T. SYSTEMS CC: 45 LAKE AVENUE; BENONI;	R -	Non-BEE	C.T. SYSTEMS CC: 45 LAKE AVENUE; BENONI;	R 33 790.50	Non-BEE
HB TECHNOLOGIES: 37 STEVENS ROAD CNR ELLOF STREET; STAFFORD; JOHANNESBURG	R -	Non-BEE	HB TECHNOLOGIES: 37 STEVENS ROAD CNR ELLOF STREET; STAFFORD; JOHANNESBURG	R -	Non-BEE	HB TECHNOLOGIES: 37 STEVENS ROAD CNR ELLOF STREET; STAFFORD; JOHANNESBURG	R 33 728.00	Non-BEE
GIANT LEAP WORKSPACE SPECIALIST: PO BOX 313; MELROSE ARCH;	R -	Non-BEE	GIANT LEAP WORKSPACE SPECIALIST: PO BOX 313; MELROSE ARCH;	R -	Non-BEE	GIANT LEAP WORKSPACE SPECIALIST: PO BOX 313; MELROSE ARCH;	R 33 410.24	Non-BEE
STEEL SERVICES & ALLIED INDUSTRI: P O Box 6182; Oberholzer;	R -	Non-BEE	STEEL SERVICES & ALLIED INDUSTRI: P O Box 6182; Oberholzer;	R -	Non-BEE	STEEL SERVICES & ALLIED INDUSTRI: P O Box 6182; Oberholzer;	R 33 112.71	Non-BEE
AB SWITCHGEAR DISTRUBUTORS CC: A1 BLOCK ONE,20SECTION STREET; NORTHGATE ISLAND; PAARDEN ISLAND	R -	Non-BEE	AB SWITCHGEAR DISTRUBUTORS CC: A1 BLOCK ONE,20SECTION STREET; NORTHGATE ISLAND; PAARDEN ISLAND	R -	Non-BEE	AB SWITCHGEAR DISTRUBUTORS CC: A1 BLOCK ONE,20SECTION STREET; NORTHGATE ISLAND; PAARDEN ISLAND	R 33 026.80	Non-BEE
Metskill (Pty) Ltd: Suite 453; Benoni;	R -	Non-BEE	Metskill (Pty) Ltd: Suite 453; Benoni;	R 700.00	Non-BEE	Metskill (Pty) Ltd: Suite 453; Benoni;	R 32 300.00	Non-BEE
LIGPLAATKWARTS MYNBOU: HOOFWEG 1033; PELLA;	R -	Non-BEE	LIGPLAATKWARTS MYNBOU: HOOFWEG 1033; PELLA;	R 548 655.09	Non-BEE	LIGPLAATKWARTS MYNBOU: HOOFWEG 1033; PELLA;	R - 515 895.09	Non-BEE
DR H.S VAN DER WALT CONSULTANTS: P.O.BOX 15547; SINOVILLE;	R -	Non-BEE	DR H.S VAN DER WALT CONSULTANTS: P.O.BOX 15547; SINOVILLE;	R -	Non-BEE	DR H.S VAN DER WALT CONSULTANTS: P.O.BOX 15547; SINOVILLE;	R 32 714.00	Non-BEE
7DE LAAN GASTEHUIS: P O BOX 295; POFADDER;	R -	Non-BEE	7DE LAAN GASTEHUIS: P O BOX 295; POFADDER;	R -	Non-BEE	7DE LAAN GASTEHUIS: P O BOX 295; POFADDER;	R 32 548.90	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
INDUSTRIAL ANALYTICAL CC: 4 INDIANAPOLIS ROAD; KYALAMI BUSINESS PARK; KYALAMI	R -	Non-BEE	INDUSTRIAL ANALYTICAL CC: 4 INDIANAPOLIS ROAD; KYALAMI BUSINESS PARK; KYALAMI	R -	Non-BEE	INDUSTRIAL ANALYTICAL CC: 4 INDIANAPOLIS ROAD; KYALAMI BUSINESS PARK; KYALAMI	R 32 269.00	Non-BEE
MORGAN AM&T: 149 SOUTH RAND ROAD; TULISA PARK; JOHANNESBURG	R -	Non-BEE	MORGAN AM&T: 149 SOUTH RAND ROAD; TULISA PARK; JOHANNESBURG	R -	Non-BEE	MORGAN AM&T: 149 SOUTH RAND ROAD; TULISA PARK; JOHANNESBURG	R 31 805.20	Non-BEE
Quinta Raddison Limited: AMR Building 2; Concorde Road East; Bedfordview	R -	Non-BEE	Quinta Raddison Limited: AMR Building 2; Concorde Road East; Bedfordview	R -	Non-BEE	Quinta Raddison Limited: AMR Building 2; Concorde Road East; Bedfordview	R 31 539.00	Non-BEE
R HAVERSON: P O BOX 269; FAERIE GLEN; PRETORIA	R -	Non-BEE	R HAVERSON: P O BOX 269; FAERIE GLEN; PRETORIA	R -	Non-BEE	R HAVERSON: P O BOX 269; FAERIE GLEN; PRETORIA	R 30 873.00	Non-BEE
WIKA INSTRUMENTS (PTY) LTD: P.O. Box 75225; Gardenview;	R -	Non-BEE	WIKA INSTRUMENTS (PTY) LTD: P.O. Box 75225; Gardenview;	R -	Non-BEE	WIKA INSTRUMENTS (PTY) LTD: P.O. Box 75225; Gardenview;	R 30 838.40	Non-BEE
IAN DICKIE & CO (PTY) LTD (EPPI: P.O. Box 103; Eppindust;	R -	Non-BEE	IAN DICKIE & CO (PTY) LTD (EPPI: P.O. Box 103; Eppindust;	R -	Non-BEE	IAN DICKIE & CO (PTY) LTD (EPPI: P.O. Box 103; Eppindust;	R 30 831.36	Non-BEE
MICHAEL BROWN CONTROL ENG. CC: PO BOX 85272; EMMARENTIA;	R -	Non-BEE	MICHAEL BROWN CONTROL ENG. CC: PO BOX 85272; EMMARENTIA;	R -	Non-BEE	MICHAEL BROWN CONTROL ENG. CC: PO BOX 85272; EMMARENTIA;	R 30 814.00	Non-BEE
COX & MCKAY ELECTRICAL ENGINEER: P.O. Box 10347; Edenglen;	R -	Non-BEE	COX & MCKAY ELECTRICAL ENGINEER: P.O. Box 10347; Edenglen;	R -	Non-BEE	COX & MCKAY ELECTRICAL ENGINEER: P.O. Box 10347; Edenglen;	R 30 767.00	Non-BEE
LITHOTECH SALES JOHANNESBURG (PT: P.O. Box 232; Maraisburg;	R -	Non-BEE	LITHOTECH SALES JOHANNESBURG (PT: P.O. Box 232; Maraisburg;	R -	Non-BEE	LITHOTECH SALES JOHANNESBURG (PT: P.O. Box 232; Maraisburg;	R 30 710.00	Non-BEE
MACCAUVLEI CONFERENCE CENTRE: PO BOX 649; VEREENIGING;	R -	Non-BEE	MACCAUVLEI CONFERENCE CENTRE: PO BOX 649; VEREENIGING;	R -	Non-BEE	MACCAUVLEI CONFERENCE CENTRE: PO BOX 649; VEREENIGING;	R 30 471.66	Non-BEE
SNOWDEN MINING INDUSTRY CONSUL: Technology House;; Greenacres Office Park; Victory Park	R -	Non-BEE	SNOWDEN MINING INDUSTRY CONSUL: Technology House;; Greenacres Office Park; Victory Park	R -	Non-BEE	SNOWDEN MINING INDUSTRY CONSUL: Technology House;; Greenacres Office Park; Victory Park	R 29 950.00	Non-BEE
MTN Service Provider (Pty) Ltd: 3 Alice Lane; Sandown; Sandton	R -	Non-BEE	MTN Service Provider (Pty) Ltd: 3 Alice Lane; Sandown; Sandton	R -	Non-BEE	MTN Service Provider (Pty) Ltd: 3 Alice Lane; Sandown; Sandton	R 29 945.85	Non-BEE
Equipment Spare Parts Africa: Cnr Uranium & Molecule str; Stikland; Cape Town	R -	Non-BEE	Equipment Spare Parts Africa: Cnr Uranium & Molecule str; Stikland; Cape Town	R -	Non-BEE	Equipment Spare Parts Africa: Cnr Uranium & Molecule str; Stikland; Cape Town	R 29 921.65	Non-BEE
MINTEK: 200 MALIBONGWE DRIVE; RANDBURG;	R -	Non-BEE	MINTEK: 200 MALIBONGWE DRIVE; RANDBURG;	R 4 924.80	Non-BEE	MINTEK: 200 MALIBONGWE DRIVE; RANDBURG;	R 24 463.20	Non-BEE
ICTUS EQUIPMENT (PTY) LTD (WADE: 40 Colin Wade Street; Delville Ext.6 Germiston; Wadeville	R -	Non-BEE	ICTUS EQUIPMENT (PTY) LTD (WADE: 40 Colin Wade Street; Delville Ext.6 Germiston; Wadeville	R -	Non-BEE	ICTUS EQUIPMENT (PTY) LTD (WADE: 40 Colin Wade Street; Delville Ext.6 Germiston; Wadeville	R 29 000.00	Non-BEE
WALKER Vliegdiens: 2D SCHRODER STREET; UPINGTON;	R -	BEE	WALKER Vliegdiens: 2D SCHRODER STREET; UPINGTON;	R -	BEE	WALKER Vliegdiens: 2D SCHRODER STREET; UPINGTON;	R 28 900.00	BEE
AGGENEYS GARAGE: POSBUS 24; AGGENEYS;	R -	Non-BEE	AGGENEYS GARAGE: POSBUS 24; AGGENEYS;	R -	Non-BEE	AGGENEYS GARAGE: POSBUS 24; AGGENEYS;	R 28 882.05	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
JOHN MOFFAT PROLOCK CC: P.O. Box 3586; Johannesburg;	R -	Non-BEE	JOHN MOFFAT PROLOCK CC: P.O. Box 3586; Johannesburg;	R -	Non-BEE	JOHN MOFFAT PROLOCK CC: P.O. Box 3586; Johannesburg;	R 28 673.67	Non-BEE
GLASS TECH (SPRINGFIELD): P.O. Box 57154; Springfield;	R -	Non-BEE	GLASS TECH (SPRINGFIELD): P.O. Box 57154; Springfield;	R -	Non-BEE	GLASS TECH (SPRINGFIELD): P.O. Box 57154; Springfield;	R 28 587.00	Non-BEE
SENTECH: PRIVATE BAG X06; HONEYDEW;	R -	Non-BEE	SENTECH: PRIVATE BAG X06; HONEYDEW;	R -	Non-BEE	SENTECH: PRIVATE BAG X06; HONEYDEW;	R 28 440.51	Non-BEE
MULTOTEC PROCESS EQUIPMENT (PTY): P.O.Box 224; Kempton Park;	R -	Non-BEE	MULTOTEC PROCESS EQUIPMENT (PTY): P.O.Box 224; Kempton Park;	R -	Non-BEE	MULTOTEC PROCESS EQUIPMENT (PTY): P.O.Box 224; Kempton Park;	R 28 421.40	Non-BEE
D L M: P.O. Box 758; Isando;	R -	Non-BEE	D L M: P.O. Box 758; Isando;	R -	Non-BEE	D L M: P.O. Box 758; Isando;	R 28 360.00	Non-BEE
Intern. Negotiation Academy: Klipdrift 422;; Potchefstroom	R -	Non-BEE	Intern. Negotiation Academy: Klipdrift 422;; Potchefstroom	R 34 142.89	Non-BEE	Intern. Negotiation Academy: Klipdrift 422;; Potchefstroom	R -6 107.80	Non-BEE
Africa Business Management: 4 Kesington Offices; Dover Street; Randburg	R -	Non-BEE	Africa Business Management: 4 Kesington Offices; Dover Street; Randburg	R -	Non-BEE	Africa Business Management: 4 Kesington Offices; Dover Street; Randburg	R 28 000.00	Non-BEE
PROCONTROL: 13 VAN NIEKERK STREET; OAKOALE; BELLVILLE	R -	Non-BEE	PROCONTROL: 13 VAN NIEKERK STREET; OAKOALE; BELLVILLE	R 9 291.40	Non-BEE	PROCONTROL: 13 VAN NIEKERK STREET; OAKOALE; BELLVILLE	R 18 547.75	Non-BEE
DUNCAN ADAMS ROCK ENGINEERING: 8 KEITH AVE; PINE PARK; JOHANNESBURG	R -	Non-BEE	DUNCAN ADAMS ROCK ENGINEERING: 8 KEITH AVE; PINE PARK; JOHANNESBURG	R -	Non-BEE	DUNCAN ADAMS ROCK ENGINEERING: 8 KEITH AVE; PINE PARK; JOHANNESBURG	R 27 708.00	Non-BEE
CLAASSEN STONE: P O BOX 171; SPRINGBOK;	R -	Non-BEE	CLAASSEN STONE: P O BOX 171; SPRINGBOK;	R -	Non-BEE	CLAASSEN STONE: P O BOX 171; SPRINGBOK;	R 27 630.27	Non-BEE
AMS HADEN INSTRUMENT & MINING SE: Suite247; Private Bag X09; Weltevreden Park	R -	Non-BEE	AMS HADEN INSTRUMENT & MINING SE: Suite247; Private Bag X09; Weltevreden Park	R -	Non-BEE	AMS HADEN INSTRUMENT & MINING SE: Suite247; Private Bag X09; Weltevreden Park	R 27 278.60	Non-BEE
SUGARBERRY TRADING 396 CC: P O BOX 371; AGGENEYS;	R -	Non-BEE	SUGARBERRY TRADING 396 CC: P O BOX 371; AGGENEYS;	R 44 100.00	Non-BEE	SUGARBERRY TRADING 396 CC: P O BOX 371; AGGENEYS;	R -16 893.00	Non-BEE
QUALITY CONTROL INSPECTION: 60 Derby Road; Kensington;	R 700.00	Non-BEE	QUALITY CONTROL INSPECTION: 60 Derby Road; Kensington;	R 48 254.02	Non-BEE	QUALITY CONTROL INSPECTION: 60 Derby Road; Kensington;	R -21 857.48	Non-BEE
BOUWER & JACOBSOHN: P O BOX 693; SPRINGBOK;	R -	Non-BEE	BOUWER & JACOBSOHN: P O BOX 693; SPRINGBOK;	R -	Non-BEE	BOUWER & JACOBSOHN: P O BOX 693; SPRINGBOK;	R 26 007.97	Non-BEE
PWC REMCHANNNEL (PTY) LTD: 2 EGLIN ROAD; SUNNINGHILL;	R -	Non-BEE	PWC REMCHANNNEL (PTY) LTD: 2 EGLIN ROAD; SUNNINGHILL;	R -	Non-BEE	PWC REMCHANNNEL (PTY) LTD: 2 EGLIN ROAD; SUNNINGHILL;	R 25 350.00	Non-BEE
Oranje Meganisasie CC: PO Box 567; Kakamas;	R -	Non-BEE	Oranje Meganisasie CC: PO Box 567; Kakamas;	R -	Non-BEE	Oranje Meganisasie CC: PO Box 567; Kakamas;	R 25 293.53	Non-BEE
R W W ENGINEERING (PTY) LTD.: P.O. Box 2042; Southdale;	R -	Non-BEE	R W W ENGINEERING (PTY) LTD.: P.O. Box 2042; Southdale;	R -	Non-BEE	R W W ENGINEERING (PTY) LTD.: P.O. Box 2042; Southdale;	R 25 210.00	Non-BEE
KLK LANDBOU: P.O. Box 86; Upington;	R -	Non-BEE	KLK LANDBOU: P.O. Box 86; Upington;	R -	Non-BEE	KLK LANDBOU: P.O. Box 86; Upington;	R 25 151.09	Non-BEE
A.P.E. PUMPS (PTY) LTD: P.O. Box 14733; Wadeville;	R -	Non-BEE	A.P.E. PUMPS (PTY) LTD: P.O. Box 14733; Wadeville;	R -	Non-BEE	A.P.E. PUMPS (PTY) LTD: P.O. Box 14733; Wadeville;	R 25 110.86	Non-BEE
GJ VAN DEN HEEVER: ACHAB (PLAAS); POFADDER;	R -	Non-BEE	GJ VAN DEN HEEVER: ACHAB (PLAAS); POFADDER;	R -	Non-BEE	GJ VAN DEN HEEVER: ACHAB (PLAAS); POFADDER;	R 24 900.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
TRU - TRAC ROLLERS (PTY)LTD: UNIT 5, 53 ADRIANA CRESCENT; GATEWAY INDUSTRIAL PARK; CENTURION	R -	Non-BEE	TRU - TRAC ROLLERS (PTY)LTD: UNIT 5, 53 ADRIANA CRESCENT; GATEWAY INDUSTRIAL PARK; CENTURION	R -	Non-BEE	TRU - TRAC ROLLERS (PTY)LTD: UNIT 5, 53 ADRIANA CRESCENT; GATEWAY INDUSTRIAL PARK; CENTURION	R 24 881.00	Non-BEE
APCOR: P.O. Box 6251; Homestead;	R -	Non-BEE	APCOR: P.O. Box 6251; Homestead;	R 2 869.31	Non-BEE	APCOR: P.O. Box 6251; Homestead;	R 21 518.22	Non-BEE
Steven Hogg: 436 Phoenix Street; Ruimsig Country Estate; Ruimsig; Roodepoort; Gauteng	R -	Non-BEE	Steven Hogg: 436 Phoenix Street; Ruimsig Country Estate; Ruimsig; Roodepoort; Gauteng	R 4 601.68	Non-BEE	Steven Hogg: 436 Phoenix Street; Ruimsig Country Estate; Ruimsig; Roodepoort; Gauteng	R 19 548.32	Non-BEE
ABSA TRUST BEPERK: POSBUS 2413; BLOEMFONTEIN;	R -	Non-BEE	ABSA TRUST BEPERK: POSBUS 2413; BLOEMFONTEIN;	R -	Non-BEE	ABSA TRUST BEPERK: POSBUS 2413; BLOEMFONTEIN;	R 24 011.91	Non-BEE
UMBATI TIMBER TRADING CC: 25 SOUTPANSBERG STREET; COLTS HILL; WHITE RIVER	R -	Non-BEE	UMBATI TIMBER TRADING CC: 25 SOUTPANSBERG STREET; COLTS HILL; WHITE RIVER	R -	Non-BEE	UMBATI TIMBER TRADING CC: 25 SOUTPANSBERG STREET; COLTS HILL; WHITE RIVER	R 23 952.00	Non-BEE
MMS Management Solutions: 59 Markotter Street; The Reeds; Centurion	R -	Non-BEE	MMS Management Solutions: 59 Markotter Street; The Reeds; Centurion	R 30 691.08	Non-BEE	MMS Management Solutions: 59 Markotter Street; The Reeds; Centurion	R -6 751.08	Non-BEE
MPUMAMANZI LABORATORY SERVICE: INDUSTRIAL CITY PREMISES; OLD MIDDLEBURS ROAD; WITBANK	R -	Non-BEE	MPUMAMANZI LABORATORY SERVICE: INDUSTRIAL CITY PREMISES; OLD MIDDLEBURS ROAD; WITBANK	R 17 520.00	Non-BEE	MPUMAMANZI LABORATORY SERVICE: INDUSTRIAL CITY PREMISES; OLD MIDDLEBURS ROAD; WITBANK	R 6 251.77	Non-BEE
GEOWATER SYSTEMS: 32 Sibongile Gardens, Scoot Str; Randpark Ridge; Randburg	R -	Non-BEE	GEOWATER SYSTEMS: 32 Sibongile Gardens, Scoot Str; Randpark Ridge; Randburg	R -	Non-BEE	GEOWATER SYSTEMS: 32 Sibongile Gardens, Scoot Str; Randpark Ridge; Randburg	R 23 702.00	Non-BEE
M.F OOSTHUIZEN ATTORNEYS: 27 EERSTE LAAN; BOSTON; BELLVILLE	R -	Non-BEE	M.F OOSTHUIZEN ATTORNEYS: 27 EERSTE LAAN; BOSTON; BELLVILLE	R -	Non-BEE	M.F OOSTHUIZEN ATTORNEYS: 27 EERSTE LAAN; BOSTON; BELLVILLE	R 23 567.71	Non-BEE
THE NETWORK COMPUTER SERVICES: UNIT A29 SANLAM BUSINESS PARK; CNR KOEBERG & RACECOURSE RDS; MILNERTON	R -	Non-BEE	THE NETWORK COMPUTER SERVICES: UNIT A29 SANLAM BUSINESS PARK; CNR KOEBERG & RACECOURSE RDS; MILNERTON	R 309 824.00	Non-BEE	THE NETWORK COMPUTER SERVICES: UNIT A29 SANLAM BUSINESS PARK; CNR KOEBERG & RACECOURSE RDS; MILNERTON	R - 286 482.10	Non-BEE
Blueport Trade 67 (Pty) Ltd: 7 Drill Avenue; Montague Gardens; Cape Town	R -	Non-BEE	Blueport Trade 67 (Pty) Ltd: 7 Drill Avenue; Montague Gardens; Cape Town	R -	Non-BEE	Blueport Trade 67 (Pty) Ltd: 7 Drill Avenue; Montague Gardens; Cape Town	R 23 305.42	Non-BEE
EFFECTIVE LABORATORY SUPPLIES CC: 20 TURF CLUB STREET; CNR CORNWELL STREET; WEST TURFFONTEIN	R -	Non-BEE	EFFECTIVE LABORATORY SUPPLIES CC: 20 TURF CLUB STREET; CNR CORNWELL STREET; WEST TURFFONTEIN	R -	Non-BEE	EFFECTIVE LABORATORY SUPPLIES CC: 20 TURF CLUB STREET; CNR CORNWELL STREET; WEST TURFFONTEIN	R 23 039.25	Non-BEE
JUST BE ENTERTAINMENT: 10 PORTO AMELIA AVE; BONAERO PARK; KEMPTON PARK	R -	Non-BEE	JUST BE ENTERTAINMENT: 10 PORTO AMELIA AVE; BONAERO PARK; KEMPTON PARK	R -	Non-BEE	JUST BE ENTERTAINMENT: 10 PORTO AMELIA AVE; BONAERO PARK; KEMPTON PARK	R 22 800.00	Non-BEE
Inclledon (Kathu): 27 Asbes Street; Industrial Area; Kathu	R -	Non-BEE	Inclledon (Kathu): 27 Asbes Street; Industrial Area; Kathu	R -	Non-BEE	Inclledon (Kathu): 27 Asbes Street; Industrial Area; Kathu	R 22 699.56	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
FRANKLIN ELECTRIC SA (PTY) LTD: UNIT 7 HIDRO STREET; STIKLAND; CAPE TOWN	R -	Non-BEE	FRANKLIN ELECTRIC SA (PTY) LTD: UNIT 7 HIDRO STREET; STIKLAND; CAPE TOWN	R -	Non-BEE	FRANKLIN ELECTRIC SA (PTY) LTD: UNIT 7 HIDRO STREET; STIKLAND; CAPE TOWN	R 22 689.45	Non-BEE
BARLOWORLD EQUIP. T/A CAT RENTAL: CNR PETER BARLOW & KASSELVLEI RD; BELLVILLE SOUTH;	R -	Non-BEE	BARLOWORLD EQUIP. T/A CAT RENTAL: CNR PETER BARLOW & KASSELVLEI RD; BELLVILLE SOUTH;	R 963.56	Non-BEE	BARLOWORLD EQUIP. T/A CAT RENTAL: CNR PETER BARLOW & KASSELVLEI RD; BELLVILLE SOUTH;	R 21 609.99	Non-BEE
LEXISNEXIS BUTTERWORTHS: PO BOX 792; DURBAN;	R -	Non-BEE	LEXISNEXIS BUTTERWORTHS: PO BOX 792; DURBAN;	R -	Non-BEE	LEXISNEXIS BUTTERWORTHS: PO BOX 792; DURBAN;	R 22 500.72	Non-BEE
VOX ORION (PTY) LTD: 19 TAMBACH ROAD; SUNNINGHILL; SANDTON	R -	Non-BEE	VOX ORION (PTY) LTD: 19 TAMBACH ROAD; SUNNINGHILL; SANDTON	R -	Non-BEE	VOX ORION (PTY) LTD: 19 TAMBACH ROAD; SUNNINGHILL; SANDTON	R 22 500.00	Non-BEE
ECONOMETRIX (PTY) LTD: 8 WEST STREET; HOUGHTON ESTATE;	R -	Non-BEE	ECONOMETRIX (PTY) LTD: 8 WEST STREET; HOUGHTON ESTATE;	R -	Non-BEE	ECONOMETRIX (PTY) LTD: 8 WEST STREET; HOUGHTON ESTATE;	R 22 000.00	Non-BEE
CBM TRAINING (Pty) Ltd: Pellmeadow Office Park, Block B; First Floor, 60 Civin Drive; Bedfordview, Johannesburg	R -	Non-BEE	CBM TRAINING (Pty) Ltd: Pellmeadow Office Park, Block B; First Floor, 60 Civin Drive; Bedfordview, Johannesburg	R -	Non-BEE	CBM TRAINING (Pty) Ltd: Pellmeadow Office Park, Block B; First Floor, 60 Civin Drive; Bedfordview, Johannesburg	R 22 000.00	Non-BEE
IIR TRAINING: 3 STURDEE AVE; ROSEBANK;	R -	Non-BEE	IIR TRAINING: 3 STURDEE AVE; ROSEBANK;	R -	Non-BEE	IIR TRAINING: 3 STURDEE AVE; ROSEBANK;	R 21 998.00	Non-BEE
LAW TRUST: 5 BAUHINIA STREET; CAMBRIDGE PARK UNIT A; HIGHVELD TECHNO PARK	R -	BEE	LAW TRUST: 5 BAUHINIA STREET; CAMBRIDGE PARK UNIT A; HIGHVELD TECHNO PARK	R 67 959.75	BEE	LAW TRUST: 5 BAUHINIA STREET; CAMBRIDGE PARK UNIT A; HIGHVELD TECHNO PARK	R -46 362.75	BEE
NEVER STOP TRADING 50 CC: PLOT 223; JOOSTE EILAND; UPINGTON	R -	Non-BEE	NEVER STOP TRADING 50 CC: PLOT 223; JOOSTE EILAND; UPINGTON	R 29 031.40	Non-BEE	NEVER STOP TRADING 50 CC: PLOT 223; JOOSTE EILAND; UPINGTON	R -7 606.40	Non-BEE
VOLTEX CAPE TOWN: 12 OLD MILL RD; MAITLAND;	R -	BEE	VOLTEX CAPE TOWN: 12 OLD MILL RD; MAITLAND;	R -	BEE	VOLTEX CAPE TOWN: 12 OLD MILL RD; MAITLAND;	R 21 241.80	BEE
GAMMA CHECK CC: 44 LOUIS BOTHA DRIVE; FLORIDA PARK;	R -	Non-BEE	GAMMA CHECK CC: 44 LOUIS BOTHA DRIVE; FLORIDA PARK;	R 590.00	Non-BEE	GAMMA CHECK CC: 44 LOUIS BOTHA DRIVE; FLORIDA PARK;	R 20 410.00	Non-BEE
MELISA BAILIE CONSULTANTS CC: 88 RUBIDA STREET MURRAYFIELD; PRETORIA;	R -	Non-BEE	MELISA BAILIE CONSULTANTS CC: 88 RUBIDA STREET MURRAYFIELD; PRETORIA;	R 20 100.00	Non-BEE	MELISA BAILIE CONSULTANTS CC: 88 RUBIDA STREET MURRAYFIELD; PRETORIA;	R 812.50	Non-BEE
KROST SHELIVING (CAPE): UNIT 11; CONSTANTIABERG PARK; DIEPRIVIER	R 104 776.00	Non-BEE	KROST SHELIVING (CAPE): UNIT 11; CONSTANTIABERG PARK; DIEPRIVIER	R 85 500.00	Non-BEE	KROST SHELIVING (CAPE): UNIT 11; CONSTANTIABERG PARK; DIEPRIVIER	R - 169 486.28	Non-BEE
HOPE 4 LIFE - PELLA: P O BOX 118; PELLA;	R -	Non-BEE	HOPE 4 LIFE - PELLA: P O BOX 118; PELLA;	R -	Non-BEE	HOPE 4 LIFE - PELLA: P O BOX 118; PELLA;	R 20 600.00	Non-BEE
B & B IMAGING SERVICES CC: 20 PRINSLOO STREET; PAROW VALLEY;	R -	Non-BEE	B & B IMAGING SERVICES CC: 20 PRINSLOO STREET; PAROW VALLEY;	R -	Non-BEE	B & B IMAGING SERVICES CC: 20 PRINSLOO STREET; PAROW VALLEY;	R 20 106.72	Non-BEE
GECKO ADVENTURE: PIENAARSTRAAT 15; KLEINBRAKRIVIER;	R -	Non-BEE	GECKO ADVENTURE: PIENAARSTRAAT 15; KLEINBRAKRIVIER;	R -	Non-BEE	GECKO ADVENTURE: PIENAARSTRAAT 15; KLEINBRAKRIVIER;	R 20 000.00	Non-BEE
SPLASH OUT PROMOTIONS: P.O.BOX 1093; FEDGEFIELD;	R -	Non-BEE	SPLASH OUT PROMOTIONS: P.O.BOX 1093; FEDGEFIELD;	R -	Non-BEE	SPLASH OUT PROMOTIONS: P.O.BOX 1093; FEDGEFIELD;	R 20 000.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
DDI TRANSMISSION: FACTORY15,TONGAAT BUSINESS PARK; OLD MILL , MAIDSTONE; TONGAAT , KZN	R -	Non-BEE	DDI TRANSMISSION: FACTORY15,TONGAAT BUSINESS PARK; OLD MILL , MAIDSTONE; TONGAAT , KZN	R -	Non-BEE	DDI TRANSMISSION: FACTORY15,TONGAAT BUSINESS PARK; OLD MILL , MAIDSTONE; TONGAAT , KZN	R 19 800.00	Non-BEE
ACACIA GUEST HOUSE: 10 Craighton Place; Rivonia;	R -	Non-BEE	ACACIA GUEST HOUSE: 10 Craighton Place; Rivonia;	R -	Non-BEE	ACACIA GUEST HOUSE: 10 Craighton Place; Rivonia;	R 19 620.00	Non-BEE
IMPACT PNEUMATICS: P.O. Box 13104; Northmead;	R -	Non-BEE	IMPACT PNEUMATICS: P.O. Box 13104; Northmead;	R -	Non-BEE	IMPACT PNEUMATICS: P.O. Box 13104; Northmead;	R 19 550.00	Non-BEE
JAM STATIONERY (PTY) LTD: 61 MARK STREET; UPINGTON;	R -	Non-BEE	JAM STATIONERY (PTY) LTD: 61 MARK STREET; UPINGTON;	R -	Non-BEE	JAM STATIONERY (PTY) LTD: 61 MARK STREET; UPINGTON;	R 19 407.03	Non-BEE
HANSING CC: P.O. Box 1229; Saldanha;	R -	Non-BEE	HANSING CC: P.O. Box 1229; Saldanha;	R 25 733.75	Non-BEE	HANSING CC: P.O. Box 1229; Saldanha;	R -7 193.75	Non-BEE
OIL SPILL CONTROL CC: P.O. Box 707; Howard Place;	R -	Non-BEE	OIL SPILL CONTROL CC: P.O. Box 707; Howard Place;	R -	Non-BEE	OIL SPILL CONTROL CC: P.O. Box 707; Howard Place;	R 18 465.00	Non-BEE
ARMAND: PO Box 512;; Kroondal	R -	Non-BEE	ARMAND: PO Box 512;; Kroondal	R -	Non-BEE	ARMAND: PO Box 512;; Kroondal	R 18 200.00	Non-BEE
BUSINESS COMMUNICATOR: 84 FLEET STREET; FERNDALDE;	R -	Non-BEE	BUSINESS COMMUNICATOR: 84 FLEET STREET; FERNDALDE;	R 2 850.00	Non-BEE	BUSINESS COMMUNICATOR: 84 FLEET STREET; FERNDALDE;	R 15 147.00	Non-BEE
ESRI SOUTH AFRICA (PTY)LTD: WHITBY MANOR,BLOCK A; 167 14th ROAD,NOORDWYK EXT 61; MIDRAND	R -	Non-BEE	ESRI SOUTH AFRICA (PTY)LTD: WHITBY MANOR,BLOCK A; 167 14th ROAD,NOORDWYK EXT 61; MIDRAND	R -	Non-BEE	ESRI SOUTH AFRICA (PTY)LTD: WHITBY MANOR,BLOCK A; 167 14th ROAD,NOORDWYK EXT 61; MIDRAND	R 17 993.00	Non-BEE
GEOSYSTEMS AFRICA PTY LTD: STAND 78, UNIT 3; KYALAMI BOULEVARD; KYALAMI BUSINESS PARK	R -	Non-BEE	GEOSYSTEMS AFRICA PTY LTD: STAND 78, UNIT 3; KYALAMI BOULEVARD; KYALAMI BUSINESS PARK	R -	Non-BEE	GEOSYSTEMS AFRICA PTY LTD: STAND 78, UNIT 3; KYALAMI BOULEVARD; KYALAMI BUSINESS PARK	R 17 956.00	Non-BEE
LANDDROS GORDONIA: PRIVATE BAG X5983; UPINGTON;	R -	Non-BEE	LANDDROS GORDONIA: PRIVATE BAG X5983; UPINGTON;	R -	Non-BEE	LANDDROS GORDONIA: PRIVATE BAG X5983; UPINGTON;	R 17 800.00	Non-BEE
DR M A KAPNOUDHIS: PO BOX 2764; UPINGTON;	R -	Non-BEE	DR M A KAPNOUDHIS: PO BOX 2764; UPINGTON;	R -	Non-BEE	DR M A KAPNOUDHIS: PO BOX 2764; UPINGTON;	R 17 581.32	Non-BEE
NAMIBIA LOGISTICS (PTY) LTD T'A: KOPER STRAAT; SPRINGBOK INDUSTRIAL; SPRINGBOK	R -	Non-BEE	NAMIBIA LOGISTICS (PTY) LTD T'A: KOPER STRAAT; SPRINGBOK INDUSTRIAL; SPRINGBOK	R 4 940.00	Non-BEE	NAMIBIA LOGISTICS (PTY) LTD T'A: KOPER STRAAT; SPRINGBOK INDUSTRIAL; SPRINGBOK	R 12 483.53	Non-BEE
HANSEN TRANSMISSION: P.O. BOX 8449; ELANDSFONTEIN;	R -	Non-BEE	HANSEN TRANSMISSION: P.O. BOX 8449; ELANDSFONTEIN;	R -	Non-BEE	HANSEN TRANSMISSION: P.O. BOX 8449; ELANDSFONTEIN;	R 17 282.00	Non-BEE
GEMSBOK: P. O. BOX 2043; RUSTENBURG;	R -	Non-BEE	GEMSBOK: P. O. BOX 2043; RUSTENBURG;	R -	Non-BEE	GEMSBOK: P. O. BOX 2043; RUSTENBURG;	R 17 267.40	Non-BEE
Craigcor Distribution: Unit A1,Block1,; Nothgate Island; 20 Section Street,Paarden Island	R -	Non-BEE	Craigcor Distribution: Unit A1,Block1,; Nothgate Island; 20 Section Street,Paarden Island	R -	Non-BEE	Craigcor Distribution: Unit A1,Block1,; Nothgate Island; 20 Section Street,Paarden Island	R 17 217.00	Non-BEE
FELIX PROJECT MANAGM.&CONS.SERV.: 23 LIMPOPO STREET; BRACKENDOWNS; ALBERTON,GAUTENG	R -	Non-BEE	FELIX PROJECT MANAGM.&CONS.SERV.: 23 LIMPOPO STREET; BRACKENDOWNS; ALBERTON,GAUTENG	R 27 560.30	Non-BEE	FELIX PROJECT MANAGM.&CONS.SERV.: 23 LIMPOPO STREET; BRACKENDOWNS; ALBERTON,GAUTENG	R -10 402.13	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
KONICK'S PHARMACY: P. O. BOX 306; AGGENEYS;	R -	Non-BEE	KONICK'S PHARMACY: P. O. BOX 306; AGGENEYS;	R -	Non-BEE	KONICK'S PHARMACY: P. O. BOX 306; AGGENEYS;	R 16 994.23	Non-BEE
SCAMONT ENGINEERING: 82 RATCHET AVENUE; STORMILL EXT.3; ROODEPOORT	R -	BEE	SCAMONT ENGINEERING: 82 RATCHET AVENUE; STORMILL EXT.3; ROODEPOORT	R -	BEE	SCAMONT ENGINEERING: 82 RATCHET AVENUE; STORMILL EXT.3; ROODEPOORT	R 16 978.84	BEE
SCHRAADER TRAINING CONSULTANTS: Plot 59; Klipeland; Bronkhorstspruit	R -	Non-BEE	SCHRAADER TRAINING CONSULTANTS: Plot 59; Klipeland; Bronkhorstspruit	R -	Non-BEE	SCHRAADER TRAINING CONSULTANTS: Plot 59; Klipeland; Bronkhorstspruit	R 16 500.00	Non-BEE
Keimoes Bakkie Sentrum: Tierbergweg; ; Keimoes	R -	Non-BEE	Keimoes Bakkie Sentrum: Tierbergweg; ; Keimoes	R 1 636.00	Non-BEE	Keimoes Bakkie Sentrum: Tierbergweg; ; Keimoes	R 14 848.15	Non-BEE
KA GARE DESIGN CC: 29A PYTCHLEY ROAD; BRYANSTON;	R -	Non-BEE	KA GARE DESIGN CC: 29A PYTCHLEY ROAD; BRYANSTON;	R 3 660.00	Non-BEE	KA GARE DESIGN CC: 29A PYTCHLEY ROAD; BRYANSTON;	R 12 205.00	Non-BEE
CANCER ASSOCIATION OF SA: 37A MAIN ROAD; MOWBRAY; CAPE TOWN	R -	Non-BEE	CANCER ASSOCIATION OF SA: 37A MAIN ROAD; MOWBRAY; CAPE TOWN	R -	Non-BEE	CANCER ASSOCIATION OF SA: 37A MAIN ROAD; MOWBRAY; CAPE TOWN	R 15 530.00	Non-BEE
ALAN GALANT: AGGENEYS; ;	R -	Non-BEE	ALAN GALANT: AGGENEYS; ;	R -	Non-BEE	ALAN GALANT: AGGENEYS; ;	R 15 500.00	Non-BEE
Amakhosi Satellite Corp (Pty): G1 Pinewood Office Park; 33 Riley Road; Woodmead, Sandton	R -	Non-BEE	Amakhosi Satellite Corp (Pty): G1 Pinewood Office Park; 33 Riley Road; Woodmead, Sandton	R -	Non-BEE	Amakhosi Satellite Corp (Pty): G1 Pinewood Office Park; 33 Riley Road; Woodmead, Sandton	R 15 480.00	Non-BEE
COMMERCIAL PAPERS SA (PTY) LTD: P.O.Box 74391; Turffontein;	R -	Non-BEE	COMMERCIAL PAPERS SA (PTY) LTD: P.O.Box 74391; Turffontein;	R -	Non-BEE	COMMERCIAL PAPERS SA (PTY) LTD: P.O.Box 74391; Turffontein;	R 15 465.50	Non-BEE
AFREN POWER PROJECTS (PTY) LTD: 40 JOWELLS STREET; SPRINGBOK;	R -	Non-BEE	AFREN POWER PROJECTS (PTY) LTD: 40 JOWELLS STREET; SPRINGBOK;	R -	Non-BEE	AFREN POWER PROJECTS (PTY) LTD: 40 JOWELLS STREET; SPRINGBOK;	R 15 128.03	Non-BEE
BIANTECH MINING SUPPLIES (PTY) LT: 11 CHENIK STREET; CHAMDOR; KRUGERSDORP	R -	Non-BEE	BIANTECH MINING SUPPLIES (PTY) LT: 11 CHENIK STREET; CHAMDOR; KRUGERSDORP	R -	Non-BEE	BIANTECH MINING SUPPLIES (PTY) LT: 11 CHENIK STREET; CHAMDOR; KRUGERSDORP	R 15 082.96	Non-BEE
INTERACTIVE TUTOR PTY LTD: T/A MEDIA WORKS; P O BOX 3117; RIVONIA	R -	Non-BEE	INTERACTIVE TUTOR PTY LTD: T/A MEDIA WORKS; P O BOX 3117; RIVONIA	R -	Non-BEE	INTERACTIVE TUTOR PTY LTD: T/A MEDIA WORKS; P O BOX 3117; RIVONIA	R 15 008.75	Non-BEE
GLOBAL AFRICA ENT.: 1223 PAUL STR.; MORELETAPARK; PRETORIA	R -	Non-BEE	GLOBAL AFRICA ENT.: 1223 PAUL STR.; MORELETAPARK; PRETORIA	R -	Non-BEE	GLOBAL AFRICA ENT.: 1223 PAUL STR.; MORELETAPARK; PRETORIA	R 15 000.00	Non-BEE
Monitor Engineering (Pty) Ltd: 132 Main Reef Road; Benrose; Johannesburg	R -	Non-BEE	Monitor Engineering (Pty) Ltd: 132 Main Reef Road; Benrose; Johannesburg	R -	Non-BEE	Monitor Engineering (Pty) Ltd: 132 Main Reef Road; Benrose; Johannesburg	R 14 868.00	Non-BEE
CBI CONSULTING ENGINEERS (PTY): 635 RIDGE RAOD; DURBAN;	R -	Non-BEE	CBI CONSULTING ENGINEERS (PTY): 635 RIDGE RAOD; DURBAN;	R -	Non-BEE	CBI CONSULTING ENGINEERS (PTY): 635 RIDGE RAOD; DURBAN;	R 14 820.00	Non-BEE
DIESEL ELECTRIC: 43 MARKET STREET; UPINGTON;	R -	Non-BEE	DIESEL ELECTRIC: 43 MARKET STREET; UPINGTON;	R -	Non-BEE	DIESEL ELECTRIC: 43 MARKET STREET; UPINGTON;	R 14 788.00	Non-BEE
The Apartments @ 66A Stiglingh: 66A Stiglingh Rd; Rivonia; Sandton	R -	Non-BEE	The Apartments @ 66A Stiglingh: 66A Stiglingh Rd; Rivonia; Sandton	R -	Non-BEE	The Apartments @ 66A Stiglingh: 66A Stiglingh Rd; Rivonia; Sandton	R 14 326.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
Polygan Technologies: 14 Albie de Waal Street; Brackenfell;	R -	Non-BEE	Polygan Technologies: 14 Albie de Waal Street; Brackenfell;	R -	Non-BEE	Polygan Technologies: 14 Albie de Waal Street; Brackenfell;	R 14 196.80	Non-BEE
CHAPMAR INDUSTRIES CC: P.O. Box 932; Edenvale;	R -	Non-BEE	CHAPMAR INDUSTRIES CC: P.O. Box 932; Edenvale;	R -	Non-BEE	CHAPMAR INDUSTRIES CC: P.O. Box 932; Edenvale;	R 14 190.00	Non-BEE
STEERS AFROVAN: 8 DICK KING ROAD; WILSONIA; EAST LONDON	R -	Non-BEE	STEERS AFROVAN: 8 DICK KING ROAD; WILSONIA; EAST LONDON	R -	Non-BEE	STEERS AFROVAN: 8 DICK KING ROAD; WILSONIA; EAST LONDON	R 14 040.00	Non-BEE
CHAOS HARDCORE BARBELL: OXYGEN FUUC; ZAMBEZI MALL,PERDEPOORT; PRETORIA	R -	Non-BEE	CHAOS HARDCORE BARBELL: OXYGEN FUUC; ZAMBEZI MALL,PERDEPOORT; PRETORIA	R -	Non-BEE	CHAOS HARDCORE BARBELL: OXYGEN FUUC; ZAMBEZI MALL,PERDEPOORT; PRETORIA	R 14 000.00	Non-BEE
ALUSANI SKILLS & TRAINING NETWORK: P O BOX 2844; SAXONWOLD;	R -	Non-BEE	ALUSANI SKILLS & TRAINING NETWORK: P O BOX 2844; SAXONWOLD;	R -	Non-BEE	ALUSANI SKILLS & TRAINING NETWORK: P O BOX 2844; SAXONWOLD;	R 13 998.00	Non-BEE
Platinum Conferencing: 1005 Managament House; 38 Melle Street; Braamfontein	R -	Non-BEE	Platinum Conferencing: 1005 Managament House; 38 Melle Street; Braamfontein	R -	Non-BEE	Platinum Conferencing: 1005 Managament House; 38 Melle Street; Braamfontein	R 13 998.00	Non-BEE
WEBCO (PTY) LTD: 19 BRUNTON CIRCLE; FOUNDERSVIEW SOUTH; MODDERFONTEIN	R -	Non-BEE	WEBCO (PTY) LTD: 19 BRUNTON CIRCLE; FOUNDERSVIEW SOUTH; MODDERFONTEIN	R -	Non-BEE	WEBCO (PTY) LTD: 19 BRUNTON CIRCLE; FOUNDERSVIEW SOUTH; MODDERFONTEIN	R 13 875.95	Non-BEE
LJ SMITH: EDGAR DAVISSTRAAT 11; MONUMENTHOOGTE; KIMBERLEY	R -	Non-BEE	LJ SMITH: EDGAR DAVISSTRAAT 11; MONUMENTHOOGTE; KIMBERLEY	R -	Non-BEE	LJ SMITH: EDGAR DAVISSTRAAT 11; MONUMENTHOOGTE; KIMBERLEY	R 13 842.00	Non-BEE
CENTURION SYSTEMS (PTY)LTD: 148 EPSOM AVENUE; NORTH RIDING;	R -	Non-BEE	CENTURION SYSTEMS (PTY)LTD: 148 EPSOM AVENUE; NORTH RIDING;	R -	Non-BEE	CENTURION SYSTEMS (PTY)LTD: 148 EPSOM AVENUE; NORTH RIDING;	R 13 795.97	Non-BEE
KOLET TRADING ENTERPRISES T/A: HOFFE PARK; 15 RESERVOIR ROAD; NEW PARK KIMBERLEY	R -	Non-BEE	KOLET TRADING ENTERPRISES T/A: HOFFE PARK; 15 RESERVOIR ROAD; NEW PARK KIMBERLEY	R -	Non-BEE	KOLET TRADING ENTERPRISES T/A: HOFFE PARK; 15 RESERVOIR ROAD; NEW PARK KIMBERLEY	R 13 500.00	Non-BEE
Helena Rall Consulting Services: P. O. Box 1028; Worcester;	R -	Non-BEE	Helena Rall Consulting Services: P. O. Box 1028; Worcester;	R 1 150.00	Non-BEE	Helena Rall Consulting Services: P. O. Box 1028; Worcester;	R 12 155.00	Non-BEE
DIVERSITY BUSINESS SOLUTIONS cc: 2901a, 7th Street; Tsumeb; Namibia	R -	Non-BEE	DIVERSITY BUSINESS SOLUTIONS cc: 2901a, 7th Street; Tsumeb; Namibia	R -	Non-BEE	DIVERSITY BUSINESS SOLUTIONS cc: 2901a, 7th Street; Tsumeb; Namibia	R 13 020.00	Non-BEE
G & P LONGANE MUSIC: 14 B DAVIES STR; VINETA; SWAKOPMUND	R -	Non-BEE	G & P LONGANE MUSIC: 14 B DAVIES STR; VINETA; SWAKOPMUND	R -	Non-BEE	G & P LONGANE MUSIC: 14 B DAVIES STR; VINETA; SWAKOPMUND	R 13 000.00	Non-BEE
BBE Laboratory: Plantech Building; 17 Quintin Brand St; Persequer Technopark	R -	Non-BEE	BBE Laboratory: Plantech Building; 17 Quintin Brand St; Persequer Technopark	R 4 570.00	Non-BEE	BBE Laboratory: Plantech Building; 17 Quintin Brand St; Persequer Technopark	R 8 250.00	Non-BEE
TMS HASLER: PO BOX 378; ISANDO;	R -	Non-BEE	TMS HASLER: PO BOX 378; ISANDO;	R -	Non-BEE	TMS HASLER: PO BOX 378; ISANDO;	R 12 748.08	Non-BEE
LANDDROS KURUMAN: PRIVATE BAG X854; KURUMAN;	R -	Non-BEE	LANDDROS KURUMAN: PRIVATE BAG X854; KURUMAN;	R -	Non-BEE	LANDDROS KURUMAN: PRIVATE BAG X854; KURUMAN;	R 12 600.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
KPA ENGINEERING CC (ROODEPOORT: P.O. Box 1890; Roodepoort;	R -	Non-BEE	KPA ENGINEERING CC (ROODEPOORT: P.O. Box 1890; Roodepoort;	R -	Non-BEE	KPA ENGINEERING CC (ROODEPOORT: P.O. Box 1890; Roodepoort;	R 12 509.70	Non-BEE
MD STRAUSS H/A SONSKYN KWEKERY: POSBUS 104; SPRINGBOK;	R -	Non-BEE	MD STRAUSS H/A SONSKYN KWEKERY: POSBUS 104; SPRINGBOK;	R -	Non-BEE	MD STRAUSS H/A SONSKYN KWEKERY: POSBUS 104; SPRINGBOK;	R 12 509.00	Non-BEE
O E MOULDINGS & SEALS CC: UNIT 90, JET PARK; CARAVELLE STREET; PORT ELIZABETH	R -	Non-BEE	O E MOULDINGS & SEALS CC: UNIT 90, JET PARK; CARAVELLE STREET; PORT ELIZABETH	R -	Non-BEE	O E MOULDINGS & SEALS CC: UNIT 90, JET PARK; CARAVELLE STREET; PORT ELIZABETH	R 12 490.00	Non-BEE
KARSTEN FARMS PTY LTD: P O BOX 201; POFADDER;	R -	Non-BEE	KARSTEN FARMS PTY LTD: P O BOX 201; POFADDER;	R -	Non-BEE	KARSTEN FARMS PTY LTD: P O BOX 201; POFADDER;	R 12 325.00	Non-BEE
N MORRIS: PO BOX 392; AGGENEYS;	R -	Non-BEE	N MORRIS: PO BOX 392; AGGENEYS;	R -	Non-BEE	N MORRIS: PO BOX 392; AGGENEYS;	R 12 100.00	Non-BEE
KIDO LAND: P O BOX 210; CONCORDIA;	R -	Non-BEE	KIDO LAND: P O BOX 210; CONCORDIA;	R -	Non-BEE	KIDO LAND: P O BOX 210; CONCORDIA;	R 12 000.00	Non-BEE
Hans Drommedaaris: 20 Dagbreek A/H; Hennenman;	R -	Non-BEE	Hans Drommedaaris: 20 Dagbreek A/H; Hennenman;	R -	Non-BEE	Hans Drommedaaris: 20 Dagbreek A/H; Hennenman;	R 12 000.00	Non-BEE
SAMRO: PO BOX 31609; BRAAMFONTEIN;	R -	Non-BEE	SAMRO: PO BOX 31609; BRAAMFONTEIN;	R -	Non-BEE	SAMRO: PO BOX 31609; BRAAMFONTEIN;	R 11 871.84	Non-BEE
NORTH WEST UNIVERSITY: HOFFMANSTREET; POTCHEFSTROOM;	R -	Non-BEE	NORTH WEST UNIVERSITY: HOFFMANSTREET; POTCHEFSTROOM;	R -	Non-BEE	NORTH WEST UNIVERSITY: HOFFMANSTREET; POTCHEFSTROOM;	R 11 850.00	Non-BEE
OPTIMAC PTY LTD: 61B Buffelsdoorn Road; Wilkoppies; KLERKSDORP	R -	Non-BEE	OPTIMAC PTY LTD: 61B Buffelsdoorn Road; Wilkoppies; KLERKSDORP	R -	Non-BEE	OPTIMAC PTY LTD: 61B Buffelsdoorn Road; Wilkoppies; KLERKSDORP	R 11 700.00	Non-BEE
TJS THERON: AGGENEYS; ;	R -	Non-BEE	TJS THERON: AGGENEYS; ;	R -	Non-BEE	TJS THERON: AGGENEYS; ;	R 11 694.18	Non-BEE
LOWE LINES: PERSEEL 1303; OLYFHOUTHSDRIFT; UPINGTON	R -	Non-BEE	LOWE LINES: PERSEEL 1303; OLYFHOUTHSDRIFT; UPINGTON	R 6 500.00	Non-BEE	LOWE LINES: PERSEEL 1303; OLYFHOUTHSDRIFT; UPINGTON	R 5 000.00	Non-BEE
RT HYDRAULICS CC: Heuningklipweg 18; Vredenburg;	R -	Non-BEE	RT HYDRAULICS CC: Heuningklipweg 18; Vredenburg;	R 200 100.27	Non-BEE	RT HYDRAULICS CC: Heuningklipweg 18; Vredenburg;	R - 188 660.27	Non-BEE
LABTECH AFRICA (PTY) LTD.: 53 STEEL ROAD; SPARTAN; KEMPTONPARK	R -	Non-BEE	LABTECH AFRICA (PTY) LTD.: 53 STEEL ROAD; SPARTAN; KEMPTONPARK	R -	Non-BEE	LABTECH AFRICA (PTY) LTD.: 53 STEEL ROAD; SPARTAN; KEMPTONPARK	R 11 395.84	Non-BEE
ASCO JOUCOMATIC ZA B.V. T/A: 195 STAND CUSSONIA PARK; 3 RIDGE ROAD; LASER PARK EXT 29 - HONEYDEW	R -	Non-BEE	ASCO JOUCOMATIC ZA B.V. T/A: 195 STAND CUSSONIA PARK; 3 RIDGE ROAD; LASER PARK EXT 29 - HONEYDEW	R -	Non-BEE	ASCO JOUCOMATIC ZA B.V. T/A: 195 STAND CUSSONIA PARK; 3 RIDGE ROAD; LASER PARK EXT 29 - HONEYDEW	R 11 349.00	Non-BEE
Forefront Train.& Busn Solutions: Office 4 The Village @ Horison; Cnr Sonop Street & Ontdekkers Rd; Roodepoort	R -	Non-BEE	Forefront Train.& Busn Solutions: Office 4 The Village @ Horison; Cnr Sonop Street & Ontdekkers Rd; Roodepoort	R -	Non-BEE	Forefront Train.& Busn Solutions: Office 4 The Village @ Horison; Cnr Sonop Street & Ontdekkers Rd; Roodepoort	R 11 199.00	Non-BEE
CAD Aggeneys: Penge Road; Aggeneys;	R -	Non-BEE	CAD Aggeneys: Penge Road; Aggeneys;	R -	Non-BEE	CAD Aggeneys: Penge Road; Aggeneys;	R 11 150.00	Non-BEE
ANDREW LEVY EMPLOYMENT PUBLICATI: P O BOX 784027; SANDTON;	R -	Non-BEE	ANDREW LEVY EMPLOYMENT PUBLICATI: P O BOX 784027; SANDTON;	R -	Non-BEE	ANDREW LEVY EMPLOYMENT PUBLICATI: P O BOX 784027; SANDTON;	R 11 030.70	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
C.R. BEZUIDENHOUT TAXI DIENS: PO BOX 370; SPRINGBOK;	R -	Non-BEE	C.R. BEZUIDENHOUT TAXI DIENS: PO BOX 370; SPRINGBOK;	R -	Non-BEE	C.R. BEZUIDENHOUT TAXI DIENS: PO BOX 370; SPRINGBOK;	R 11 000.00	Non-BEE
WP BLOOD TRANSFUSION SERVICES: P O BOX 79; HOWARD PLACE;	R -	Non-BEE	WP BLOOD TRANSFUSION SERVICES: P O BOX 79; HOWARD PLACE;	R -	Non-BEE	WP BLOOD TRANSFUSION SERVICES: P O BOX 79; HOWARD PLACE;	R 10 989.40	Non-BEE
LINCOLN LUBRICATION S.A. PTY LTD: 66 FIFTH AVENUE; ALBERTON NORTH;	R -	Non-BEE	LINCOLN LUBRICATION S.A. PTY LTD: 66 FIFTH AVENUE; ALBERTON NORTH;	R -	Non-BEE	LINCOLN LUBRICATION S.A. PTY LTD: 66 FIFTH AVENUE; ALBERTON NORTH;	R 10 764.00	Non-BEE
AVR HOLDINGS (PTY)LTD: CNR OF STRIJDOM&CORNELIUS STR; WELTEVRDED PARK, ROODEPOORT; GAUTENG	R -	Non-BEE	AVR HOLDINGS (PTY)LTD: CNR OF STRIJDOM&CORNELIUS STR; WELTEVRDED PARK, ROODEPOORT; GAUTENG	R -	Non-BEE	AVR HOLDINGS (PTY)LTD: CNR OF STRIJDOM&CORNELIUS STR; WELTEVRDED PARK, ROODEPOORT; GAUTENG	R 10 757.00	Non-BEE
HANNA INSTRUMENTS (PTY) LTD: 6 VERNON ROAD; MORNINGHILL; BEDFORDVIEW	R -	Non-BEE	HANNA INSTRUMENTS (PTY) LTD: 6 VERNON ROAD; MORNINGHILL; BEDFORDVIEW	R -	Non-BEE	HANNA INSTRUMENTS (PTY) LTD: 6 VERNON ROAD; MORNINGHILL; BEDFORDVIEW	R 10 540.00	Non-BEE
Strars On Stage: Lekkerbly 4; Kingbolt 82; Wapadrand	R -	Non-BEE	Strars On Stage: Lekkerbly 4; Kingbolt 82; Wapadrand	R -	Non-BEE	Strars On Stage: Lekkerbly 4; Kingbolt 82; Wapadrand	R 10 500.00	Non-BEE
KHK MINING&ENGINEERING SUPPLIES: 6 PRESIDENT STREET; SPRINGBOK;	R -	Non-BEE	KHK MINING&ENGINEERING SUPPLIES: 6 PRESIDENT STREET; SPRINGBOK;	R -	Non-BEE	KHK MINING&ENGINEERING SUPPLIES: 6 PRESIDENT STREET; SPRINGBOK;	R 10 410.00	Non-BEE
MAC FOR MARKETING CC (FLORIDA): SHOP 16 FLORIDA PARK; SHOPPING CENTRE; DANIEL MALAN AVENUE	R -	Non-BEE	MAC FOR MARKETING CC (FLORIDA): SHOP 16 FLORIDA PARK; SHOPPING CENTRE; DANIEL MALAN AVENUE	R -	Non-BEE	MAC FOR MARKETING CC (FLORIDA): SHOP 16 FLORIDA PARK; SHOPPING CENTRE; DANIEL MALAN AVENUE	R 10 372.52	Non-BEE
IETZI ALZ: 23 WILLIAMS STREET; BERGSIG; SPRINGBOK	R -	Non-BEE	IETZI ALZ: 23 WILLIAMS STREET; BERGSIG; SPRINGBOK	R -	Non-BEE	IETZI ALZ: 23 WILLIAMS STREET; BERGSIG; SPRINGBOK	R 10 350.00	Non-BEE
CEMENT & CONCRETE INSTITUTE: PO BOX 168; HALFWAY HOUSE;	R -	Non-BEE	CEMENT & CONCRETE INSTITUTE: PO BOX 168; HALFWAY HOUSE;	R -	Non-BEE	CEMENT & CONCRETE INSTITUTE: PO BOX 168; HALFWAY HOUSE;	R 10 200.00	Non-BEE
MAGISTRATE GROBLERSHOOP: Private Bag X01; GROBLERSHOOP;	R -	Non-BEE	MAGISTRATE GROBLERSHOOP: Private Bag X01; GROBLERSHOOP;	R -	Non-BEE	MAGISTRATE GROBLERSHOOP: Private Bag X01; GROBLERSHOOP;	R 10 200.00	Non-BEE
CROSSROADS DITRIBUTION (PTY) LTD: INRYSTRAAT; SPRINGBOK;	R -	BEE	CROSSROADS DITRIBUTION (PTY) LTD: INRYSTRAAT; SPRINGBOK;	R -	BEE	CROSSROADS DITRIBUTION (PTY) LTD: INRYSTRAAT; SPRINGBOK;	R 10 100.00	BEE
PELLA R.K. PRIMERE SKOOL: PO BOX 64; PELLA;	R -	Non-BEE	PELLA R.K. PRIMERE SKOOL: PO BOX 64; PELLA;	R -	Non-BEE	PELLA R.K. PRIMERE SKOOL: PO BOX 64; PELLA;	R 10 000.00	Non-BEE
RADIO NFM: MAIN ROAD 02; OKIEP;	R -	Non-BEE	RADIO NFM: MAIN ROAD 02; OKIEP;	R -	Non-BEE	RADIO NFM: MAIN ROAD 02; OKIEP;	R 9 990.00	Non-BEE
Operational Marketing (Pty) Ltd: 30 Lyn Road; Ferndale Ext. 4; Randburg	R -	Non-BEE	Operational Marketing (Pty) Ltd: 30 Lyn Road; Ferndale Ext. 4; Randburg	R -	Non-BEE	Operational Marketing (Pty) Ltd: 30 Lyn Road; Ferndale Ext. 4; Randburg	R 9 861.30	Non-BEE
TURNKEY INSTRUMENTS SOUTH AFRICA: UNIT P4, ARDEER ROAD; PINELANDS OFFICE PARK; MODDERFONTEIN	R -	Non-BEE	TURNKEY INSTRUMENTS SOUTH AFRICA: UNIT P4, ARDEER ROAD; PINELANDS OFFICE PARK; MODDERFONTEIN	R -	Non-BEE	TURNKEY INSTRUMENTS SOUTH AFRICA: UNIT P4, ARDEER ROAD; PINELANDS OFFICE PARK; MODDERFONTEIN	R 9 700.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
RSD - A DIV OF DCD-DORBYL: P.O. Box 229; Boksburg East;	R -	Non-BEE	RSD - A DIV OF DCD-DORBYL: P.O. Box 229; Boksburg East;	R -	Non-BEE	RSD - A DIV OF DCD-DORBYL: P.O. Box 229; Boksburg East;	R 9 470.35	Non-BEE
UPS SCS South Africa: 33 Brussels Road Unit C; Aeroport; Spartan Ext 2; Kempton Park	R -	Non-BEE	UPS SCS South Africa: 33 Brussels Road Unit C; Aeroport; Spartan Ext 2; Kempton Park	R -	Non-BEE	UPS SCS South Africa: 33 Brussels Road Unit C; Aeroport; Spartan Ext 2; Kempton Park	R 9 283.38	Non-BEE
ESH TRAINING & DEVELOPMENT SERVI: P O BOX 1866; FOCHVILLE;	R -	Non-BEE	ESH TRAINING & DEVELOPMENT SERVI: P O BOX 1866; FOCHVILLE;	R -	Non-BEE	ESH TRAINING & DEVELOPMENT SERVI: P O BOX 1866; FOCHVILLE;	R 9 120.00	Non-BEE
ANATOMIC: 179 BEYERS NAUDE RYLAAN; CRESTA;	R -	Non-BEE	ANATOMIC: 179 BEYERS NAUDE RYLAAN; CRESTA;	R -	Non-BEE	ANATOMIC: 179 BEYERS NAUDE RYLAAN; CRESTA;	R 8 902.14	Non-BEE
VOKE FILTRATION (PTY) LTD: P.O. Box 2734; Benoni;	R -	Non-BEE	VOKE FILTRATION (PTY) LTD: P.O. Box 2734; Benoni;	R -	Non-BEE	VOKE FILTRATION (PTY) LTD: P.O. Box 2734; Benoni;	R 8 833.32	Non-BEE
AMICA GUESTHOUSE PTY LTD: P O BOX 174; ROSH PINA; NAMIBIA	R -	Non-BEE	AMICA GUESTHOUSE PTY LTD: P O BOX 174; ROSH PINA; NAMIBIA	R -	Non-BEE	AMICA GUESTHOUSE PTY LTD: P O BOX 174; ROSH PINA; NAMIBIA	R 8 740.00	Non-BEE
Renold Crofts (Pty) Ltd: Cnr Liverpool Rd & Bolton Str; Benoni Industrial Site; Benoni	R -	Non-BEE	Renold Crofts (Pty) Ltd: Cnr Liverpool Rd & Bolton Str; Benoni Industrial Site; Benoni	R -	Non-BEE	Renold Crofts (Pty) Ltd: Cnr Liverpool Rd & Bolton Str; Benoni Industrial Site; Benoni	R 8 739.48	Non-BEE
COUNTERPOINT DEBT COLLECTIONS: P.O.BOX 495; KROONSTAD;	R -	Non-BEE	COUNTERPOINT DEBT COLLECTIONS: P.O.BOX 495; KROONSTAD;	R -	Non-BEE	COUNTERPOINT DEBT COLLECTIONS: P.O.BOX 495; KROONSTAD;	R 8 720.04	Non-BEE
LEVINA SMITH: P.O.BOX 375; AGGENEYS;	R -	Non-BEE	LEVINA SMITH: P.O.BOX 375; AGGENEYS;	R -	Non-BEE	LEVINA SMITH: P.O.BOX 375; AGGENEYS;	R 8 327.00	Non-BEE
ARNO VAN ZYL: PO BOX 525; SPRINGBOK;	R -	Non-BEE	ARNO VAN ZYL: PO BOX 525; SPRINGBOK;	R -	Non-BEE	ARNO VAN ZYL: PO BOX 525; SPRINGBOK;	R 8 130.11	Non-BEE
HEYNS & PARTNERS INC: 168 VASCO BOULEVARD; GOODWOOD;	R -	Non-BEE	HEYNS & PARTNERS INC: 168 VASCO BOULEVARD; GOODWOOD;	R -	Non-BEE	HEYNS & PARTNERS INC: 168 VASCO BOULEVARD; GOODWOOD;	R 8 031.60	Non-BEE
Alexis Events and Mang. Forum: 63 Montenique Complex; Northriding; Montrose Ave	R -	Non-BEE	Alexis Events and Mang. Forum: 63 Montenique Complex; Northriding; Montrose Ave	R 1 150.00	Non-BEE	Alexis Events and Mang. Forum: 63 Montenique Complex; Northriding; Montrose Ave	R 6 849.00	Non-BEE
Le-Lue: Inia Str. 6; Malmesbury;	R -	Non-BEE	Le-Lue: Inia Str. 6; Malmesbury;	R -	Non-BEE	Le-Lue: Inia Str. 6; Malmesbury;	R 7 950.00	Non-BEE
THE MINE VENTILATION SOC OF SA: C/O Rustenburg & Carlow Rds; Emmerentia; Johannesburg	R -	Non-BEE	THE MINE VENTILATION SOC OF SA: C/O Rustenburg & Carlow Rds; Emmerentia; Johannesburg	R -	Non-BEE	THE MINE VENTILATION SOC OF SA: C/O Rustenburg & Carlow Rds; Emmerentia; Johannesburg	R 7 919.00	Non-BEE
FLOSOLVE (PTY) LTD: 16 BORAX ST; ALRODE EXT 7; ALBERTON	R -	Non-BEE	FLOSOLVE (PTY) LTD: 16 BORAX ST; ALRODE EXT 7; ALBERTON	R 95 000.00	Non-BEE	FLOSOLVE (PTY) LTD: 16 BORAX ST; ALRODE EXT 7; ALBERTON	R -87 226.29	Non-BEE
LASEC SA PTY LTD: 52 OLD MILL ROAD; NDABENI; CAPE TOWN	R -	BEE	LASEC SA PTY LTD: 52 OLD MILL ROAD; NDABENI; CAPE TOWN	R -	BEE	LASEC SA PTY LTD: 52 OLD MILL ROAD; NDABENI; CAPE TOWN	R 7 728.16	BEE
SCHOLTZ & DE WIT: P O BOX 35; SPRINGBOK;	R -	Non-BEE	SCHOLTZ & DE WIT: P O BOX 35; SPRINGBOK;	R -	Non-BEE	SCHOLTZ & DE WIT: P O BOX 35; SPRINGBOK;	R 7 602.99	Non-BEE
Real 4 Real: 7 Harmony Close; Springbok;	R -	BEE	Real 4 Real: 7 Harmony Close; Springbok;	R -	BEE	Real 4 Real: 7 Harmony Close; Springbok;	R 7 500.00	BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
Diverse Corporate Trng Solutions: 100 Butterfly Road; Bombay Heights; Pietermaritzburg	R -	Non-BEE	Diverse Corporate Trng Solutions: 100 Butterfly Road; Bombay Heights; Pietermaritzburg	R -	Non-BEE	Diverse Corporate Trng Solutions: 100 Butterfly Road; Bombay Heights; Pietermaritzburg	R 7 490.00	Non-BEE
UNIQUE CLAMP.ENG.& VENT.PTY LTD: SKOOLPLAATS; HENNEMAN; FREE STATE	R -	Non-BEE	UNIQUE CLAMP.ENG.& VENT.PTY LTD: SKOOLPLAATS; HENNEMAN; FREE STATE	R -	Non-BEE	UNIQUE CLAMP.ENG.& VENT.PTY LTD: SKOOLPLAATS; HENNEMAN; FREE STATE	R 7 343.28	Non-BEE
UNITED SCIENTIFIC: 21 VASCO BOULEVARD; GOODWOOD; CAPE TOWN	R -	Non-BEE	UNITED SCIENTIFIC: 21 VASCO BOULEVARD; GOODWOOD; CAPE TOWN	R -	Non-BEE	UNITED SCIENTIFIC: 21 VASCO BOULEVARD; GOODWOOD; CAPE TOWN	R 7 170.00	Non-BEE
JETLINE RIVONIA: SHOP 1; 329 RIVONIA BLVD; RIVONIA	R -	Non-BEE	JETLINE RIVONIA: SHOP 1; 329 RIVONIA BLVD; RIVONIA	R -	Non-BEE	JETLINE RIVONIA: SHOP 1; 329 RIVONIA BLVD; RIVONIA	R 7 162.72	Non-BEE
GERHARD VAN DER MERWE ATTORNEY: PRIVATE BAG X11271; NELSPRUIT;	R -	Non-BEE	GERHARD VAN DER MERWE ATTORNEY: PRIVATE BAG X11271; NELSPRUIT;	R -	Non-BEE	GERHARD VAN DER MERWE ATTORNEY: PRIVATE BAG X11271; NELSPRUIT;	R 7 031.74	Non-BEE
FUTURE LEARNING: BLACK GINGER 409; P O BOX 554; CAPE TOWN	R -	Non-BEE	FUTURE LEARNING: BLACK GINGER 409; P O BOX 554; CAPE TOWN	R -	Non-BEE	FUTURE LEARNING: BLACK GINGER 409; P O BOX 554; CAPE TOWN	R 7 000.00	Non-BEE
ISO LEISURE N 2 PTY LTD: HOLIDAY INN EXPRESS CAPE TOWN; 101 ST GEORGES MALL; CAPE TOWN	R -	Non-BEE	ISO LEISURE N 2 PTY LTD: HOLIDAY INN EXPRESS CAPE TOWN; 101 ST GEORGES MALL; CAPE TOWN	R -	Non-BEE	ISO LEISURE N 2 PTY LTD: HOLIDAY INN EXPRESS CAPE TOWN; 101 ST GEORGES MALL; CAPE TOWN	R 6 969.00	Non-BEE
SOARING TECHNOLOGY CC T/A COAST: UNIT 15 WOODRIDGE BUSINESS PARK; KOEBERG ROAD; MILNERTON	R -	Non-BEE	SOARING TECHNOLOGY CC T/A COAST: UNIT 15 WOODRIDGE BUSINESS PARK; KOEBERG ROAD; MILNERTON	R -	Non-BEE	SOARING TECHNOLOGY CC T/A COAST: UNIT 15 WOODRIDGE BUSINESS PARK; KOEBERG ROAD; MILNERTON	R 6 886.00	Non-BEE
MINOVA RSA: P.O. Box 52; Isando;	R -	Non-BEE	MINOVA RSA: P.O. Box 52; Isando;	R -	Non-BEE	MINOVA RSA: P.O. Box 52; Isando;	R 6 795.75	Non-BEE
TRENTYRE (PTY) LTD: 9 VOORTREKKER ROAD; SPRINGBOK;	R -	Non-BEE	TRENTYRE (PTY) LTD: 9 VOORTREKKER ROAD; SPRINGBOK;	R -	Non-BEE	TRENTYRE (PTY) LTD: 9 VOORTREKKER ROAD; SPRINGBOK;	R 6 624.00	Non-BEE
STRIPFORM PACKAGING (PTY) LTD: P.O. Box 1480; Dassenerg W.C;	R -	Non-BEE	STRIPFORM PACKAGING (PTY) LTD: P.O. Box 1480; Dassenerg W.C;	R -	Non-BEE	STRIPFORM PACKAGING (PTY) LTD: P.O. Box 1480; Dassenerg W.C;	R 6 524.95	Non-BEE
Global Carbon Exchange: 5 Milton's Way, Bell Crescent; Westlake Business Park; Westlake, Cape Town	R -	Non-BEE	Global Carbon Exchange: 5 Milton's Way, Bell Crescent; Westlake Business Park; Westlake, Cape Town	R -	Non-BEE	Global Carbon Exchange: 5 Milton's Way, Bell Crescent; Westlake Business Park; Westlake, Cape Town	R 6 500.00	Non-BEE
AGGENEYS RIDING CLUB: Po Box 86; Aggeneys;	R -	Non-BEE	AGGENEYS RIDING CLUB: Po Box 86; Aggeneys;	R -	Non-BEE	AGGENEYS RIDING CLUB: Po Box 86; Aggeneys;	R 6 439.00	Non-BEE
STEINER HYGIENE(76982B): P.O. Box 360; Ermelo;	R -	Non-BEE	STEINER HYGIENE(76982B): P.O. Box 360; Ermelo;	R -	Non-BEE	STEINER HYGIENE(76982B): P.O. Box 360; Ermelo;	R 6 397.85	Non-BEE
CHECKIN SUPERMARKTE (EDMS) BPK: HAVELOCK STRAAT; AGGENEYS;	R -	Non-BEE	CHECKIN SUPERMARKTE (EDMS) BPK: HAVELOCK STRAAT; AGGENEYS;	R -	Non-BEE	CHECKIN SUPERMARKTE (EDMS) BPK: HAVELOCK STRAAT; AGGENEYS;	R 6 219.40	Non-BEE
TECHNICOL SA COLLEGE (PTY) LTD: 61 CARDIFF AVE, CLUBVIEW; CENTURION;	R -	Non-BEE	TECHNICOL SA COLLEGE (PTY) LTD: 61 CARDIFF AVE, CLUBVIEW; CENTURION;	R -	Non-BEE	TECHNICOL SA COLLEGE (PTY) LTD: 61 CARDIFF AVE, CLUBVIEW; CENTURION;	R 6 200.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
POWER PLUS SERVICES: 4 CAROB STREET; VREDENDAL;	R -	Non-BEE	POWER PLUS SERVICES: 4 CAROB STREET; VREDENDAL;	R -	Non-BEE	POWER PLUS SERVICES: 4 CAROB STREET; VREDENDAL;	R 6 092.00	Non-BEE
SCHREUDERS: ANICO GEBOU; VOORTREKKER STREET; SPRINGBOK	R -	Non-BEE	SCHREUDERS: ANICO GEBOU; VOORTREKKER STREET; SPRINGBOK	R -	Non-BEE	SCHREUDERS: ANICO GEBOU; VOORTREKKER STREET; SPRINGBOK	R 6 076.16	Non-BEE
LANDDROS EVANDER: PRIVAATSAK X1006; EVANDER;	R -	Non-BEE	LANDDROS EVANDER: PRIVAATSAK X1006; EVANDER;	R -	Non-BEE	LANDDROS EVANDER: PRIVAATSAK X1006; EVANDER;	R 6 000.00	Non-BEE
AIRVENT AIRCON & VENTILATION: 9 TEE JAY STREET; BRACKENFELL;	R -	Non-BEE	AIRVENT AIRCON & VENTILATION: 9 TEE JAY STREET; BRACKENFELL;	R 806.00	Non-BEE	AIRVENT AIRCON & VENTILATION: 9 TEE JAY STREET; BRACKENFELL;	R 5 167.60	Non-BEE
BOESMANLAND SLAGHUIS: PO BOX 37; AGGENEYS;	R -	Non-BEE	BOESMANLAND SLAGHUIS: PO BOX 37; AGGENEYS;	R -	Non-BEE	BOESMANLAND SLAGHUIS: PO BOX 37; AGGENEYS;	R 5 757.20	Non-BEE
RADIATION DOSIMETRY AND PROTECTI: P O BOX 678; BELLVILLE;	R -	Non-BEE	RADIATION DOSIMETRY AND PROTECTI: P O BOX 678; BELLVILLE;	R -	Non-BEE	RADIATION DOSIMETRY AND PROTECTI: P O BOX 678; BELLVILLE;	R 5 605.26	Non-BEE
TOP ACE TRADING 10 CC: VRAWEER GASTEHUIS; 112 VOORTREKKERSTRAAT; POFADDER	R -	Non-BEE	TOP ACE TRADING 10 CC: VRAWEER GASTEHUIS; 112 VOORTREKKERSTRAAT; POFADDER	R -	Non-BEE	TOP ACE TRADING 10 CC: VRAWEER GASTEHUIS; 112 VOORTREKKERSTRAAT; POFADDER	R 5 600.00	Non-BEE
SPRINGBOK PLAAS SLAGHUIS: P.O.BOX 981; SPRINGBOK;	R -	Non-BEE	SPRINGBOK PLAAS SLAGHUIS: P.O.BOX 981; SPRINGBOK;	R -	Non-BEE	SPRINGBOK PLAAS SLAGHUIS: P.O.BOX 981; SPRINGBOK;	R 5 533.87	Non-BEE
VREDENDAL MAGISTRATE COURT: PRIVATE BAG X 3; VREDENDAL;	R -	Non-BEE	VREDENDAL MAGISTRATE COURT: PRIVATE BAG X 3; VREDENDAL;	R -	Non-BEE	VREDENDAL MAGISTRATE COURT: PRIVATE BAG X 3; VREDENDAL;	R 5 500.00	Non-BEE
GEOLOGICAL SOCIETY PROFESSIONAL: PO BOX 61809; MARSHALLTOWN;	R -	Non-BEE	GEOLOGICAL SOCIETY PROFESSIONAL: PO BOX 61809; MARSHALLTOWN;	R -	Non-BEE	GEOLOGICAL SOCIETY PROFESSIONAL: PO BOX 61809; MARSHALLTOWN;	R 5 456.14	Non-BEE
JACOBS ATTORNEYS: PO BOX 800; STEELPOORT;	R -	Non-BEE	JACOBS ATTORNEYS: PO BOX 800; STEELPOORT;	R -	Non-BEE	JACOBS ATTORNEYS: PO BOX 800; STEELPOORT;	R 5 258.77	Non-BEE
OPEN TRADE TRAINING CENTRE: P.O.BOX 14532; DERSLEY; SPRINGS	R -	BEE	OPEN TRADE TRAINING CENTRE: P.O.BOX 14532; DERSLEY; SPRINGS	R -	BEE	OPEN TRADE TRAINING CENTRE: P.O.BOX 14532; DERSLEY; SPRINGS	R 5 196.00	BEE
Int Congress of Psychology: Killarney Mall, Office Towers; Office 110, 1st Floor; Killarney	R -	Non-BEE	Int Congress of Psychology: Killarney Mall, Office Towers; Office 110, 1st Floor; Killarney	R -	Non-BEE	Int Congress of Psychology: Killarney Mall, Office Towers; Office 110, 1st Floor; Killarney	R 5 175.44	Non-BEE
SCHOEMAN MAREE ING: KELLNERSTRAAT 100; HYDROPARK 2; BLOEMFONTEIN	R -	Non-BEE	SCHOEMAN MAREE ING: KELLNERSTRAAT 100; HYDROPARK 2; BLOEMFONTEIN	R -	Non-BEE	SCHOEMAN MAREE ING: KELLNERSTRAAT 100; HYDROPARK 2; BLOEMFONTEIN	R 5 163.12	Non-BEE
C.U. ENGINEERING SERVICES: 3 MALAN STREET; Westonaria;	R -	Non-BEE	C.U. ENGINEERING SERVICES: 3 MALAN STREET; Westonaria;	R -	Non-BEE	C.U. ENGINEERING SERVICES: 3 MALAN STREET; Westonaria;	R 5 095.00	Non-BEE
SPRINGBOK WINDSCREEN CLINIC SPRI: P O Box 239; Springbok;	R -	Non-BEE	SPRINGBOK WINDSCREEN CLINIC SPRI: P O Box 239; Springbok;	R -	Non-BEE	SPRINGBOK WINDSCREEN CLINIC SPRI: P O Box 239; Springbok;	R 5 054.38	Non-BEE
UPINGTON KAMPUS FLEXI PROGRAM: STEVE NAUDE STRAAT; UPINGTON;	R -	Non-BEE	UPINGTON KAMPUS FLEXI PROGRAM: STEVE NAUDE STRAAT; UPINGTON;	R -	Non-BEE	UPINGTON KAMPUS FLEXI PROGRAM: STEVE NAUDE STRAAT; UPINGTON;	R 5 000.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
SKIPPER DEVELOPMENT CC: 724 DARLINGSTREET; EAST LYNN; PRETORIA	R 11 400.00	Non-BEE	SKIPPER DEVELOPMENT CC: 724 DARLINGSTREET; EAST LYNN; PRETORIA	R -	Non-BEE	SKIPPER DEVELOPMENT CC: 724 DARLINGSTREET; EAST LYNN; PRETORIA	R -6 446.32	Non-BEE
DEPARTMENT OF JUSTICE KAKAMAS: PRIVATEBAG X1; KAKAMAS;	R -	Non-BEE	DEPARTMENT OF JUSTICE KAKAMAS: PRIVATEBAG X1; KAKAMAS;	R -	Non-BEE	DEPARTMENT OF JUSTICE KAKAMAS: PRIVATEBAG X1; KAKAMAS;	R 4 800.00	Non-BEE
CREATIVE SPACE MEDIA: PO BOX 2304; SUNNINGHILL;	R -	Non-BEE	CREATIVE SPACE MEDIA: PO BOX 2304; SUNNINGHILL;	R -	Non-BEE	CREATIVE SPACE MEDIA: PO BOX 2304; SUNNINGHILL;	R 4 800.00	Non-BEE
SAVILLE & HOLDSWORTH SOUTH AFRIC: 121 BOSHOF STREET; NEW MUKLENEUK; PRETORIA	R -	Non-BEE	SAVILLE & HOLDSWORTH SOUTH AFRIC: 121 BOSHOF STREET; NEW MUKLENEUK; PRETORIA	R -	Non-BEE	SAVILLE & HOLDSWORTH SOUTH AFRIC: 121 BOSHOF STREET; NEW MUKLENEUK; PRETORIA	R 4 760.00	Non-BEE
CEM ENGINEERING PRODUCTS (PTY) L: 3 POTGIETER STREET; ALRODE;	R -	Non-BEE	CEM ENGINEERING PRODUCTS (PTY) L: 3 POTGIETER STREET; ALRODE;	R -	Non-BEE	CEM ENGINEERING PRODUCTS (PTY) L: 3 POTGIETER STREET; ALRODE;	R 4 622.20	Non-BEE
LASER COLOUR REPRODS TVL T A: 36 ST CHRISTOPHER RD; ST ANDREWS; BEDFORDVIEW	R -	Non-BEE	LASER COLOUR REPRODS TVL T A: 36 ST CHRISTOPHER RD; ST ANDREWS; BEDFORDVIEW	R -	Non-BEE	LASER COLOUR REPRODS TVL T A: 36 ST CHRISTOPHER RD; ST ANDREWS; BEDFORDVIEW	R 4 548.00	Non-BEE
SISHEN IRON ORE COMPANY(PTY) LTD: PO BOX X506; PO KATHU;	R -	Non-BEE	SISHEN IRON ORE COMPANY(PTY) LTD: PO BOX X506; PO KATHU;	R -	Non-BEE	SISHEN IRON ORE COMPANY(PTY) LTD: PO BOX X506; PO KATHU;	R 4 500.00	Non-BEE
INSPECTORATE M&L (PTY) LTD: PO BOX 82124; SOUTHDALE;	R -	Non-BEE	INSPECTORATE M&L (PTY) LTD: PO BOX 82124; SOUTHDALE;	R -	Non-BEE	INSPECTORATE M&L (PTY) LTD: PO BOX 82124; SOUTHDALE;	R 4 136.07	Non-BEE
BERUC EQUIPMENT (PTY) LTD: P.O. Box 17260; Benoni West;	R -	Non-BEE	BERUC EQUIPMENT (PTY) LTD: P.O. Box 17260; Benoni West;	R -	Non-BEE	BERUC EQUIPMENT (PTY) LTD: P.O. Box 17260; Benoni West;	R 4 125.00	Non-BEE
SKYJACKS (PTY.) LTD.: P.O. Box 13661; Witfield;	R -	Non-BEE	SKYJACKS (PTY.) LTD.: P.O. Box 13661; Witfield;	R -	Non-BEE	SKYJACKS (PTY.) LTD.: P.O. Box 13661; Witfield;	R 4 110.00	Non-BEE
MAGISTRATE BISHOP LAVIS: PO BOX 17513; BISHOP LAVIS;	R -	Non-BEE	MAGISTRATE BISHOP LAVIS: PO BOX 17513; BISHOP LAVIS;	R -	Non-BEE	MAGISTRATE BISHOP LAVIS: PO BOX 17513; BISHOP LAVIS;	R 4 000.00	Non-BEE
Pieter Jordaan: Postnet Suite 192; Private Bag X 5879; Upington	R -	Non-BEE	Pieter Jordaan: Postnet Suite 192; Private Bag X 5879; Upington	R -	Non-BEE	Pieter Jordaan: Postnet Suite 192; Private Bag X 5879; Upington	R 4 000.00	Non-BEE
RAMOT: 54 TONER STREET; PAROW-EAST;	R -	Non-BEE	RAMOT: 54 TONER STREET; PAROW-EAST;	R -	Non-BEE	RAMOT: 54 TONER STREET; PAROW-EAST;	R 4 000.00	Non-BEE
INSTITUTE OF DIRECTORS: 144 KATHERINE STREET; SANDON;	R -	Non-BEE	INSTITUTE OF DIRECTORS: 144 KATHERINE STREET; SANDON;	R -	Non-BEE	INSTITUTE OF DIRECTORS: 144 KATHERINE STREET; SANDON;	R 3 873.69	Non-BEE
FISHER TECHNOLOGIES CC: UNIT7, DAGENDAM RD; BENONI SOUTH;	R -	Non-BEE	FISHER TECHNOLOGIES CC: UNIT7, DAGENDAM RD; BENONI SOUTH;	R -	Non-BEE	FISHER TECHNOLOGIES CC: UNIT7, DAGENDAM RD; BENONI SOUTH;	R 3 816.75	Non-BEE
CPRD Consulting Services: 204 Aston House; 132 Monument Road; Aston Manor	R -	Non-BEE	CPRD Consulting Services: 204 Aston House; 132 Monument Road; Aston Manor	R -	Non-BEE	CPRD Consulting Services: 204 Aston House; 132 Monument Road; Aston Manor	R 3 762.29	Non-BEE
BELTING SUPPLY SERVICES: 30 HEWETT AVENUE; EPPING INDUSTRIA 2; EPPINDUST	R -	BEE	BELTING SUPPLY SERVICES: 30 HEWETT AVENUE; EPPING INDUSTRIA 2; EPPINDUST	R -	BEE	BELTING SUPPLY SERVICES: 30 HEWETT AVENUE; EPPING INDUSTRIA 2; EPPINDUST	R 3 749.00	BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
SISONKE SOFTWARE SOLUTIONS: 26 BRIDGE STREET; WALMER EST;	R -	Non-BEE	SISONKE SOFTWARE SOLUTIONS: 26 BRIDGE STREET; WALMER EST;	R -	Non-BEE	SISONKE SOFTWARE SOLUTIONS: 26 BRIDGE STREET; WALMER EST;	R 3 652.50	Non-BEE
NOISE CLIPPER (PTY) LTD: 2 HOSTEL STREET; PERSEQUOR RIDGE; PRETORIA	R -	Non-BEE	NOISE CLIPPER (PTY) LTD: 2 HOSTEL STREET; PERSEQUOR RIDGE; PRETORIA	R -	Non-BEE	NOISE CLIPPER (PTY) LTD: 2 HOSTEL STREET; PERSEQUOR RIDGE; PRETORIA	R 3 585.00	Non-BEE
A.I.G.SALES CC: P.O. Box 8013; Edenglen;	R -	Non-BEE	A.I.G.SALES CC: P.O. Box 8013; Edenglen;	R -	Non-BEE	A.I.G.SALES CC: P.O. Box 8013; Edenglen;	R 3 471.02	Non-BEE
SA CIVIL AVIATION AUTHORITY: PRIVATE BAG X08; WATERKLOOF;	R -	Non-BEE	SA CIVIL AVIATION AUTHORITY: PRIVATE BAG X08; WATERKLOOF;	R -	Non-BEE	SA CIVIL AVIATION AUTHORITY: PRIVATE BAG X08; WATERKLOOF;	R 3 286.00	Non-BEE
FLEET STREET PUBLICATIONS (PTY): PRIVATE BAG X16; NORTH RIDING;	R -	Non-BEE	FLEET STREET PUBLICATIONS (PTY): PRIVATE BAG X16; NORTH RIDING;	R -	Non-BEE	FLEET STREET PUBLICATIONS (PTY): PRIVATE BAG X16; NORTH RIDING;	R 3 262.93	Non-BEE
FRAMERS STUDIO: PO BOX 702; SPRINGBOK;	R -	Non-BEE	FRAMERS STUDIO: PO BOX 702; SPRINGBOK;	R -	Non-BEE	FRAMERS STUDIO: PO BOX 702; SPRINGBOK;	R 3 225.00	Non-BEE
JA PRINSLOO PROKUREURS: P O BOX 725; SPRINGBOK;	R -	Non-BEE	JA PRINSLOO PROKUREURS: P O BOX 725; SPRINGBOK;	R -	Non-BEE	JA PRINSLOO PROKUREURS: P O BOX 725; SPRINGBOK;	R 3 155.28	Non-BEE
FORTUNE AIR (PTY) LTD: HANGER # 3; GATE 5; INTERNATIONAL AIRPORT	R -	Non-BEE	FORTUNE AIR (PTY) LTD: HANGER # 3; GATE 5; INTERNATIONAL AIRPORT	R 13 238.40	Non-BEE	FORTUNE AIR (PTY) LTD: HANGER # 3; GATE 5; INTERNATIONAL AIRPORT	R -10 160.40	Non-BEE
Labour Guide: 54 Islandton Crescent; Midstream Estate; Midrand	R -	Non-BEE	Labour Guide: 54 Islandton Crescent; Midstream Estate; Midrand	R -	Non-BEE	Labour Guide: 54 Islandton Crescent; Midstream Estate; Midrand	R 3 061.40	Non-BEE
MINDMUZIK MEDIA (PTY) LTD: P O BOX 2904; BROOKLYN SQUARE;	R -	Non-BEE	MINDMUZIK MEDIA (PTY) LTD: P O BOX 2904; BROOKLYN SQUARE;	R -	Non-BEE	MINDMUZIK MEDIA (PTY) LTD: P O BOX 2904; BROOKLYN SQUARE;	R 2 913.11	Non-BEE
ENGINEERING COUNCIL OF SA: PRIVATE BAG X691; BRUMAMEER;	R -	Non-BEE	ENGINEERING COUNCIL OF SA: PRIVATE BAG X691; BRUMAMEER;	R -	Non-BEE	ENGINEERING COUNCIL OF SA: PRIVATE BAG X691; BRUMAMEER;	R 2 821.07	Non-BEE
WORKPLACE PERFORMANCE TECHNOLOGI: 332 KENT AVENUE; FERNDAL; RANDBURG	R -	Non-BEE	WORKPLACE PERFORMANCE TECHNOLOGI: 332 KENT AVENUE; FERNDAL; RANDBURG	R -	Non-BEE	WORKPLACE PERFORMANCE TECHNOLOGI: 332 KENT AVENUE; FERNDAL; RANDBURG	R 2 700.00	Non-BEE
JAS FORWARDING S.A. (PTY) LTD: PO BOX 850; MILNERTON;	R -	Non-BEE	JAS FORWARDING S.A. (PTY) LTD: PO BOX 850; MILNERTON;	R -	Non-BEE	JAS FORWARDING S.A. (PTY) LTD: PO BOX 850; MILNERTON;	R 2 694.86	Non-BEE
PAYWELL PTY LTD: P.O. Box 1127; Edenvale;	R -	Non-BEE	PAYWELL PTY LTD: P.O. Box 1127; Edenvale;	R -	Non-BEE	PAYWELL PTY LTD: P.O. Box 1127; Edenvale;	R 2 568.00	Non-BEE
SAIMM: P O BOX 61127; MARSHALLTOWN;	R -	Non-BEE	SAIMM: P O BOX 61127; MARSHALLTOWN;	R -	Non-BEE	SAIMM: P O BOX 61127; MARSHALLTOWN;	R 2 561.39	Non-BEE
GRIPLOK (PTY) LIMITED: P.O. Box 2880; Kempton Park;	R -	Non-BEE	GRIPLOK (PTY) LIMITED: P.O. Box 2880; Kempton Park;	R -	Non-BEE	GRIPLOK (PTY) LIMITED: P.O. Box 2880; Kempton Park;	R 2 518.00	Non-BEE
THE EDISON LIGHTING COMPANY (PTY: P.O. Box 58316; Newville;	R -	Non-BEE	THE EDISON LIGHTING COMPANY (PTY: P.O. Box 58316; Newville;	R -	Non-BEE	THE EDISON LIGHTING COMPANY (PTY: P.O. Box 58316; Newville;	R 2 411.21	Non-BEE
LINVAR (PTY) LIMITED: P.O. Box 76223; Wendywood;	R -	Non-BEE	LINVAR (PTY) LIMITED: P.O. Box 76223; Wendywood;	R -	Non-BEE	LINVAR (PTY) LIMITED: P.O. Box 76223; Wendywood;	R 2 405.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
CAPE ARMATURE WINDERS(PTY)LTD: 64 KILLARNEY AVENUE; KILLARNEY GARDENS;	R -	Non-BEE	CAPE ARMATURE WINDERS(PTY)LTD: 64 KILLARNEY AVENUE; KILLARNEY GARDENS;	R -	Non-BEE	CAPE ARMATURE WINDERS(PTY)LTD: 64 KILLARNEY AVENUE; KILLARNEY GARDENS;	R 2 355.00	Non-BEE
BROCKWELL & CO (PTY) LTD: P.O BOX 304; GERMISTON;	R -	Non-BEE	BROCKWELL & CO (PTY) LTD: P.O BOX 304; GERMISTON;	R -	Non-BEE	BROCKWELL & CO (PTY) LTD: P.O BOX 304; GERMISTON;	R 2 343.00	Non-BEE
HELPCOR TRUST: T/A MAMRE PLEK VAN RUS GASTEHUIS; 20 VAN HEERDEN ROAD; BLOEMFONTEIN	R -	Non-BEE	HELPCOR TRUST: T/A MAMRE PLEK VAN RUS GASTEHUIS; 20 VAN HEERDEN ROAD; BLOEMFONTEIN	R -	Non-BEE	HELPCOR TRUST: T/A MAMRE PLEK VAN RUS GASTEHUIS; 20 VAN HEERDEN ROAD; BLOEMFONTEIN	R 2 260.00	Non-BEE
PYE GOUWS & GOUWS SEEDS (PTY)LTD: 564 LOWER MAIN REEF ROAD;; WYCHWOOD,GERMISTON ;	R -	Non-BEE	PYE GOUWS & GOUWS SEEDS (PTY)LTD: 564 LOWER MAIN REEF ROAD;; WYCHWOOD,GERMISTON ;	R -	Non-BEE	PYE GOUWS & GOUWS SEEDS (PTY)LTD: 564 LOWER MAIN REEF ROAD;; WYCHWOOD,GERMISTON ;	R 2 000.00	Non-BEE
PURCHASING AUCTIONS (SA): 2 LAURA'S PLACE; OLEA CRESCENT; MORNINGHILL	R -	Non-BEE	PURCHASING AUCTIONS (SA): 2 LAURA'S PLACE; OLEA CRESCENT; MORNINGHILL	R -	Non-BEE	PURCHASING AUCTIONS (SA): 2 LAURA'S PLACE; OLEA CRESCENT; MORNINGHILL	R 2 000.00	Non-BEE
SS SERVICES: 8 WILLIAM STREET; RESTELHOF; KIMBERLEY	R -	Non-BEE	SS SERVICES: 8 WILLIAM STREET; RESTELHOF; KIMBERLEY	R -	Non-BEE	SS SERVICES: 8 WILLIAM STREET; RESTELHOF; KIMBERLEY	R 1 912.30	Non-BEE
L SMITH T/A REP EN ROER: P O BOX 375; AGGENEYS;	R -	Non-BEE	L SMITH T/A REP EN ROER: P O BOX 375; AGGENEYS;	R 2 160.00	Non-BEE	L SMITH T/A REP EN ROER: P O BOX 375; AGGENEYS;	R -310.00	Non-BEE
ASSOC. OF MINE MANAGERS OF SA: P O BOX 61709; MARSHALLTOWN;	R -	Non-BEE	ASSOC. OF MINE MANAGERS OF SA: P O BOX 61709; MARSHALLTOWN;	R -	Non-BEE	ASSOC. OF MINE MANAGERS OF SA: P O BOX 61709; MARSHALLTOWN;	R 1 819.00	Non-BEE
ROADLAB/PREHAB JV (PTY)LTD: Premises 1050; Olyvenhoudsdrift; Upington	R -	Non-BEE	ROADLAB/PREHAB JV (PTY)LTD: Premises 1050; Olyvenhoudsdrift; Upington	R 1 274.34	Non-BEE	ROADLAB/PREHAB JV (PTY)LTD: Premises 1050; Olyvenhoudsdrift; Upington	R 485.66	Non-BEE
BOESMANLAND HOERSKOOL: PO BOX 48; POFADDER;	R -	Non-BEE	BOESMANLAND HOERSKOOL: PO BOX 48; POFADDER;	R -	Non-BEE	BOESMANLAND HOERSKOOL: PO BOX 48; POFADDER;	R 1 600.00	Non-BEE
B FARMER: AGGENEYS; ;	R -	Non-BEE	B FARMER: AGGENEYS; ;	R -	Non-BEE	B FARMER: AGGENEYS; ;	R 1 596.97	Non-BEE
SNYMAN & PARTNERS: P O BOX 1776; UPINGTON;	R -	Non-BEE	SNYMAN & PARTNERS: P O BOX 1776; UPINGTON;	R -	Non-BEE	SNYMAN & PARTNERS: P O BOX 1776; UPINGTON;	R 1 596.93	Non-BEE
MARION BOTMA: PO BOX 1333; UPINGTON;	R -	Non-BEE	MARION BOTMA: PO BOX 1333; UPINGTON;	R -	Non-BEE	MARION BOTMA: PO BOX 1333; UPINGTON;	R 1 593.00	Non-BEE
PLATCHEM (PTY) LTD: NR.1 MPANDE ROAD; SEBENZA; EDENVALE	R -	Non-BEE	PLATCHEM (PTY) LTD: NR.1 MPANDE ROAD; SEBENZA; EDENVALE	R -	Non-BEE	PLATCHEM (PTY) LTD: NR.1 MPANDE ROAD; SEBENZA; EDENVALE	R 1 561.50	Non-BEE
RSD A DIVISION OF DORBYL (Pty) L: P.O. Box 229; Boksburg;	R -	Non-BEE	RSD A DIVISION OF DORBYL (Pty) L: P.O. Box 229; Boksburg;	R -	Non-BEE	RSD A DIVISION OF DORBYL (Pty) L: P.O. Box 229; Boksburg;	R 1 519.10	Non-BEE
HOERSKOOL NAMAKWALAND: PO BOX 161; SPRINGBOK;	R -	Non-BEE	HOERSKOOL NAMAKWALAND: PO BOX 161; SPRINGBOK;	R -	Non-BEE	HOERSKOOL NAMAKWALAND: PO BOX 161; SPRINGBOK;	R 1 500.00	Non-BEE
CHAMBER OF MINES OF SOUTH AFRICA: PO BOX 61809; MARSHALLTOWN;	R -	Non-BEE	CHAMBER OF MINES OF SOUTH AFRICA: PO BOX 61809; MARSHALLTOWN;	R -	Non-BEE	CHAMBER OF MINES OF SOUTH AFRICA: PO BOX 61809; MARSHALLTOWN;	R 1 500.00	Non-BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
MAGISTRATE CALVINIA: 26 STIGLING STRAAT; CALVINIA;	R -	Non-BEE	MAGISTRATE CALVINIA: 26 STIGLING STRAAT; CALVINIA;	R -	Non-BEE	MAGISTRATE CALVINIA: 26 STIGLING STRAAT; CALVINIA;	R 1 400.00	Non-BEE
SA COUNCIL FOR NAT SCIENT. PROF.: PRIVATE BAG X540; SILVERTON;	R -	Non-BEE	SA COUNCIL FOR NAT SCIENT. PROF.: PRIVATE BAG X540; SILVERTON;	R -	Non-BEE	SA COUNCIL FOR NAT SCIENT. PROF.: PRIVATE BAG X540; SILVERTON;	R 1 282.44	Non-BEE
MAKWA GROOTHANDEL (EDMS) BPK: KEEROMSTRAAT; SPRINGBOK;	R -	Non-BEE	MAKWA GROOTHANDEL (EDMS) BPK: KEEROMSTRAAT; SPRINGBOK;	R -	Non-BEE	MAKWA GROOTHANDEL (EDMS) BPK: KEEROMSTRAAT; SPRINGBOK;	R 1 261.62	Non-BEE
EASYLIFE KITCH.DURBANV.PTY LTD: THE BRIDGE; 304 DURBAN ROAD,TYGERVALLEY; BELLVILLE	R -	Non-BEE	EASYLIFE KITCH.DURBANV.PTY LTD: THE BRIDGE; 304 DURBAN ROAD,TYGERVALLEY; BELLVILLE	R -	Non-BEE	EASYLIFE KITCH.DURBANV.PTY LTD: THE BRIDGE; 304 DURBAN ROAD,TYGERVALLEY; BELLVILLE	R 1 260.00	Non-BEE
TECHNISA: PRIVATE BAG X7; PINEGOWRIE;	R -	Non-BEE	TECHNISA: PRIVATE BAG X7; PINEGOWRIE;	R -	Non-BEE	TECHNISA: PRIVATE BAG X7; PINEGOWRIE;	R 1 250.00	Non-BEE
DATACENTRIX PTY LTD: P.O. Box 6909; Roggebaai;	R -	Non-BEE	DATACENTRIX PTY LTD: P.O. Box 6909; Roggebaai;	R -	Non-BEE	DATACENTRIX PTY LTD: P.O. Box 6909; Roggebaai;	R 1 222.85	Non-BEE
MYBURGH'S ATTORNEYS INCORPORATED: P O BOX 849; BLOEMFONTEIN;	R -	Non-BEE	MYBURGH'S ATTORNEYS INCORPORATED: P O BOX 849; BLOEMFONTEIN;	R -	Non-BEE	MYBURGH'S ATTORNEYS INCORPORATED: P O BOX 849; BLOEMFONTEIN;	R 1 147.36	Non-BEE
MULLER,TERBLANCHE & BEYERS: 66 CHURCH STREET; WORCESTER;	R -	Non-BEE	MULLER,TERBLANCHE & BEYERS: 66 CHURCH STREET; WORCESTER;	R -	Non-BEE	MULLER,TERBLANCHE & BEYERS: 66 CHURCH STREET; WORCESTER;	R 1 099.53	Non-BEE
SPRINGBOK LODGE & RESTAURANT: P.O. BOX 26; SPRINGBOK;	R -	Non-BEE	SPRINGBOK LODGE & RESTAURANT: P.O. BOX 26; SPRINGBOK;	R -	Non-BEE	SPRINGBOK LODGE & RESTAURANT: P.O. BOX 26; SPRINGBOK;	R 1 064.00	Non-BEE
DR IZAN VAN NIEKERK PRIM SCHOOL: SCHOOL STREET; BERGSIG; SPRINGBOK	R -	Non-BEE	DR IZAN VAN NIEKERK PRIM SCHOOL: SCHOOL STREET; BERGSIG; SPRINGBOK	R -	Non-BEE	DR IZAN VAN NIEKERK PRIM SCHOOL: SCHOOL STREET; BERGSIG; SPRINGBOK	R 1 000.00	Non-BEE
EASI-BIND (PTY) LTD: P.O. Box 94018; Yeoville;	R -	Non-BEE	EASI-BIND (PTY) LTD: P.O. Box 94018; Yeoville;	R -	Non-BEE	EASI-BIND (PTY) LTD: P.O. Box 94018; Yeoville;	R 925.00	Non-BEE
INSTITUTE OF MINE SURVEYORS: PO BOX 62339; MARSHALLTOWN;	R -	Non-BEE	INSTITUTE OF MINE SURVEYORS: PO BOX 62339; MARSHALLTOWN;	R -	Non-BEE	INSTITUTE OF MINE SURVEYORS: PO BOX 62339; MARSHALLTOWN;	R 890.00	Non-BEE
ASSOC. OF MINE RESIDENT ENG.: P O BOX 61709; MARSHALLTOWN;	R -	Non-BEE	ASSOC. OF MINE RESIDENT ENG.: P O BOX 61709; MARSHALLTOWN;	R -	Non-BEE	ASSOC. OF MINE RESIDENT ENG.: P O BOX 61709; MARSHALLTOWN;	R 880.00	Non-BEE
Ray's Computer Accessories cc: PO Box 1041; Bloemfontein;	R -	Non-BEE	Ray's Computer Accessories cc: PO Box 1041; Bloemfontein;	R -	Non-BEE	Ray's Computer Accessories cc: PO Box 1041; Bloemfontein;	R 850.00	Non-BEE
Nosa (Pty) Ltd: MMG House; 66 Park Lane; Sandton	R -	Non-BEE	Nosa (Pty) Ltd: MMG House; 66 Park Lane; Sandton	R -	Non-BEE	Nosa (Pty) Ltd: MMG House; 66 Park Lane; Sandton	R 846.92	Non-BEE
ST. PHILOMENA RC INTERMEDIATE: P O BOX 29; ONSEEPKANS;	R -	Non-BEE	ST. PHILOMENA RC INTERMEDIATE: P O BOX 29; ONSEEPKANS;	R -	Non-BEE	ST. PHILOMENA RC INTERMEDIATE: P O BOX 29; ONSEEPKANS;	R 842.57	Non-BEE
MINE METALLURGICAL MNGRS ASSOC: P O BOX 61709; MARSHALLTOWN;	R -	Non-BEE	MINE METALLURGICAL MNGRS ASSOC: P O BOX 61709; MARSHALLTOWN;	R -	Non-BEE	MINE METALLURGICAL MNGRS ASSOC: P O BOX 61709; MARSHALLTOWN;	R 819.00	Non-BEE
FLOWERS BY CHRISTINE: CORNISHWEG 10; OKIEP;	R -	BEE	FLOWERS BY CHRISTINE: CORNISHWEG 10; OKIEP;	R -	BEE	FLOWERS BY CHRISTINE: CORNISHWEG 10; OKIEP;	R 785.00	BEE

CAPITAL GOODS			SERVICES			CONSUMABLES		
Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition	Provider and Physical Address	Rand value of procurement	HDSA Composition
NATIONAL FLAG (PTY) LTD: P.O. Box 87392; Houghton;	R -	Non-BEE	NATIONAL FLAG (PTY) LTD: P.O. Box 87392; Houghton;	R -	Non-BEE	NATIONAL FLAG (PTY) LTD: P.O. Box 87392; Houghton;	R 780.00	Non-BEE
FIRE PROTECTION ASSOC. OF SA: P O BOX 15467; IMPALA PARK;	R -	Non-BEE	FIRE PROTECTION ASSOC. OF SA: P O BOX 15467; IMPALA PARK;	R -	Non-BEE	FIRE PROTECTION ASSOC. OF SA: P O BOX 15467; IMPALA PARK;	R 750.00	Non-BEE
SA COUNCIL FOR P/T SURVEYORS: P O BOX 83018; SOUTH HILLS;	R -	Non-BEE	SA COUNCIL FOR P/T SURVEYORS: P O BOX 83018; SOUTH HILLS;	R -	Non-BEE	SA COUNCIL FOR P/T SURVEYORS: P O BOX 83018; SOUTH HILLS;	R 745.61	Non-BEE
Rolfes Silica (Pty) Ltd: Plot 95; Old Rustenburg road; Brits	R -	Non-BEE	Rolfes Silica (Pty) Ltd: Plot 95; Old Rustenburg road; Brits	R -	Non-BEE	Rolfes Silica (Pty) Ltd: Plot 95; Old Rustenburg road; Brits	R 700.00	Non-BEE
KARCHER CARE: 28 HEIDE ROAD; BLOEMHOF; BELLVILLE	R -	Non-BEE	KARCHER CARE: 28 HEIDE ROAD; BLOEMHOF; BELLVILLE	R -	Non-BEE	KARCHER CARE: 28 HEIDE ROAD; BLOEMHOF; BELLVILLE	R 690.00	Non-BEE
BARRY NORTJE ATTORNEYS: PRIVATE BAG X 15; SOMERSET-WEST;	R -	Non-BEE	BARRY NORTJE ATTORNEYS: PRIVATE BAG X 15; SOMERSET-WEST;	R -	Non-BEE	BARRY NORTJE ATTORNEYS: PRIVATE BAG X 15; SOMERSET-WEST;	R 661.51	Non-BEE
C.T.M. UPINGTON: P.O. Box 1735; Upington;	R -	Non-BEE	C.T.M. UPINGTON: P.O. Box 1735; Upington;	R -	Non-BEE	C.T.M. UPINGTON: P.O. Box 1735; Upington;	R 657.46	Non-BEE
PMADS CC: P O BOX 25787; BENONI NORTH;	R -	Non-BEE	PMADS CC: P O BOX 25787; BENONI NORTH;	R -	Non-BEE	PMADS CC: P O BOX 25787; BENONI NORTH;	R 630.00	Non-BEE
RE STRAUSS-6006192: AGGENEYS;;	R -	BEE	RE STRAUSS-6006192: AGGENEYS;;	R -	BEE	RE STRAUSS-6006192: AGGENEYS;;	R 600.00	BEE
DEPT OF JUSTICE MAGISTRATE: 1 STEWARD STREET; PRIESKA;	R -	Non-BEE	DEPT OF JUSTICE MAGISTRATE: 1 STEWARD STREET; PRIESKA;	R -	Non-BEE	DEPT OF JUSTICE MAGISTRATE: 1 STEWARD STREET; PRIESKA;	R 600.00	Non-BEE
B SMITH: AGGENEYS;;	R -	Non-BEE	B SMITH: AGGENEYS;;	R -	Non-BEE	B SMITH: AGGENEYS;;	R 600.00	Non-BEE
CONRAD KOEGELEBERG TRUST: P O BOX 12145; DIE BOORD; STELLENBOSCH	R -	Non-BEE	CONRAD KOEGELEBERG TRUST: P O BOX 12145; DIE BOORD; STELLENBOSCH	R -	Non-BEE	CONRAD KOEGELEBERG TRUST: P O BOX 12145; DIE BOORD; STELLENBOSCH	R 573.71	Non-BEE
PD HENDRIKSE: AGGENEYS;;	R -	Non-BEE	PD HENDRIKSE: AGGENEYS;;	R -	Non-BEE	PD HENDRIKSE: AGGENEYS;;	R 562.37	Non-BEE
SANIRE: P O BOX 688; VIRGINIA;	R -	Non-BEE	SANIRE: P O BOX 688; VIRGINIA;	R -	Non-BEE	SANIRE: P O BOX 688; VIRGINIA;	R 530.00	Non-BEE
DR. CC SCHOEMAN: 29 ARBECK STREET; PRIESKA;	R -	Non-BEE	DR. CC SCHOEMAN: 29 ARBECK STREET; PRIESKA;	R -	Non-BEE	DR. CC SCHOEMAN: 29 ARBECK STREET; PRIESKA;	R 318.80	Non-BEE
MULTOTEC MANUFACTURING (PTY) LI: P.O. Box 224; Kempton Park;	R -	Non-BEE	MULTOTEC MANUFACTURING (PTY) LI: P.O. Box 224; Kempton Park;	R -	Non-BEE	MULTOTEC MANUFACTURING (PTY) LI: P.O. Box 224; Kempton Park;	R 310.00	Non-BEE
KONICK'S PHARMACY: HAVELOCK AVENUE; AGGENEYS;	R -	Non-BEE	KONICK'S PHARMACY: HAVELOCK AVENUE; AGGENEYS;	R -	Non-BEE	KONICK'S PHARMACY: HAVELOCK AVENUE; AGGENEYS;	R 225.82	Non-BEE
PREPQUIP (PTY) LTD: 5 ZURICH RD UNIT 5; SPARTAN X 2; KEMPTON PARK	R -	Non-BEE	PREPQUIP (PTY) LTD: 5 ZURICH RD UNIT 5; SPARTAN X 2; KEMPTON PARK	R -	Non-BEE	PREPQUIP (PTY) LTD: 5 ZURICH RD UNIT 5; SPARTAN X 2; KEMPTON PARK	R 217.50	Non-BEE
AGGENEYS DRANKWINKEL EDMS BPK: HAVELOCK AVENUE; AGGENEYS;	R -	Non-BEE	AGGENEYS DRANKWINKEL EDMS BPK: HAVELOCK AVENUE; AGGENEYS;	R -	Non-BEE	AGGENEYS DRANKWINKEL EDMS BPK: HAVELOCK AVENUE; AGGENEYS;	R 198.90	Non-BEE
Total	R 110 706 832.96			R 184 078 905.75			R 557 787 603.09	

ERM has over 160 offices across the following countries and territories worldwide.

Argentina	Norway
Australia	Panama
Belgium	Peru
Brazil	Poland
Canada	Portugal
China	Puerto Rico
Chile	Romania
Colombia	Russia
France	Senegal
Germany	Singapore
Hong Kong	South Africa
India	South Korea
Indonesia	Spain
Ireland	Sweden
Italy	Switzerland
Japan	Taiwan
Kazakhstan	Thailand
Kenya	The Netherlands
Malaysia	United Arab Emirates
Mexico	United Kingdom
Mozambique	United States of America
Myanmar	Vietnam
New Zealand	



Cape Town Office

2nd Floor, Great Westerford
240 Main Road, Rondebosch
7700, Cape Town, South Africa
T: +27 21 681 5400
F: +27 21 686 0736
E: marinda.rasmussen@erm.com

Durban Office

Suite S005, 17 The Boulevard
Westway Office Park, Westville
3635, Durban, South Africa
T: +27 31 265 0033
F: +27 31 265 0150

Johannesburg Office

Building 32, The Woodlands Office Park,
Woodlands Drive, Woodmead, 2148
Johannesburg, South Africa
T: +27 11 798 4300
F: +27 11 804 2289

Maputo Office

6th Floor, No. 141, Building
Torres Rani, Av. da Marginal
Maputo, Mozambique
T: +258 84 093 9502
E: ingeborg.mcnicoll@erm.com

Nairobi Office

Landmark Office Suites
1st Floor, Senteu Plaza
Cnr of Lenana and Galana Roads, Kilimani
Nairobi, Kenya
T: +254 740 861 650/1
E: mike.everett@erm.com

www.erm.com