



global environmental solutions

SCOPING REPORT FOR THE PROPOSED KOLOMELA MINE EXPANSION PROJECT

DECEMBER 2015

**FOR LISTED ACTIVITIES ASSOCIATED WITH MINING RIGHT
AND/OR BULK SAMPLING ACTIVITIES INCLUDING
TRENCHING IN CASES OF ALLUVIAL DIAMOND
PROSPECTING**

**SUBMITTED FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE
NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT 107 OF 1998) AND THE
NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT (ACT 59 OF 2008) IN
RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY AN
APPLICATION IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES
DEVELOPMENT ACT (ACT 28 OF 2002) (AS AMENDED)**

**NAME OF APPLICANT: Sishen Iron Ore Company (Pty) Ltd - Kolomela
Mine**

TEL NO: 053 313 9136

FAX NO: 078 560 5600

POSTAL ADDRESS: Private Bag X3003, Postmasburg, 8420

PHYSICAL ADDRESS: Kolomela Mine, Farm Strydfontein 614, Postmasburg, Northern Cape

FILE REFERENCE NUMBER SAMRAD: NC-00039-MR/102

DOCUMENT INFORMATION

Title	SCOPING REPORT FOR THE PROPOSED KOLOMELA MINE EXPANSION PROJECT
Status	Final for DMR review
Applicant	Sishen Iron Ore Company (Pty) Ltd - Kolomela Mine
Consultant	Synergistics Environmental Services - part of the SLR group
Project Number	755.19038.00006
Project Manager	Kerry Fairley
Report Author	Kerry Fairley and Shelley Seton-Rogers
Reviewer	Brandon Stobart
Keywords	Kolomela Iron Ore Mine Expansion
Report Number	2
File Name	Kolomela Amendment 2015 Scoping Report 07122015
Date last printed	2015/10/31 11:29 AM
Date last saved	2015/12/07 04:45 PM
Issue Date	December 2015

This report has been prepared by an SLR Group company with all reasonable skill, care and diligence, taking into account the manpower and resources devoted to it by agreement with the client. Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

No warranties or guarantees are expressed or should be inferred by any third parties.

This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.



mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

IMPORTANT NOTICE

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a prospecting or mining right if among others the mining “will not result in unacceptable pollution, ecological degradation or damage to the environment”.

Unless an Environmental Authorisation can be granted following the evaluation of an Environmental Impact Assessment and an Environmental Management Programme report in terms of the National Environmental Management Act (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority and in terms of section 17 (1) (c) the competent Authority must check whether the application has taken into account any minimum requirements applicable or instructions or guidance provided by the competent authority to the submission of applications.

It is therefore an instruction that the prescribed reports required in respect of applications for an environmental authorisation for listed activities triggered by an application for a right or permit are submitted in the exact format of, and provide all the information required in terms of, this template. Furthermore please be advised that failure to submit the information required in the format provided in this template will be regarded as a failure to meet the requirements of the Regulation and will lead to the Environmental Authorisation being refused.

It is furthermore an instruction that the Environmental Assessment Practitioner must process and interpret his/her research and analysis and use the findings thereof to compile the information required herein. (Unprocessed supporting information may be attached as appendices). The EAP must ensure that the information required is placed correctly in the relevant sections of the Report, in the order, and under the provided headings as set out below, and ensure that the report is not cluttered with un-interpreted information and that it unambiguously represents the interpretation of the applicant.

NOTE TO OFFICIAL REPRESENTING THE COMPETENT AUTHORITY RESPONSIBLE FOR REVIEWING THIS SCOPING REPORT

This report is submitted as part of the environmental impact assessment process for the authorisation of activities that form part of the amendments at Kolomela Mine. The Scoping Report was originally compiled in accordance with the 2010 EIA Regulations and that report was subject to public review and comment. Subsequently, with the promulgation of the 2014 EIA Regulations, the inclusion of mining residue under the definition waste of the National Waste Act, and the change in the competent authority, in consultation with regional representatives of the Department of Mineral Resources, it was decided to submit a **new application** for such activities under the 2014 EIA Regulations.

In accordance with Section 40 (3) of the 2014 EIA regulations, this version of the scoping report will also be subject to public review and comment.

OBJECTIVE OF THE SCOPING PROCESS

The objective of the scoping process

is to, through a consultative process—

- (a) identify the relevant policies and legislation relevant to the activity;
- (b) motivate the need and desirability of the proposed activity, including the need and desirability of the activity in the context of the preferred location;
- (c) identify and confirm the preferred activity and technology alternative through an impact and risk assessment and ranking process;
- (d) identify and confirm the preferred site, through a detailed site selection process, which includes an impact and risk assessment process inclusive of cumulative impacts and a ranking process of all the identified alternatives focusing on the geographical, physical, biological, social, economic, and cultural aspects of the environment;
- (e) identify the key issues to be addressed in the assessment phase;
- (f) agree on the level of assessment to be undertaken, including the methodology to be applied, the expertise required as well as the extent of further consultation to be undertaken to determine the impacts and risks the activity will impose on the preferred site through the life of the activity, including the nature, significance, consequence, extent, duration and probability of the impacts to inform the location of the development footprint within the preferred site; and
- (g) identify suitable measures to avoid, manage, or mitigate identified impacts and to determine the extent of the residual risks that need to be managed and monitored.

TABLE OF CONTENTS

THE OBJECTIVE OF THE SCOPING PROCESS	4
1 PROJECT AND EAP DETAILS	12
1.1 DETAILS OF EAPs.....	12
1.1.1 THE EAPs WHO PREPARED THE REPORT.....	12
1.1.2 EXPERTISE OF THE EAPs.....	12
2 DESCRIPTION OF THE PROPERTY	13
3 LOCALITY MAP	13
4 DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY	15
4.1 LISTED AND SPECIFIED ACTIVITIES	15
4.2 DESCRIPTION OF ACTIVITIES TO BE UNDERTAKEN	18
5 POLICY AND LEGISLATIVE CONTEXT.....	20
5.1 MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002.....	20
5.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998	21
5.3 NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008.....	21
5.4 NATIONAL WATER ACT, 1998	22
5.5 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004	22
5.6 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004	22
5.7 NATIONAL HERITAGE RESOURCES ACT, 1999	22
5.8 GUIDELINES AND POLICIES	23
5.8.1 SANBI WETLAND INVENTORY	23
5.8.2 MINING AND BIODIVERSITY GUIDELINE	23
5.8.3 NATIONAL FRESHWATER ECOSYSTEM PRIORITY AREAS.....	23
6 NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES	24
7 PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED	25
8 DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ALTERNATIVES	25
8.1 DETAILS OF ALL ALTERNATIVES CONSIDERED	26
8.1.1 LOCATION ALTERNATIVES.....	26
8.1.2 TYPE OF ACTIVITY ALTERNATIVES.....	26
8.1.3 DESIGN OR LAYOUT ALTERNATIVES.....	26
8.1.4 TECHNOLOGY ALTERNATIVES (DMS PLANTS)	27
8.1.5 OPERATIONAL ALTERNATIVES (EXCESS WATER MANAGEMENT).....	27
8.1.6 OPTION OF NOT IMPLEMENTING THE ACTIVITY	28

8.2	DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED	31
8.2.1	IDENTIFICATION OF INTERESTED AND AFFECTED PARTIES	31
8.2.2	NOTIFICATION OF LANDOWNERS, LAWFUL OCCUPIERS AND IAPs	32
8.2.3	NOTIFICATION OF AUTHORITIES	33
8.2.4	MEDIA ADVERTISEMENTS AND SITE NOTICES	34
8.2.5	PUBLIC AND AUTHORITY MEETINGS	35
8.2.6	PUBLIC REVIEW OF DRAFT SCOPING REPORT	35
8.2.7	AUTHORITY REVIEW OF DRAFT SCOPING REPORT	36
8.2.8	PUBLIC REVIEW OF FINAL SCOPING REPORT	36
8.2.9	AUTHORITY REVIEW OF FINAL SCOPING REPORT	37
8.3	SUMMARY OF ISSUES RAISED BY I&APs	38
8.4	THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE SITES	69
8.4.1	BASILINE ENVIRONMENT	69
	<i>Climate</i>	69
	<i>Topography</i>	70
	<i>Geology</i>	71
	<i>Soils and Land Capabilities</i>	75
	<i>Groundwater</i>	76
	<i>Surface Water</i>	78
	<i>Flora</i>	79
	<i>Fauna</i>	84
	<i>Air Quality</i>	88
	<i>Noise</i>	89
	<i>Archaeological Resources</i>	89
	<i>Socio-Economic</i>	91
8.4.2	DESCRIPTION OF THE CURRENT LAND USES	95
8.4.3	DESCRIPTION OF SPECIFIC ENVIRONMENTAL FEATURES AND INFRASTRUCTURE ON THE SITE	96
8.4.4	ENVIRONMENTAL AND CURRENT LAND USE MAP	96
8.5	IMPACTS IDENTIFIED	99
8.6	METHODOLOGY USED IN DETERMINING THE SIGNIFICANCE OF ENVIRONMENTAL IMPACTS	102
8.7	THE POSITIVE AND NEGATIVE IMPACTS THAT THE PROPOSED ACTIVITY (IN TERMS OF THE INITIAL SITE LAYOUT) AND ALTERNATIVES WILL HAVE ON THE ENVIRONMENT AND THE COMMUNITY THAT MAY BE AFFECTED.	102
8.8	THE POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND THE LEVEL OF RESIDUAL RISK.	103
8.9	THE OUTCOME OF THE SITE SELECTION MATRIX. FINAL SITE LAYOUT PLAN	107
8.10	MOTIVATION WHERE NO ALTERNATIVE SITES WERE CONSIDERED.	107
8.11	STATEMENT MOTIVATING THE PREFERRED SITE.	107
9	PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS	107
9.1	DESCRIPTION OF ALTERNATIVES TO BE CONSIDERED INCLUDING THE OPTION OF NOT GOING AHEAD WITH THE ACTIVITY.	107
9.1.1	NO-GO ALTERNATIVE	107

9.1.2	LAYOUT ALTERNATIVES.....	108
9.2	DESCRIPTION OF THE ASPECTS TO BE ASSESSED AS PART OF THE ENVIRONMENTAL IMPACT	
	ASSESSMENT PROCESS (INCLUDING ASPECTS TO BE ASSESSED BY SPECIALISTS)	108
9.2.1	AIR QUALITY IMPACT ASSESSMENT.....	108
9.2.2	TRAFFIC IMPACT ASSESSMENT	110
9.2.3	GROUNDWATER IMPACT ASSESSMENT	110
9.2.4	INJECTION TESTS AND GEOPHYSICAL STUDY ON THE FARM FLORADALE 230 & 484 FOR MINE WATER RECHARGE INTO AQUIFERS.....	110
9.2.5	UPDATE OF STORMWATER MANAGEMENT PLAN	111
9.2.6	SOCIAL IMPACT ASSESSMENT.....	111
9.2.7	ECONOMIC IMPACT ASSESSMENT	112
9.2.8	TERRESTRIAL ECOLOGY.....	112
9.2.9	UPDATED WETLAND ASSESSMENT AND DELINEATION	113
9.2.10	HERITAGE, ARCHAEOLOGICAL AND PALEONTOLOGICAL IMPACT ASSESSMENT.....	114
9.2.11	VISUAL IMPACT ASSESSMENT	114
9.2.12	NOISE IMPACT ASSESSMENT	114
9.2.13	WETLAND PAN HYDROLOGICAL ASSESSMENT	115
9.2.14	WASTE ROCK ASSESSMENT	115
9.3	PROPOSED METHOD OF ASSESSING THE ENVIRONMENTAL ASPECTS INCLUDING THE PROPOSED METHOD OF ASSESSING ALTERNATIVES	116
9.3.1	IMPACT RANKING CRITERIA	116
9.3.2	THE PROPOSED METHOD OF ASSESSING DURATION SIGNIFICANCE.....	119
9.4	THE STAGES AT WHICH THE COMPETENT AUTHORITY WILL BE CONSULTED.....	119
9.5	PARTICULARS OF THE PUBLIC PARTICIPATION PROCESS WITH REGARD TO THE IMPACT ASSESSMENT PROCESS THAT WILL BE CONDUCTED	120
9.5.1	STEPS TO BE TAKEN TO NOTIFY INTERESTED AND AFFECTED PARTIES	120
9.5.2	DETAILS OF THE ENGAGEMENT PROCESS TO BE FOLLOWED.....	120
9.6	DESCRIPTION OF THE TASKS THAT WILL BE UNDERTAKEN DURING THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS	121
9.7	MEASURES TO AVOID, REVERSE, MITIGATE, OR MANAGE IDENTIFIED IMPACTS AND TO DETERMINE THE EXTENT OF THE RESIDUAL RISKS THAT NEED TO BE MANAGED AND MONITORED.	122
10	OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY	122
10.1	IMPACT ON THE SOCIO-ECONOMIC CONDITIONS OF ANY DIRECTLY AFFECTED PERSON.....	122
10.2	IMPACT ON ANY NATIONAL ESTATE REFERRED TO IN SECTION 3(2) OF THE NATIONAL HERITAGE RESOURCES ACT.....	123
11	OTHER MATTERS REQUIRED IN TERMS OF SECTIONS 24(4)(A) AND (B) OF THE ACT	123
12	UNDERTAKINGS BY THE EAP	123

LIST OF FIGURES

Figure 1. Locality map of Kolomela Mine	14
Figure 2. Original proposed site layout before consideration of alternatives.	29
Figure 3. Proposed site layout after consideration of alternatives.	30
Figure 4: Long-term average monthly rainfall for the study area for the period 1950 to 2000.	69
Figure 5: Period, day and night-time wind roses from 2011-2013 (Airshed, 2013).	70
Figure 6: Topography of the study area	72
Figure 7: Regional section of the distribution of the Kolomela iron ore.	73
Figure 8: Geology of the Study Area	74
Figure 9: Surface Water Features and Catchment Areas at Kolomela Mine.	80
Figure 10: Vegetation map of the Kolomela mining property with indication of broad vegetation units and habitat for species of conservation importance (Smit et al. 2012).	83
Figure 11. Typical hand tools found in the study area, especially in and around the pans to the east of the Kolomela Site (Photograph from van der Ryst, 2011).	90
Figure 12: Heritage resources located within the Kolomlea Mine boundary	92
Figure 13: Economic Structure and Performance (GVA), 2011 (Demacon Market Studies, 2013)	94
Figure 14: Tress Index for the affected administrative areas (Demacon Market Studies, 2013)	95
Figure 15: Land Use surrounding the Study Area	97
Figure 16: Sensitive plant habitats, pans and conservation areas.	98

LIST OF TABLES

Table 8-1: Long-term minimum and maximum average monthly temperatures for the study area for the period 2008-2010.	69
Table 8-2: Calculated monthly mean evaporation rates for the study area (Jeffares & Green, 2013).	69
Table 8-3: Agricultural potential of dominant soils on the Kolomela Mine (Viljoen and Associates, 2005).	75
Table 8-4: Land Capability at Kolomela Mine (Viljoen and Associates, 2005).	75

Table 8-5: Mammals of Conservation Importance occurring within the Kolomela mining site	84
Table 8-6: Bird Species of Conservation Importance occurring within the Kolomela mining site	85
Table 8-7: Reptile Species of Conservation Importance occurring within the Kolomela mining site	87
Table 8-8: Acceptable dust fallout rates in terms of GNR.	89
Table 8-9: National Ambient Air Quality Standards for SO₂, NO₂, O₃, PM-10 and PM-2.5.	89
Table 8-10: Potential Environmental and Social Impacts (for all alternatives)	99
Table 8-11: Project impacts, mitigation measures and the level of residual risk	104
Table 9-1: Criteria for Assessing the Impact Significance	117
Table 9-2: EIA tasks and timing	122

LIST OF APPENDICES

APPENDIX 1: PROOF OF EAP REGISTRATION

APPENDIX 2: CURRICULUM VITAE OF EAPS

APPENDIX 3: LOCAL AND REGIONAL SETTING

APPENDIX 4: SITE PLANS

APPENDIX 5: STAKEHOLDER ENGAGEMENT DOCUMENTS

- 5.1 IAP DATABASE
- 5.2 COPIES AND PROOF OF DISTRIBUTION OF PUBLIC AND AUTHORITY NOTIFICATIONS (2013 AND 2015)
- 5.3 ADVERTS AND SITE NOTICES (2013 AND 2015)
- 5.4 COPIES OF THE MINUTES AND ATTENDANCE REGISTERS OF THE AUTHORITY MEETINGS
- 5.5 COPIES OF THE MINUTES AND ATTENDANCE REGISTERS OF THE PUBLIC MEETINGS
- 5.6 IAP COMMENTS & RESPONSES (2013 AND 2015)
- 5.7 AUTHORITY COMMENTS & RESPONSES (2013 AND 2015)
- 5.8 PROOF OF DISTRIBUTION OF PREVIOUS SCOPING REPORTS (2014)
- 5.9 PROOF OF DISTRIBUTION OF NOVEMBER 2015 SCOPING REPORT

ACRONYMS AND ABBREVIATIONS

List of acronyms and abbreviations used in this report.

Acronyms	Definition
AEL	Atmospheric Emissions Licence
CBA	Critical Biodiversity Areas

dBA	Decibel (A-weighted)
DEMC	Default Ecological Management Class
DMR	Department of Mineral Resources
DMS	Dense Medium/Media Separation
DSO	Direct Shipping Ore
DWA	Department of Water Affairs
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECD	Early Childhood Development
EIA	Environmental Impact Assessment
EIS	Ecological Importance and Sensitivity
EMP	Environmental Management Programme
ESA	Ecological Support Areas
GN(R)	Government Notice (Regulation)
HDPE	High Density Polyethylene
IAP	Interested and Affected Party
L_{A90}	A-weighted noise level exceeded for 90% of the measurement period
L_{Aeq}	A-weighted equivalent sound pressure level
L _{Aleq}	A-weighted impulse sound pressure level
LED	Local Economic Development
LOM	Life of mine
LSA	Late Stone Age
Mamsl	Metres above mean sea level
MAP	Mean annual precipitation
MAR	Mean annual runoff
MCCF	Mining Crime Combating Forum
MSA	Middle Stone Age
MPRDA	Mineral and Petroleum Resources Development Act
NAAQS	South African National Ambient Air Quality Standards
NDCR	National Dust Control Regulations
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Areas
PCD	Pollution Control Dam
PES(C)	Present Ecological Status (Class)
PM10	Particulate matter less than ten microns
PM2.5	Particulate matter less than 2.5 microns
ROM	Run of mine
SAHRA	South African Heritage Resource Agency
SAMRAD	South African Mineral Resources Administration (System)
SANS	South African National Standards
SAPS	South African Police Service
SAS	Scientific Aquatic Services CC
SIOC	Sishen Iron Ore Company
SLP	Social Labour Plan
TDS	Total Dissolved Solids
WRD	Waste Rock Dumps

1 PROJECT AND EAP DETAILS

1.1 DETAILS OF EAPs

1.1.1 THE EAPs WHO PREPARED THE REPORT

Name of The Practitioner: Kerry Colleen Fairley and Shelley Seton-Rogers

Tel No.: 011 467 0945 / 082 871 2959

Fax No.: 011 467 0978

e-mail address: kerry@bustardsbirding.co.za / sholt@slrconsulting.com

1.1.2 EXPERTISE OF THE EAPs

K. Fairley

- BSc Botany Honours (University of the Witwatersrand)
- Registered as Professional Natural Scientist with the South African Council for Natural and Scientific Professionals (SACNASP) Registration Number: 400054/03
- Registered as an Environmental Assessment Practitioner with the Interim Certification Board (ICB) (Refer to Appendix A1)

S. Seton-Rogers

- BSc (Hons) Zoology (University of KwaZulu Natal)
- Postgraduate Diploma (Environmental Studies) (University of the Witwatersrand)

Summary of the EAPs' past experience.

Kerry Fairley has over 14 years of experience in environmental impact assessment and management in the mining industry. Kerry has been involved in the compilation of numerous environmental impact assessment reports for both green fields mining projects as well as for expansions and amendment to existing mining operations in South Africa and as well as other African countries (Namibia, Malawi). (Refer to Appendix 1 for the proof of EAP registration and Appendix 2 for the EAP's CVs).

Shelley Seton-Rogers has over 10 years' experience within the environmental consulting sector, both in a government position within the environmental regulation sector, and as an experienced consultant. Shelley has managed a wide range of major Environmental Impact Assessment projects for mining, infrastructure, waste and industrial developments throughout South Africa and Namibia for many of the major companies within the minerals industry.

2 DESCRIPTION OF THE PROPERTY

The proposed amendments to Kolomela Mine will take place within the area covered by the existing Mining Right (Ref: (NC) 069 MR) with the exception of the Aquifer Recharge that will take place on the farm Floradale 230 & 484.

Farm Names:	Mining Right Area Farms: Ploegfontein 487 Rem Leeuwfontein 488 Strydfontein 614 Rem Klipbankfontein 489 Portion 1,2 & 3 Kapstevél 541 Rem Kapstevél 541 Wolhaarkop 485 Welgevonden 476 Welgevonden 486 Aquifer Recharge Farms: Floradale 230 Floradale 484
Application area (Ha)	Approximately 2 400 ha new development area: - of which 1 890 ha is within the mining right area - of which 520 ha is for the aquifer recharge area
Magisterial district	Magisterial District: Hay; Tsantsabane Local Municipality, Z.F. Mgcawu District Municipality
Distance and direction from nearest town	Postmasburg is located approx. 10 km, north east of Kolomela Mine
21 digit Surveyor General Code for each farm portion	Ploegfontein 487: C03100000000048700000 Leeuwfontein 488: C03100000000048800000 Strydfontein 614: C03100000000061400000 Klipbankfontein 489: C03100000000048900000 Kapstevél 541: C03100000000054100000 Wolhaarkop 476: C03100000000047600000 Welgevonden 486: C03100000000048600000 Welgevonden 476: C03100000000047600000 Floradale 230: C03100000000023000000 Floradale 484: C03100000000048400000

3 LOCALITY MAP

The Kolomela Mine is located in the Tsantsabane Local Municipal area in the ZF Mgcawu District Municipality in the Northern Cape Province, approximately 10 km south west of Postmasburg.

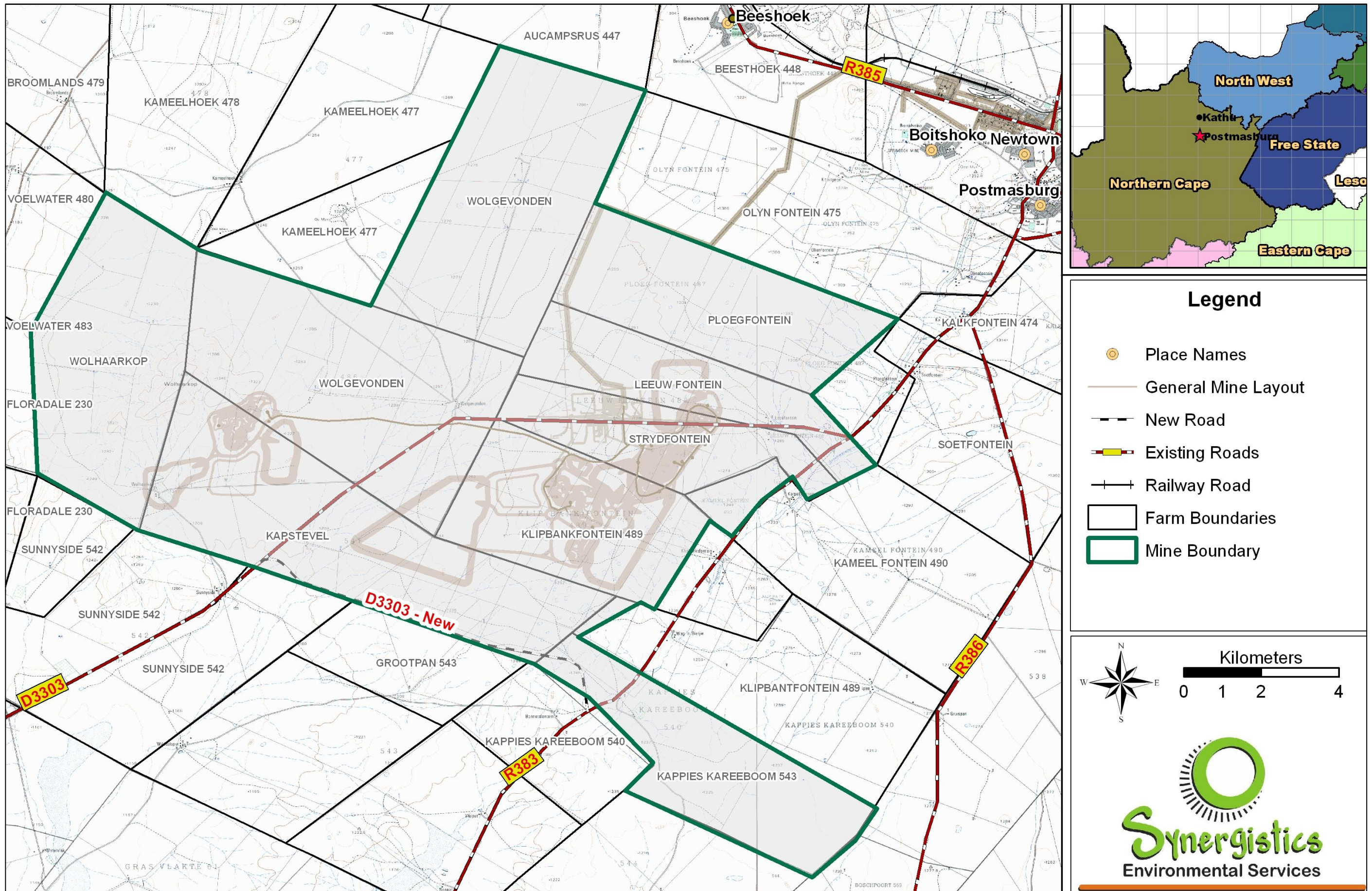


Figure 1. Locality map of Kolomela Mine

4 DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY

4.1 LISTED AND SPECIFIED ACTIVITIES

See Appendix 4 for the plan showing the location and area of the listed activities and infrastructure.

NAME OF ACTIVITY (All activities including not listed) (E.g. excavations, blasting, stockpiles, discard dumps/dams, loading, hauling & transport, water supply dams & boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)	Aerial extent of the Activity (Ha or m ²)	LISTED ACTIVITY (Mark with an X where applicable or affected)	APPLICABLE LISTING NOTICE (GNR 983, GNR 984 or GNR 985)	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)	APPLI-CABLE LISTING NOTICE (GNR 921)
New Kapstevl South Pit	147 ha	X	GN 983 12 (watercourse) 24 (new haul roads) 56 (lengthening of existing haul roads) GN 984 15 (vegetation clearance) 17 (mining right) GN 985 14 (Soutloop river listed under NFEPA)		
Kapstevl South Evaporation Pond	22 ha	X	GN 983 13 (storage of water) GN 984 6 (water use licence) 15 (vegetation clearance)		
Extension of approved Kapstevl Waste Rock Dump	546 ha (extension area)	X	GN 983 12 (watercourse) 24 (new haul roads) 56 (lengthening of existing haul roads) GN 984 15 (vegetation clearance) 17 (mining right)	X	Category A(13) (waste rock dump extension)
New Ploegfontein and Tierbult Pits	179 ha	X	GN 983 12 (watercourse) 24 (new haul roads) 56 (lengthening of existing haul roads) GN 984 15 (vegetation clearance) 17 (mining right)		
New Haul Road to Ploegfontein Pits	15 ha	X	GN 983 24 (new haul roads)		
New Ploegfontein Evaporation Pond	10 ha	X	GN 983 13 (storage of water) GN 984 6 (water use licence)		

NAME OF ACTIVITY (All activities including not listed) (E.g. excavations, blasting, stockpiles, discard dumps/dams, loading, hauling & transport, water supply dams & boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)	Aerial extent of the Activity (Ha or m ²)	LISTED ACTIVITY (Mark with an X where applicable or affected)	APPLICABLE LISTING NOTICE (GNR 983, GNR 984 or GNR 985)	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)	APPLICABLE LISTING NOTICE (GNR 921)
Extension of the approved Leeufontein North Waste Rock Dump	408 ha (extension area)	X	GN 983 12 (watercourse) 24 (new haul roads) 56 (lengthening of existing haul roads) GN 984 15 (vegetation clearance) 17 (mining right)	X	Category A(13) (waste rock dump extension)
Extension of the approved Leeufontein South Waste Rock Dump	200 ha (extension area)	X	GN 983 12 (watercourse) 24 (new haul roads) 56 (lengthening of existing haul roads) GN 984 15 (vegetation clearance) 17 (mining right)	X	Category A(13) (waste rock dump extension)
Amendment of the approved Klipbankfontein Waste Rock Dump	486 ha	X	GN 983 12 (watercourse) 24 (new haul roads) 56 (lengthening of existing haul roads) GN 984 15 (vegetation clearance) 17 (mining right)	X	Category A(13) (waste rock dump extension)
New Kapstevl DMS Processing Plant and Product Stockpile Area	24 ha	X	GN 983 12 (watercourse) 13 (storage of water) 24 (new haul roads) 27 (clearance of vegetation) GN 984 6 (21 g water use licence) 21 (processing) GN 985 14 (Soutloop listed under NFEPA)		
New Conveyor from Kapstevl at Pit Facility to Load out Station	3 ha	X	GN 983 12 (watercourse)		
New Tierbult DMS Processing Plant	12 ha (incl. in footprint of Leeufontein North WRD)	X	GN 983 24 (new haul roads) GN 984 6 (21 g water use licence) 21 (processing)		

NAME OF ACTIVITY (All activities including not listed) (E.g. excavations, blasting, stockpiles, discard dumps/dams, loading, hauling & transport, water supply dams & boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)	Aerial extent of the Activity (Ha or m ²)	LISTED ACTIVITY (Mark with an X where applicable or affected)	APPLICABLE LISTING NOTICE (GNR 983, GNR 984 or GNR 985)	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)	APPLICABLE LISTING NOTICE (GNR 921)
New Klipbankfontein DMS Processing Plant	12 ha	X	GN 983 24 (new haul roads) GN 984 6 (21 g water use licence) 21 (processing)		
New Kapstevl at Pit Facility (parking, fatigue centre, workshops and refuelling area)	112 ha	X	GN 983 12 (watercourse) 13 (storage of water) 24 (new haul roads) GN 984 4 (storage of dangerous goods) 6 (AEL and water use licence) 15 (vegetation clearance) 28 (AEL) GN 985 14 (Soutloop listed under NFEPA)		
New Klipbankfontein at Pit Facility (parking, fatigue centre, workshops and refuelling area)	48 ha	X	GN 983 12 (watercourse) 13 (storage of water) 24 (new haul roads) GN 984 4 (storage of dangerous goods) 6 (AEL and water use licence) 15 (vegetation clearance) 28 (AEL) GN 985 14 (Soutloop listed under NFEPA)		
New Haul Road to Klipbankfontein At Pit Facility	0.06 ha	X	GN 983 12 (watercourse) 24 (new haul roads) GN 985 14 (Soutloop listed under NFEPA)		
New Explosives Magazine	5 ha	X	GN 983 12 (watercourse) 14 (dangerous goods) 27 (vegetation clearance) GN 985 14 (Soutloop listed under NFEPA)		

NAME OF ACTIVITY (All activities including not listed) (E.g. excavations, blasting, stockpiles, discard dumps/dams, loading, hauling & transport, water supply dams & boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)	Aerial extent of the Activity (Ha or m ²)	LISTED ACTIVITY (Mark with an X where applicable or affected)	APPLICABLE LISTING NOTICE (GNR 983, GNR 984 or GNR 985)	WASTE MANAGEMENT AUTHORISATION (Indicate whether an authorisation is required in terms of the Waste Management Act). (Mark with an X)	APPLI-CABLE LISTING NOTICE (GNR 921)
New Product Stockpile Area at existing DSO Processing Plant	44 ha	X	GN 984 15 (vegetation clearance)		
New Sewage Treatment Works	5 ha (already cleared)	X	GN 983 12 (watercourse) GN 985 14 (Soutloop listed under NFEPA)		
New Aquifer Recharge Facility	100 ha (pipelines and boreholes)	X	GN 983 12 (watercourse) GN 985 14 (Soutloop listed under NFEPA)		

4.2 DESCRIPTION OF ACTIVITIES TO BE UNDERTAKEN

The Sishen Iron Ore Company (Pty) Ltd intends to amend the current mining and processing operations at Kolomela Mine, located near Postmasburg in the Northern Cape Province.

The Minister of Mineral Resources granted a mining right for iron ore on 5 May 2008 authorising the exploitation of iron ore at Kolomela Mine {Ref: (NC) 069 MR}, is valid until 17 September 2038, unless cancelled or suspended.

Kolomela Mine operates under an existing Environmental Management Programme Amendment authorised in terms of Section 39(4) (*now repealed*) of the Mineral & Petroleum Resources Development Act (Ref: NC 30/5//3/2/1/069EM).

The Kolomela Mine is an open pit iron ore mine which produces approximately 9 million tonnes of iron ore per annum (Mtpa). The current life of mine (LOM) plan is until 2040 and involves mining from the existing three pits, namely the Leeuwfontein Pit, the Klipbankfontein Pit and the Kapstevél Pit.

Existing processing facilities a 9 Mtpa direct shipping ore (DSO) operation, including crushing and

screening of recovered ore material into stockpiles of 'lump' and 'fines' for transportation by rail to Saldanha Bay.

The Kolomela Mine is currently planning to increase production from 9 million tonnes of iron ore per annum (Mtpa) to 16 Mtpa by 2018. This increase in production will involve:

- increasing production of iron ore from the existing pits and the inclusion of additional pits,
- increasing the processing capacity of the existing beneficiation plant (to 14 Mtpa) and inclusion of an additional DMS processing plant (1 to 2 Mtpa) to process lower grade ore to be sited at 3 different locations.

To support the increase in production various infrastructure changes will take place. The changes will be undertaken within the existing mining right area. In addition, Kolomela intends developing a second aquifer recharge project on a tributary of the Soutloop River, to the west of the mining right area on the farm Floradale (Floradale 230 and Floradale 484)

A breakdown of the additional activities that are required to facilitate the production increase and to be approved during the EIA process is given below. Note that the inclusion of the new pit areas means that the LOM is still until 2040.

Activity	Infrastructure Requirement
New Pits (already included in mining right)	New Kapstevél South Pit
	New Ploegfontein Pits
	New Tierbult Pit
Expansion of Waste Rock Dumps (WRD)	Extension of the Kapstevél Waste Rock Dump
	Extension of Leeuwfontein North WRD
	Extension of Leeuwfontein South WRD
	Amendment of Klipbankfontein WRD
Services	Construction of a Haul Road to the New Ploegfontein Pits
	Construction of Support Facilities at Kapstevél and Klipbankfontein Pits that includes: <ul style="list-style-type: none"> • Heavy Vehicle Parking, • Maintenance Workshops, • Refuelling Facilities, and • Operator Fatigue Centres
	Expansion of the Existing Explosives Magazine
	A new Sewage Treatment Facility at the Rail Balloon
	A new product stockpile area at the current DSO Plant
	Construction of a Conveyor System from the Kapstevél DMS Plant to the Railway Load-Out Station
	Recharge of Underground Water Aquifer on the Farm Floradale (outside the existing mining right area)
	Processing Plants

5 POLICY AND LEGISLATIVE CONTEXT

This document has been prepared strictly in accordance with the DMR Report template format, and was informed by the guidelines posted on the official DMR website. This is in accordance with the requirements of the MPRDA. In addition, this report complies with the requirements of the National Environmental Management Act (NEMA) (Act 107 of 1998) and the EIA Regulations (2014).

This section outlines the key legislative requirements applicable to the project. Prior to the commencement of the proposed project, environmental authorisation is required from various government departments. These include:

- A mining right amendment in terms of Section 102 of the MPRDA which is regulated by the Department of Mineral Resources (DMR). This includes the amendment of the existing Environmental Management Programme (EMP)
- Environmental authorisation from the DMR in terms of NEMA. The proposed project incorporates several listed environmental activities. The applicable list of activities is provided in Section **Error! Reference source not found.** of this report. The EIA regulations being followed for this project are Regulation 983, 984 and 985 (December 2014 EIA Regulations).
- A WML from the DMR in terms of NEM:WA. The applicable list of activities is provided in Section **Error! Reference source not found.** of this report.
- A WUL amendment from the Department of Water and Sanitation (DWS) in terms of the NWA.

Any additional approvals/permits needed for the project will be identified during the course of the environmental assessment process. A detailed list of such requirements will be provided in the EIA and EMP report if applicable.

5.1 MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002

The MPRDA governs the acquisition, use and disposal of mineral rights. Section 102 of the MPRDA provides for the amendment of existing EMPs and Mining Rights. The process for Section 102 applications is not stipulated in the MPRDA. However, Part 5 of the 2014 EIA Regulations stipulates the process for amendments. Since new listed activities are triggered, a scoping and EIA process will be required. Therefore the scoping and EIA process is to take place in accordance with the NEMA Regulations requirements.

The scoping, EIA and EMP will be submitted to the Northern Cape DMR for their decision making.

5.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998

NEMA provides for co-operative, environmental governance by establishing principles for decision-making on matters that affect the environment. On the 4th December 2014, the 2014 EIA Regulations GN R 982 – GN R 985 were promulgated, which replaced the 2010 EIA Regulations. The EIA Regulations provide the requirements for conducting impact assessments and specify activities that require environmental approval prior to implementation. GN R 983 and GN R 985 specify activities that require a basic assessment process and GN R 984 specifies activities that require a scoping and EIA process. GN R 982 specifies the process that needs to be followed. This project will be conducted in terms of the 2014 EIA regulations. A scoping and EIA process will be conducted. The specific activities that are applicable in terms of NEMA have been specified in Section 4 above.

5.3 NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT, 2008

Waste management is regulated under the NEMWA, in order to protect the environment and human health. The Act makes provision for the identification of various waste management activities, which may have a detrimental effect on the environment. A waste management activity identified in terms of the Act may not commence or be undertaken except in accordance with a WML.

On 29 November 2013, the list of waste management activities requiring a WML was amended (GN R 921). Listed waste management activities are divided into three categories, Category A, Category B and Category C in the schedule. Activities identified in Category A require a Basic Assessment process, as stipulated in the EIA Regulations, while activities identified in Category B require a scoping and EIA process, as stipulated in the EIA Regulations of the NEMA, in order to inform an application for a WML. Category C activities must comply with the relevant requirements or norms and standards published by the Minister.

In terms of the National Environmental Management Waste Amendment Act 26 of 2 June 2014 and the National Environmental Management Laws Third Amendment Act (No. 25 of 2014), as of 2 September 2014, mine residue deposits and stockpiles (e.g. waste rock dumps and tailings dams) require a WML in terms of NEMWA. However, while it is legislated that a WML is required, the implications of this are not necessarily fully known. The existing Waste Rock Dumps (WRDs) are approved under 2006 legislation where a WML was not required and where specific lining requirements for WRDs were not specified. Therefore the requirements for adding waste rock to approved facilities are uncertain. This will be further investigated during the EIA phase of the project.

The specific activities that are applicable in terms of NEWMA have been specified in Section 4 above.

5.4 NATIONAL WATER ACT, 1998

Section 21 of the National Water Act (No. 36 of 1998) (NWA) lists water uses for which a WUL must be obtained. A WUL and Integrated Water and Waste Management Plan (IWWMP) are in place for the Kolomela Mine. All the additional applicable water uses that require authorisation will now be applied for with this project and the IWWMP for the mine will be amended. A WUL amendment application will also be submitted to the DWS for their approval.

Regulation GN 704 of the NWA regulates water use for mining and related activities and is aimed at protecting the water resources.

5.5 NATIONAL ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004

The National Environmental Management: Air Quality Act (NEMAQA) provides for the management of atmospheric emissions. NEMAQA provides limits for specific activities that can impact on air quality. An air quality impact assessment will be conducted for this project which will take into consideration the NEMAQA and the impacts the project will have on air quality.

5.6 NATIONAL ENVIRONMENTAL MANAGEMENT: BIODIVERSITY ACT, 2004

The National Environmental Management: Biodiversity Act (NEMBA) provides for the protection of threatened ecosystems and species, and the management of alien invasive species.

A biodiversity study will be conducted for this project. NEMBA and the regulations state that no person may carry out certain activities involving a specimen of a listed threatened or protected species without a permit. Thus, if threatened or protected species are found on site, a permit will be required prior to their removal. The results of the biodiversity study will confirm whether a permit must be applied for, and under which legislation. The biodiversity study will also consider the presence of alien plants and the management thereof.

5.7 NATIONAL HERITAGE RESOURCES ACT, 1999

The National Heritage Resources Act (NHRA) provides for the protection of all archaeological and paleontological sites and meteorites. Section 38 of the Act defines the categories of development for which the responsible heritage resources authority must be notified. Under Section 38 (1)(c) “any development or other activity which will change the character of a site - (i) exceeding 5000 m² ... must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.”

The footprint of the changes to the Kolomela Mine will exceed 0.5 ha. Most of the proposed site forms part of the existing Environmental Authorisation, however with the disturbance of some additional undisturbed area there is a possibility of locating artefacts of cultural or heritage significance. A Heritage Impact Assessment will be conducted to determine if there are any artefacts of cultural or heritage significance that may be impacted by the project.

5.8 GUIDELINES AND POLICIES

5.8.1 SANBI WETLAND INVENTORY

The South African National Biodiversity Institute (SANBI) Wetland Inventory is an inventory dataset that presents information on the extent, location and distribution of wetlands systems in South Africa. A national database, containing the attributes, functions and values of individual wetlands will be linked to this spatial data. The aim of the inventory is to establish a baseline for measuring future change in wetland area, function and values, and permit status, and if possible, trends analyses to be carried out in order to assess the need for, or effectiveness of, specific wetland conservation strategies. There are wetland pans present near the proposed project. A wetland study will need to be conducted to ground truth the presence and importance of these pans.

5.8.2 MINING AND BIODIVERSITY GUIDELINE

The Mining and Biodiversity Guideline was developed as a good practice guideline that focuses on providing practical guidance to the mining sector on how to address biodiversity issues in the South African context through applying the law, using the best available biodiversity information, engaging relevant stakeholders, using best practice in EIAs to identify, assess and evaluate impacts on biodiversity, to apply the mitigation hierarchy when planning any mining-related activities and develop robust EMPs, and ensure effective implementation of EMPs. The Guideline encourages mining companies, regulatory authorities and other mining stakeholders to use the high quality, readily accessible spatial and non-spatial biodiversity information that is available to guide thinking and decision making in respect of the mine planning process.

5.8.3 NATIONAL FRESHWATER ECOSYSTEM PRIORITY AREAS

The National Freshwater Ecosystem Priority Areas (NFEPA) project was aimed to identify a national network of freshwater conservation areas and to explore institutional mechanisms for their implementation by:

- Identifying Freshwater Ecosystem Priority Areas to meet national biodiversity goals for freshwater ecosystems; and
- Developing a basis for enabling effective implementation of measures to protect FEPAs, including free flowing rivers.

It provides strategic spatial priorities for conserving South Africa's freshwater ecosystems and supporting sustainable use of water resources. While there is a database of NFEPAs, this needs to be ground truthed with specialist studies.

There are various water resources in the vicinity of the project area that can potentially be impacted by the project and thus specialist studies will need to investigate the presence of NFEPAs.

6 NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

The Minister of Mineral Resources granted a mining right for iron ore on 5 May 2008 authorising the exploitation of iron ore at Kolomela Mine {Ref: (NC) 069 MR}, is valid until 17 September 2038, unless cancelled or suspended. Current mining operations involve mining from three pits on the farms Leeuwfontein 488, Strydfontein 614, Remainder of Klipbankfontein 489, and portions 1, 2, 3, and the Remainder of Kapstevl 541. Existing processing facilities involve a 9 million tonne per annum (Mtpa) direct shipping ore (DSO) operation, including crushing and screening of recovered ore material into stockpiles of 'lump' and 'fines' for transportation by rail to Saldanha Bay.

Kolomela intends to increase production to 16 Mtpa by 2018 in order to meet market demand and to satisfy short and medium term requirements essential to ongoing business continuity. Although included in the mining right, pits at Ploegfontein, Tierbult and Kapstevl South are not provided for in the current layout in the approved Environmental Management Programme and thus are being added to the plan. The mining of these pits is necessary to maintain the current life of mine (2040), while accelerating production. These pits will be located in order to extract the available ore. Associated with this is the expansion of the existing waste rock dump footprints. Consideration has been given to environmental sensitivities when designing the footprints of the waste rock dumps, but these will be further revised based on the outcomes of the specialist studies.

In addition, the increased production will need to be facilitated by the processing of lower grade ore. Provision has thus been made for DMS processing at the mine at a maximum rate of 1-2 Mtpa. These plants will be located close to primary source of the lower grade ore. Three locations have thus been included for the location of such plants, close to the Leeuwfontein Pit, adjacent to the he Kapstevl At Pit Facility and close to the Klipbankfontein Pit. Note that there will be only one DMS processing plant active at any particular time.

In order to facilitate future increased production from the Kapstevl and Klipbankfontein areas, provision is also been made for more facilities closer to these areas, including workshops and haul truck parking areas. These facilities have been located with due consideration to known

environmental sensitivities, but the positions will be finalised based on the outcomes of specialist studies.

The associated projects will have some positive outcomes for local communities and society in general. The construction and operations associated with the projects are expected to result in increased employment opportunities. The benefits to local communities will be clearly articulated during the EIA phase of this application once more detailed information is available.

Overall revenue increase at the mine will facilitate increased fund allocation to local economic development through the implementation of projects identified in the Social and Labour Plan. SIOC is fully committed to implementing development plans and projects that will facilitate local community and rural development in the area surrounding in line with the provisions of the Broad-Based Socio-Economic Empowerment Charter for the South African Mining Industry.

Thus, in summary, the expansion of Kolomela Mine is needed to:

- Enable SIOC to continue operating the mine and producing iron ore;
- Enable SIOC to stay in operation and earn a profit;
- Enable SIOC to produce a sufficient quantity of iron ore, to satisfy the various requirements of its clients;
- Safeguard the employment and economic development opportunities created by the existing Kolomela Mine.

7 PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

The authorisation should be issued in line with the mining right which is valid until 17 September 2038, unless cancelled or suspended. It should be noted that the mining right would need to be extended to support the current mining schedule which ends in 2040.

8 DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED ALTERNATIVES

(The determination of the site layout taking into consideration the comparison of the original site plan with a plan which takes (1) environmental features; (2) current land uses, (3) issues raised by IAPs and (4) consideration of alternatives, to the initial layout into account.)

8.1 DETAILS OF ALL ALTERNATIVES CONSIDERED

8.1.1 LOCATION ALTERNATIVES

Although the location of the pits are largely fixed as a result of accessing the mineral reserves, alternatives have been considered with respect to the layout of infrastructure and waste rock dumps.

Layout Plan 1: This layout was presented an initial investigation area to be considered for layout of the expanded operations at Kolomela Mine. Initial specialist studies were undertaken in these areas in order to facilitate layout planning. This was the original layout presented to interested and affected parties in the scoping process.

Layout Plan 2: This layout was presented by Kolomela Mine as per the requirements of meeting the 16 Mtpa objective. Specialist studies were updated to consider changes from Layout Plan1 to Layout Plan 2 to ensure proposed disturbance areas not included in the baseline previous studies were covered. This is the preferred layout taken into the EIA process.

Layout Plan 3: This layout will present a modified version of Layout Plan 2, taking into cognisance sensitivities identified in specialist studies and recommendation made by specialists and the EAP to minimise impacts.

8.1.2 TYPE OF ACTIVITY ALTERNATIVES

The type of activity for the Kolomela Expansion project is iron ore mining. This is the activity currently undertaken at the site and this activity will not change as a result of the mine expansion. Therefore different activity alternatives were not considered at the site, as there is only one activity option for the expansion of Kolomela mine, and that is to continue with the activity of iron ore mining.

8.1.3 DESIGN OR LAYOUT ALTERNATIVES

The layout alternatives are discussed in section 8.1.1 above.

The Kolomela Expansion Project included an investigation into the inclusion of the Ploegfontein, Tierbult and Kapstevél South pits into the mining schedule, driven by decisions as to processing options. Initial indications were that the Ploegfontein area would not be included in the planned mine works programme. A stop to the Kolomela Expansion Project forced a decision to be taken by Kolomela Mine to include these pits into the future mining schedule aimed at achieving the 16 Mtpa

production objective and to maintain the life of mine.

8.1.4 TECHNOLOGY ALTERNATIVES (DMS PLANTS)

The Sishen Iron Ore Company (SIOC) embarked on a feasibility study to identify alternatives for increasing production at the mine, namely the Kolomela Expansion Project. The current Kolomela plant was initially designed to process 9 million tonnes of iron ore per annum and therefore requires additional capacity to cater for an overall increase in production from the mine. The options investigated as part of the project included:

- New standalone plant options: New primary, secondary and tertiary crushing plant;
- Debottlenecking Options: Especially addressing specific capacity constraints in the existing plant.
- Optimisation alternatives.

Alternatives for increasing the production of the mine to are still being considered. The proposed amendment (this application) provides for the optimisation of the DSO operation (without significant changes) to increase production through the plant at 14 Mtpa.

In addition to this provision has been made for DMS plant to be operational at the mine at any time (3 locations have been identified for the DMS plants) to process between 1 and 2 Mtpa of lower grade ore. There is currently a modular DMS processing plant in operation. Provision has been made for the same (or similar plants) to be located near to the Kapsteveld and Klipbankfontein pit areas. It should be noted that only one DMS plant will be in operation at any one time at the mine.

8.1.5 OPERATIONAL ALTERNATIVES (EXCESS WATER MANAGEMENT)

In accordance with the Kolomela Mine Water Use Licence (Licence 10/D73A/ABCGIJ/2774) Kolomela Mine is required to dispose of excess water from dewatering activities into the Vaal-Gamagara pipeline. Due to the lack of capacity of the Vaal-Gamagara Water Supply Scheme to take all the water generated from the pit dewatering activities, the mine is currently disposing of excess water into natural drainage structures located on the mining property under directive from the Department of Water & Sanitation.

As an alternative, Kolomela Mine investigated the feasibility of recharging water into the aquifer. Recharge of water into the aquifer via 2 sites along the Groenwaterspruit were investigated and deemed feasible and covered under a separate authorisation (Permit 16/2014). The current application included an investigation into the recharge of water into the aquifer via the tributary of the

Soutloop River located on the farm Floradale 230 and 484.

8.1.6 OPTION OF NOT IMPLEMENTING THE ACTIVITY

In accordance with the National Environmental Management Act No107 of 1998 (NEMA) Regulations, the no-go alternative is required to be investigated and assessed. The no-go alternative would mean that the associated projects are not undertaken and therefore the associated negative environmental and social impacts will not occur. This alternative will need to be weighed against the findings of the EIA as well as the potential socio-economic benefits that may result from the project. The results of the assessment will be presented in the EIA report.

Based on the consideration of the alternatives discussed above, the original proposed site layout shown in Figure 2 below, was amended to identify the preferred site plan which is shown in Figure 3 below.

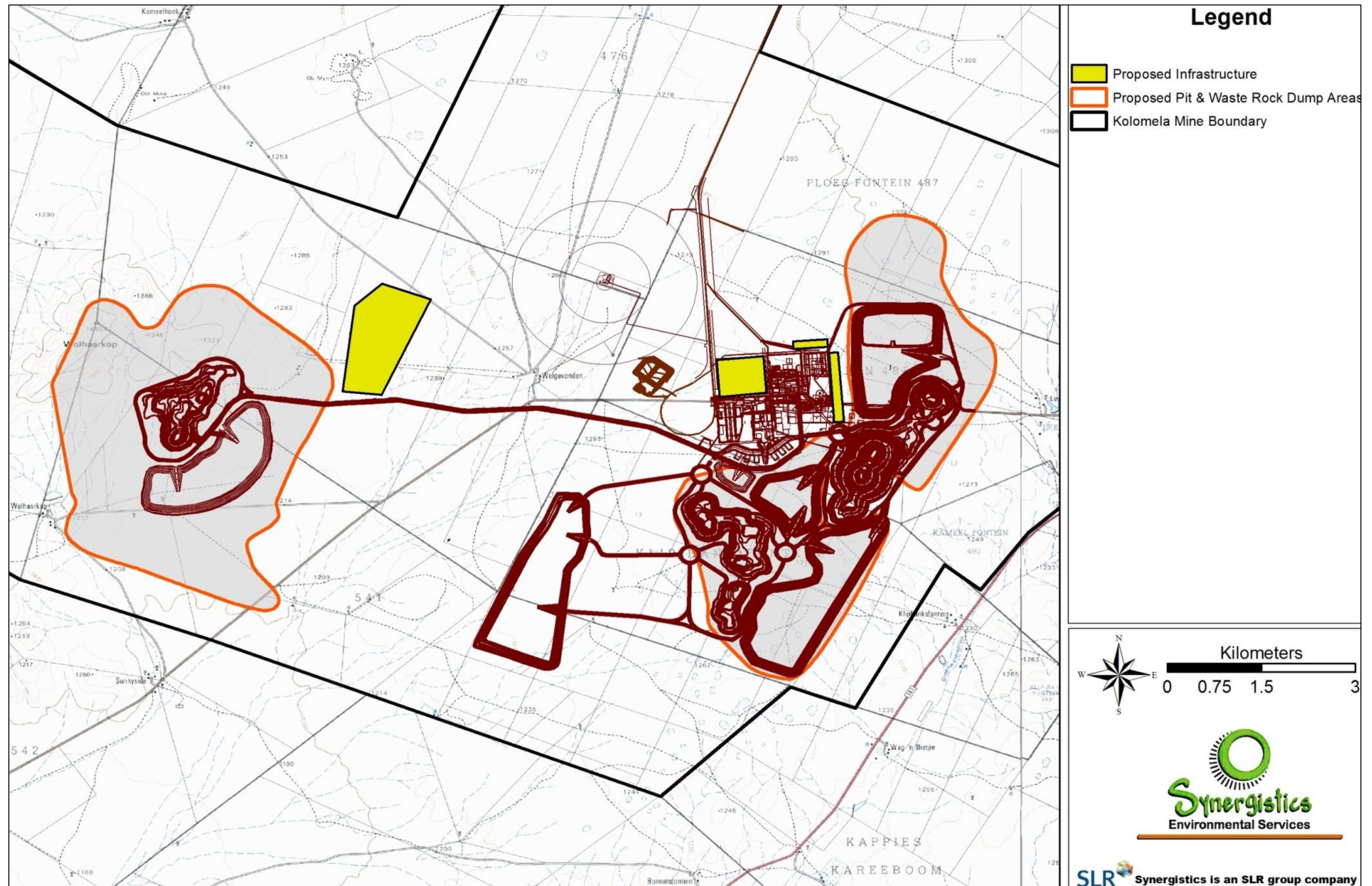


Figure 2. Original proposed site layout before consideration of alternatives.

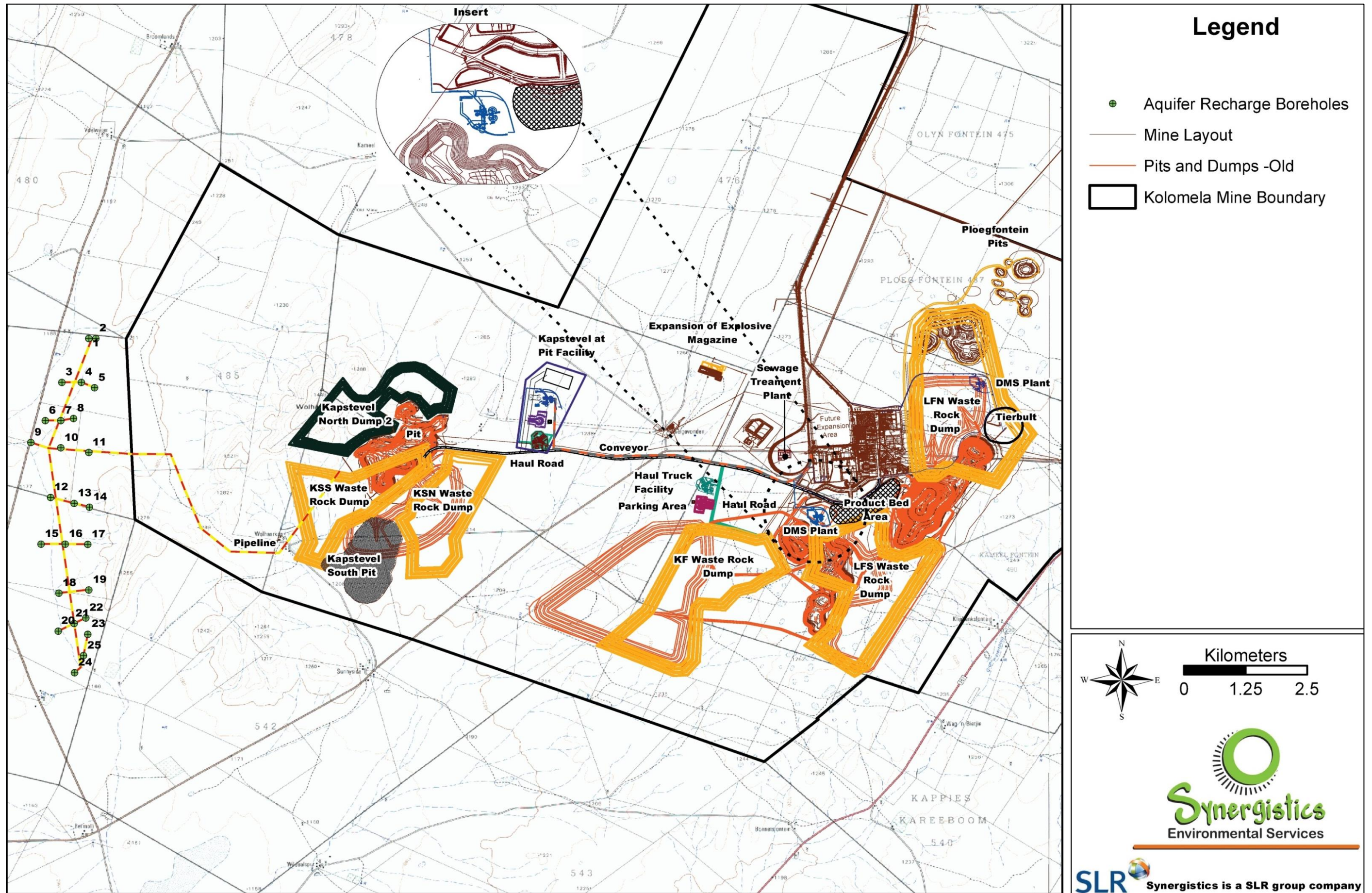


Figure 3. Proposed site layout after consideration of alternatives.

8.2 DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

PLEASE TAKE NOTE OF THE FOLLOWING IMPORTANT ISSUES RELATING TO THE PUBLIC PARTICIPATION PROCESS:

- *Application for the expansion of activities at Kolomela Mine was made and accepted in November 2013 to the Department of Environment and Nature Conservation (DENC) in accordance with Regulation 543 of June 2010.*
- *Interested and Affected Parties were notified during a comprehensive Public Consultation Process and issues collated in December 2013 and 2014.*
- *A Draft Scoping Report was completed in March 2014.*
- *The Final Scoping Report was submitted to DENC and approved 13 August 2014.*
- *The Kolomela Expansion Project was stopped by SIOC in November 2014.*
- *Kolomela Mine proposed a layout of the mine to achieve an expansion objective in December 2014.*
- *EIA legislation changed on 4 December 2014.*
- *The decision was taken to withdraw the application from DENC and resubmit a new application to DMR in line with the new EIA Regulations 2014.*
- *This decision was motivated by the need to include additional listed activities under the new EIA Regulations as well as the need for an application for a waste management licence to be made to the DMR. The NEMA and NEMWA applications have thus been combined.*
- *The application was re-advertised including the new NEMA listed activities and NEMWA application.*
- *Registered IAPs were notified in writing on 2 April 2015 of the above changes and given an additional opportunity to comment (30 days).*
- *The application was re-advertised in the press and on site from 9 April 2015 to 8 May 2015.*
- *IAPs have now been given a further opportunity to review this updated scoping report.*

8.2.1 IDENTIFICATION OF INTERESTED AND AFFECTED PARTIES

Potential Interested and Affected Parties (IAPs) were identified using existing databases for Kolomela Mine. The databases included authorities, ratepayers association, farmers unions and surrounding mines. The public participation process and consultation is and will be in adherence to the Anglo

standards of Stakeholder Management as well as the relevant legislation. People and/or organisations were registered as IAPs for the project if they:

- Are landowners or tenants adjacent to or within 100 m from the proposed study area,
- Are the local municipality/ ward councillor with jurisdiction in the area ,
- Represent the ratepayers association,
- Are an authority or organ of state having jurisdiction in respect of any aspect of the activity,
- Responded to the BID, press advertisements and site posters,
- Attended one of the Kolomela Environmental Forum meetings,
- Attended the information-sharing meetings,
- Own, operate or administrate infrastructure affected by the project.

A list of all parties that have been identified thus far is included as Appendix 5.1.

8.2.2 NOTIFICATION OF LANDOWNERS, LAWFUL OCCUPIERS AND IAPs

The initial public consultation process for the scoping phase of the project was carried out between 6 December 2013 to 29 January 2014. As part of the consultation process, IAPs were notified of the proposed development and the details of the Scoping and EIA process being undertaken. Notifications to IAPs were provided in English and Afrikaans.

An original Background Information Document (BID) was circulated via registered post and email to relevant authorities and all adjacent landowners. Other IAPs received the BID via email. The BID was also provided at the Kolomela Environmental Forum Meeting held on 2 December 2013.

The BID provided background information on the Project and provided an explanation of the Scoping and EIA process that is currently being undertaken for the project. The BID also invited members of the public to register as IAPs and participate in the EIA process. A response sheet was attached the BID on which IAPs could provide written comments on the proposed development.

Potential IAPs were notified of the project by means of:

- Direct letter and BID to the landowner of the Farm Floradale that SIOC intends to utilise for the Aquifer Recharge project.
- Distribution of the BID by hand during Kolomela quarterly environmental forum meeting held on 2 December 2013.

- Notifications and BIDs sent to identified IAPs via email and registered post.
- Press and site notifications.

Note that additional updated information was circulated to registered IAPs in 2 April 2015. The purpose of this document was to inform persons of the:

- updated layout and production objectives of Kolomela Mine;
- decision to submit a new application for authorisation in terms of the new EIA Regulations of 4 December 2014; and
- application to be made in terms of the National Environmental Management: Waste Act given that mining waste was subsequently captured under the definition of waste.

IAPs were given a further 30 days to submit comment on the above in accordance with the EIA Regulations.

Copies and proof of distribution of the original public notifications (December 2013/January 2014) and updated public notifications (April 2015) are contained in Appendix 5.2.

8.2.3 NOTIFICATION OF AUTHORITIES

Northern Cape Department of Environment and Nature Conservation (DENC)

An application for environmental authorisation in terms of NEMA was submitted to the DENC on the 12th of November 2013 and was assigned the reference numbers NC/EIA/15/ZFM/TSA/POS3/2013 (NCP/EIA/0000252/2013).

Subsequently, with the decision to submit an application to the DMR for authorisation under the new EIA Regulations (December 2014), the application to DENC was formally withdrawn on 22 June 2015.

Northern Cape Department of Mineral Resources (DMR)

The DMR was originally notified of the project via a direct letter sent on 3 December 2013. As part of the public participation process, a BID was also sent to the DMR. The scoping report was also submitted to the Department.

Subsequently, a NEMA and NEMWA application has been made to the DMR (on 30 October 2015)

for authorisation of the proposed development in terms of the new EIA Regulations (December 2014) as well as activities listed in terms of the National Environmental Management Waste Act.

Northern Cape Department of Water & Sanitation (DWS)

The DWS has been notified of the project through the circulation of the BID on 4 December 2013. A Notice of Intent to submit an IWULA was submitted to the DWS on 2 July 2015. Note that formal application for a Water Use Licence Amendment will also be made for activities listed in terms of Section 21 of the National Water Act in November 2015.

In addition to the authorities listed above, the BID and the subsequent update of April 2015, was circulated to the following commenting authorities:

- Tsantsabane Local Municipality.
- ZFM District Local Municipality.
- Northern Cape Provincial Government.
- Northern Cape Department of Agriculture, Land Reform and Rural Development.
- Northern Cape Department of Health.
- Department of Labour (national and provincial).
- Department of Education.
- Department of Social Development.
- Northern Cape Department of Agriculture, Forestry and Fisheries.
- South African Heritage Resources Agency.

Copies and proof of distribution of the original authority notifications (December 2013/January 2014) and updated notifications (April 2015) are contained in Appendix 5.2.

8.2.4 MEDIA ADVERTISEMENTS AND SITE NOTICES

The original press adverts were placed in the following newspapers:

- Die Ghaap in Afrikaans on 6 December 2013;
- Volksblad in English 6 December 2013.

Additional press advertisements were placed in the above Newspapers on 2 April 2015 and 31 March 2015, in order to notify persons of the application being made under the new NEMA EIA regulations

(GN982 of 4 December 2014) and the need to include an application for a waste management licence given that mining waste was subsequently included under the definition of waste.

Site notices (A2 size) were placed on the 4 December 2013 at the following areas:

- Entrance of the Kolomela Mine;
- Main entrance to the SIOC administration buildings in Postmasburg (English and Afrikaans);
- Tsantsabane Local Municipality's notice board (English and Afrikaans);
- Notice board of the Spar shopping centre in Postmasburg (English and Afrikaans).

Additional site notices were placed at the above locations on 9 April 2015, in order to notify persons of the application being made under the new NEMA EIA regulations (GN982 of 4 December 2014) and the need to include an application for a waste management licence given that mining waste was subsequently included under the definition of waste.

The press and site notification was undertaken to elicit interest from other IAPs that might not have been identified during the stakeholder identification process.

The original (December 2014/January 2014) adverts and site notices and updated (March/April 2015) are included in Appendix 5.3.

8.2.5 PUBLIC AND AUTHORITY MEETINGS

Initial authorities meetings have been held regarding the project with the DMR on the 14 January 2014, with NCDENC on the 8 May 2014 and DWA on 12 December 2013.

An additional authority meeting was held with the DMR on 17 February 2015. Copies of the minutes of the authorities meetings are in Appendix 5.4.

Focus group meetings were held with IAPs on 13 and 14 October 2014. Copies of the minutes of the focus group meetings are in Appendix 5.5.

8.2.6 PUBLIC REVIEW OF DRAFT SCOPING REPORT

The original draft scoping report was made available for public review from the 14 April 2014 until the

19 May 2014 (30 calendar days) (proof of distribution of the previous 2014 scoping report is in Appendix 5.8). Only two comments on the original draft scoping report were received from Mr Albertus Viljoen (14 April 2014) and Mr Johan Kotze (15 April 2014).

Additional scoping information was submitted to IAPs on 2 April 2015. The same two IAPs also provided comments on the updated scoping information which was circulated. Copies of IAP comments received on the original scoping report (April 2014) and updated scoping information (April 2015) are in Appendix 5.6.

The November 2015 version of the scoping report was also circulated to IAPs for a 30-day review period from 2 November 2015 until 4 December 2015 in accordance with Section 40 (3) of the 2014 EIA regulations. No comments were received on the November 2015 version of the scoping report and thus the content of this final scoping report (December 2015) remains the same. The only information that has changed is the addition of Appendix 5.9 that includes proof of the public participation process of the November 2015 scoping report.

8.2.7 AUTHORITY REVIEW OF DRAFT SCOPING REPORT

Copies of the draft scoping report were provided for authority review from 14 April 2014 until 29 May 2014 (40 calendar days) (proof of distribution of the previous 2014 scoping report is in Appendix 5.8). The reports were circulated to authorities listed above and those that have been included in the IAP Database. Additional scoping information was submitted to authorities on 2 April 2015.

Copies of authority comments received on the original scoping report (April 2014) and updated scoping information (April 2015) are in Appendix 5.7.

The November 2015 version of the scoping report was also circulated to authorities for a 30-day review period from 2 November 2015 until 4 December 2015 in accordance with Section 40 (3) of the 2014 EIA regulations. No comments were received on the November 2015 version of the scoping report and thus the content of final scoping report (December 2015) remains the same. The only information that has changed is the addition of Appendix 5.9 that includes proof of public participation of the November 2015 scoping report.

8.2.8 PUBLIC REVIEW OF FINAL SCOPING REPORT

The final scoping report will be available for public review for a period of 30 days from the 14

December 2015 until 3 February 2016 (15 December – 5 January is excluded from the timeframe), in accordance with Section 40 (3) of the 2014 EIA regulations. All comments received will be addressed in the Environmental Impact Assessment (EIA) Report.

8.2.9 AUTHORITY REVIEW OF FINAL SCOPING REPORT

The final scoping report will be available for authority review for a period of 30 days from the 14 December 2015 until 3 February 2016 (15 December – 5 January is excluded from the timeframe), in accordance with Section 40 (3) of the 2014 EIA regulations. All comments received will be addressed in the Environmental Impact Assessment (EIA) Report.

8.3 SUMMARY OF ISSUES RAISED BY I&APs

Please refer to Appendices 5.4, 5.5, 5.6 and 5.7 for the full comments in minutes and correspondence with IAPs and authorities.

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
AFFECTED PARTIES				
Landowners/Lawful Occupiers (Please note: The applicant is the landowner, thus they are being consulted during the entire process.)				
Landowners/Lawful Occupiers of Adjacent Properties				
05/02/2014	Mr Jannie and Johan Kotze (Neighbours)	Requests that a comprehensive aquifer characterisation/ identification assessment be undertaken for all aquifers up until 250 m deep with a radius of 10 km from the Kolomela Mine. This model must then be presented to the surrounding farmers to indicate what the current situation of groundwater is. Feedback of this should be given monthly to the surrounding farmers. This must also be done with taking the farm Heuningkranz into consideration.	<p>The groundwater model is currently being updated/recalibrated on simulations of the updated mine plan. On completion of this assessment the result will be presented to the surrounding landowners at the quarterly Kolomela Environmental Forum Meeting. The Kolomela mine's groundwater monitoring is continuing as always. This includes:</p> <ul style="list-style-type: none"> • Monthly monitoring of abstraction and groundwater water levels around the pits. • Quarterly groundwater level monitoring of the regional environment • Yearly hydro-census of all boreholes within the hydro-census area. This area gets updated as required. The farm Putjie, Heuningkranz and Langverwacht has been included in the 2014 hydro-census. The farm Lynput was added in 2012. <p>Feedback will not be able to be provided monthly as it is currently done on a quarterly level. Danie Vermeulen's appointment has made provisions to provide feedback twice a year at the Kolomela Environmental Forum Meetings. This will provide farmers with the required feedback regarding the current groundwater situation.</p>	CONSENSUS
15/04/2014	Johan Kotzé (Neighbour)	1) On page ii [of the 2014 Scoping Report] it was mentioned that the majority of the boreholes indicated a decline in general, and that it could be attributed to	1) Noted. This forms part of the continual monitoring programmes at Kolomela to establish whether such	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<p>returning to normal after the 2011 rains. I would like you to note my doubt in this, as this happened between 12 and 24 months after the rains.</p> <p>2) Increase in crime has been received as a concern, it is also mentioned that will be addressed in a comprehensive Social Impact Assessment. Please give special attention to this, because I do not think that the current situation on crime has been properly assessed and/or addressed.</p> <p>3) With regards to Noise pollution: I would like to get the baseline noise levels taken at Floradale prior to mining compared to current noise level. Can Floradale please be included in the noise baseline, if not included yet?</p> <p>4) Thanks for making a lot of mention with regards to investigation into a second aquifer recharge.</p> <p>5) Thank you for including our request regarding Aquifer characterization/ identification assessment. I am however concerned that the noises I heard at the quarterly meeting is that it will be too expensive I and your report indicate that monitoring will continue as always – water level monitoring. Therefore I cannot agree that this request has been adhered to.</p> <p>6) In 1.3 it is mentioned that benefits to local communities will be detailed in EIA. Is it possible to draw up a list of benefits to the surrounding farmers as well?</p>	<p>declines are seasonal or caused by external sources. The University of Pretoria is currently developing a comprehensive groundwater database for Kolomela to comprehensively monitor groundwater fluctuations over time since mining commenced. The completion of this database would provide a comprehensive analysis of changes over time. To more accurate data will indicate whether groundwater level fluctuation is only seasonal or external.</p> <p>2) Noted.</p> <p>3) Initial noise monitoring was conducted on the Farm 230 and will be reassessed as part of the EIA. The initial baseline noise levels were just under 30dB, well below the 45 dB guidelines for rural Areas (SANS 10103). This will be compared to new day and night time measurements.</p> <p>4) Noted.</p> <p>5) This issue will be discussed at the next quarterly Kolomela Environmental forum meeting and integrated into the EIA development. This forum will provide the best platform to resolve these concerns.</p> <p>6) This can be arranged.</p>	
14/04/2014	Albertus Viljoen (Neighbour)	<p>1) Earlier in the mining process it was indicated that red iron ore dust will not impact on Soetfontein. I have observed "red" dust in and around the property. How will the expansion further impact on this?</p> <p>2) Where will the relocation be of the secondary access road route branching off the existing R309 (Witsand road)?</p> <p>3) The use of clean water is crucial, wasting water by dumping it on the ground is not good water management. I would suggest to broaden the context of where to utilize the surplus water.</p> <p>4) With reference to surplus water. Wasting water is not an option and not utilizing water because of the dependency of locals is sidestepping good</p>	<p>1) The updating of the Air quality impact assessment as part of the EIA will attempt to clarify your concerns.</p> <p>2) The relocation refers to internal road relocation within the Kolomela Mine Boundary. The subject EIA does not address any off lease development.</p> <p>3) The project will investigate alternative surplus water disposal options. A further phase of the Aquifer recharging project to the west of the mine is also being investigated as part of the EIA.</p>	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<p>water management. Allowing DWA to claim all surplus water is not good management for the area. De-watered water can be utilized to minimize the impact generated by dewatering, rather than exporting the water from the local resource.</p> <p>5) Statement on Pg 53 (of the 2014 scoping report): "Based on the classification system of the Chamber of Mines, the vast majority (98.7%) of the surface area is most suitable for wilderness areas. A small percentage (1.23%), mostly on the farm Kapsteviel, is suitable for agricultural use": Although farming had been taking place for a 150 years? Generalization that the area is not suitable for agriculture is not acceptable.</p> <p>6) I would like to have a discussion with the specialist regarding the wetland classification of the Groenwaterspruit.</p> <p>7) I would like to see noise recordings over a 7 day period. 24 hours is not indicative enough, due to changing climate and wind conditions.</p>	<p>4) Please refer to comment above.</p> <p>5) Noted, however the area is not characterised as having productive agricultural potential, excluding farming with livestock. The context of this statement is such that it refers to arable land suitable for the production of crops. The area is surely suitable for livestock farming as stated.</p> <p>6) This will be arranged.</p> <p>7) We have arranged noise recordings to be undertaken for a 2 day 24 hours cycle. The results of this monitoring run will establish whether additional noise monitoring would be required. This monitoring will be done based on standard practices.</p>	
06/12/2014	Mr J.A. Schoeman (local landowner)	Concerns about Water	The project will involve additional dewatering activities to ensure safe and efficient extraction of iron ore resources within Kolomela. Additional dewatering will have an impact on the local groundwater system. The project will involve the updating of the current Kolomela geohydrological model. This model will provide the necessary information and quantification of the expected additional groundwater impact. This would be visually communicated through a groundwater cone of depression impacts. Your concerns are noted and also already regarded as being a potential significant impact from the proposed expansion project.	FURTHER FEEDBACK IN EIA
14 April 2015	Albertus Viljoen (Neighbour)	<p>1) Will a consultant or relevant person visit me to discuss the expansion in detail and what the possible impact will be to us? My concern is that the activities are getting closer to us and this will increase impacts.</p> <p>2) What are the applicable noise regulations?</p>	1) The EIA will likely be sent to you for your review (and public review) in mid-June 2015 (<i>now delayed until 2016</i>). The EIA will contain the detailed description and assessment of the impacts as determined in the specialist studies, as well as the proposed mitigation measures. The individual specialist reports will also be	FURTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
			<p>included as appendices to the EIA. During the public review period, we will arrange for a member of the project team to come and meet with you to explain what the impacts on you are likely to be.</p> <p>2) The noise guidelines (SANS 10103 and IFC guidelines) were sent to Mr Viljoen.</p>	
21/04/2015	Johan Kotzé (Neighbour) MVD Kalahari Consulting Civil & Structural Engineers and Town Planners	With regards to the proposed aquifer recharge at Floradale, will there also be water quality monitoring in place of the water to be deposited?	Yes, there will be water quality monitoring, the details will be in the EIA report.	FURTHER FEEDBACK IN EIA
Municipal Councillor				
Municipality				
14th October 2014	Community Development Manager from the Tsantsabane Local Municipality	<p>RELATIONSHIP WITH THE MUNICIPALITY</p> <ul style="list-style-type: none"> When Kolomela started, the relationship was a partnership which was good for development. After the resignation of the Community Development Practitioner from Kolomela, that relationship came to an end. The current relationship problems with the mine were created by senior people, which resulted in a power struggle between the municipality and Kolomela mine. Currently there is a lack of trust and communication. There is a perception at the mine that the Municipality cannot operate without the mine, which is not true. At some point the mine owed us money, and the perception was created that the mine was pumping money into the municipality to rescue the municipality. It will be difficult to solve the situation and try to rebuild the partnership again. 	The comments are noted and the issue of the mine's relationship with the municipality will be considered further in the EIA.	ONGOING CONSULTATION
14th October 2014	Environment and Health Practitioner from the District Municipality	<p>RELATIONSHIP WITH THE MUNICIPALITY</p> <ul style="list-style-type: none"> The relationship with the mine is good. The only challenge is that Kolomela mine is using a different approach to health and environment than the district municipality. The mine seems not to be taking any responsibility with regard to 	The comments are noted and the issue of the mine's relationship with the municipality will be considered further in the EIA. The issue of the mine putting pressure on municipal services will also be considered.	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<p>its socio economic impact. There is a lot of pressure on the Municipality to deliver due to the expansions brought about by the mine and the mine seems to be unaware of this pressure.</p> <ul style="list-style-type: none"> • Was initially working with Kolomela mine on the management of air quality but this responsibility has now been handed over to the National Government due to financial & capacity constraints at the district municipality level. Currently there is no compliance enforcement on air quality at the municipality level. • The Tsantsabane area needs at least two Health and Environmental Officers as a result of the rapid growth brought about by Kolomela mine. • Another challenge is the failure of the national government to align its plans with municipal plans and strategies. The national government does not consider the current rapid growth in the region, which definitely requires a different approach as opposed to the approach followed in other regions. 	<p>The air quality impact assessment will be updated as part of the EIA. This will include the programme of air quality monitoring which will be carried out by the mine.</p>	
<p>14th October 2014</p>	<p>District Municipality (Health & Environment Component)</p>	<ul style="list-style-type: none"> • Health & Environment is a component within the District & Local Municipality responsible for the monitoring of food quality, water quality, waste management & outbreaks of diseases. • The challenge encountered currently is lack of coordination from health role players in government, on local, district and provincial levels. 	<p>Comment is noted.</p>	<p>Consensus</p>
<p>14th October 2014</p>	<p>The Municipal Manager of Tsantsabane</p>	<p>RELATIONSHIP WITH THE MUNICIPALITY</p> <ul style="list-style-type: none"> • The mine focuses more on building a relationship with regulators in national government due to legislative requirements, rather than building relations with the local municipality. Building a relationship with the municipality should also be prioritised. • Initially the relationship was not good and not strategic. There was no disclosure or alignment with the IDP. Initially when the mine built houses in Postmasburg, they did not engage with the Municipality. It would have been appropriate for the mine to engage with the municipality to enhance integration and sharing of technical expertise. There has been improvement on engagement, but there are still serious shortcomings in terms of good stakeholder management i.e. non-disclosure of information by the mine. • The Tsantsabane Municipality is aligned with Government strategies and the mine should also do the same. According to the participants it seems the mine is only planning the extraction without having commitments to invest in the area 	<p>The comments are noted and the issue of the mine's relationship with the municipality will be considered further in the EIA.</p>	<p>ONGOING CONSULTATION</p>

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<p>and build Tsantsabane.</p> <ul style="list-style-type: none"> There are currently no discussions between the mine and the municipality on sustainable development in the area. 		
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWA etc.)				
08/01/2014	Mr P Saayman (Department of Social Development)	This expansion project will obviously entail the appointment of much more employees. The resources in Postmasburg are already under pressure i.e. a shortage of water and housing. Will the construction of water storage include the provisioning of the water to Postmasburg town?	Kumba is currently working with the municipality to develop a spatial development master plan for Postmasburg for the next 50 years. This development plan will prioritise key infrastructural development projects such as water, power, sewage, housing, waste management and roads infrastructure. The project will only involve construction activities required for on lease infrastructural requirements for Kolomela Mine and not Postmasburg Town. It is noted that water provision for the town is currently a problem in Postmasburg and Kumba is currently trying to resolve issues between the Municipality and Sedibeng Water responsible for managing the Vaal Gamagara Pipeline. It should also be noted that Kolomela Mine is not water services provider. All dewatering water is required to be pumped to the Vaal Gamagara Pipeline for distribution through the local water services authority (Sedibeng Water).	ONGOING CONSULTATION
11/12/2013	Mr Neville Claasens (SAPS)	The impact associated with the influx of job seekers during construction and operational phases of projects have a significant impact on crime.	The exact extent of social related impact will be assessed in detail and contained in a comprehensive Social Impact Assessment process planned as part of the EIA phase of the proposed project.	FUTHER FEEDBACK IN EIA
08/01/2014	Mr P Saayman (Department of Social Development)	Is the recruitment of people from Postmasburg scoped for this project? Already experienced strikes in 2013, because mines employ people from other towns. Skills development projects to empower unemployed youth in Postmasburg, is essential.	The project will take due cognisance of your concern raised. As part of the EIA, a detailed updated social impact assessment will be undertaken to ensure that various management measures will be taken to address various impacts such as local recruitment policies and plants.	FUTHER FEEDBACK IN EIA
08/01/2014	Mr P Saayman (Department of	What measures are in place to control the air pollution during/ after operations at the mine?	Currently at the Kolomela Mine various management intervention measure are employed to reduce dust	FUTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
	Social Development)		<p>generation from the site. These aspects have been included in the mines approved EMP. Some of these measures are employed through the application of dust suppressants on exposed road surface; plant dust extraction system. It is however very difficult to reduce dust generation due to blasting operations, however various other measure are employed to try and reduce dust generated from the site.</p> <p>The planned updating of the existing air quality impact assessment will re-evaluate existing practices and identify if there are any additional management intervention measure to implement on site. The study will also model the extent of the additional impact on air quality as part of the expansion project.</p>	
14th October 2014	Health Department Area Manager	<ul style="list-style-type: none"> • The clinic in Postmasburg serves 3,000 to 4,580 patients per month depending on the season. He mentioned that there are 2 mobile clinics in Tsantsabane donated by Kumba, but the challenge experienced currently is the availability of health professionals. The high staff turnover is also a challenge due to lack of affordable accommodation and inflated property prices. • At all the local public health institutions, there are a lot of queues which impacts negatively on the staff. • Another challenge experience is limited medical supplies. 	Comment is noted.	Consensus
14th October 2014	Health Department Area Manager	<ul style="list-style-type: none"> • There is a Household Registration Process underway to build a profile of households and the community to know and understand the current community status which will inform what interventions are to be brought into the community. The survey will also ensure that households are linked to other Government Department services. • The Local Health Department engages with Ward Councillor so that they create awareness amongst the community about this initiative. • An ideal clinic should have enough staff members to serve the community and have improved infrastructure. This is why the Health Department is lobbying for the private sector to become partners. • Another Government initiative is national software to help pregnant mothers to 	Comment is noted.	Consensus

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		enrol and ask questions about pregnancy. • In dealing with the shortage of doctors in Government Hospitals, there is an initiative to make it compulsory for Private Doctors to see patients in Government Health institutions and be paid accordingly.		
14th October 2014	Regional Director – Department of Health	<ul style="list-style-type: none"> • The headcount of patients has increased due to the increase in population brought about by Kolomela mine. • Kolomela employees are staying in the community, which results in a number of social ills including teenage pregnancy and an increase in prostitution. • Due to the increase in population, there is a need to increase staffing in the various health institutions. • Another challenge is the inflated local property prices. Accommodation for professional health practitioners has become very expensive which makes it difficult to attract and retain medical professionals. • There is a Memorandum of Understanding that the Department is currently arranging with the mines in the area. • There are good interventions that Kolomela mine has implemented: <ul style="list-style-type: none"> ○ Building of a fully equipped clinic ○ Provision of mobile clinics and the planned extension of the hospital ○ The building of staff accommodation The only problem is the recruitment of people from outside rather than locals.	The social impact of the mine expansion will be assessed in the EIA.	FURTHER FEEDBACK IN EIA
Communities				
13th October 2014	Tsantsabane Youth United Vision	ARTS AND CULTURE Opportunities in Tsantsabane, particularly for youth within Arts and Culture. Many artists end up working in the mines due to the lack of opportunities.	Comment is noted	Consensus
13th October 2014	Postmasburg youth (refer to Appendix 5.5 for list of youth focus group meeting attendees)	SOCIAL ILLS <ul style="list-style-type: none"> • Alcoholism amongst youth (often as a result of unemployment). • Lack of recreational facilities and multipurpose centres for youth in the area. • Young people are now more exposed to drugs, due to the increase in mining activities in the area. • If the mine closes, the effect of the social problems will stay. 	Comment is noted. The social impact of mine closure will be considered in the EIA.	FURTHER FEEDBACK IN EIA
13th October	Postmasburg youth (refer to	MIGRANT LABOUR <ul style="list-style-type: none"> • Perception that Kolomela employs a lot of people from Namaqualand because 	Comment is noted. The issue of the mine putting pressure on municipal services will be considered in the	FURTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
2014	Appendix 5.5 for list of youth focus group meeting attendees)	they want to repay them due to the damage they caused in their town. [It seems that participants were confusing Kolomela with De Beers.] <ul style="list-style-type: none"> Perception that migrant labourers are a burden for municipality. Due to the increase in population, there is a market for Human Trafficking. 	EIA.	
13th October 2014	Postmasburg youth (refer to Appendix 5.5 for list of youth focus group meeting attendees)	UNEMPLOYMENT AND WORK/STUDY OPPORTUNITIES AT KOLOMELA <ul style="list-style-type: none"> Many of the youth either do not finish school or do not meet the requirements to work at the mine. The perception is that this is mainly due to lack of appropriate career advice for the youth. The high level of unemployment in the area amongst the youth is attributed mainly to lack of skills. The request made is for the mine to assist in developing the required skills. Unrealistic expectations from the youth, linked to the economic opportunities associated with mining. It is difficult for the youth to access mining-related opportunities and this creates a lot of frustration. Lack of motivation amongst the youth. A lot of information that will assist the youth is being held back i.e. there are no mining career exhibitions for the community. If it is done, it is done too late, when learners are already in matric. Suggested that career guidance information from Kolomela mine should be shared with learners in younger grades to ensure they select the appropriate subjects. Kolomela mine's information about its bursary programme is usually shared with learners too late. Learners should receive information in time for them to adhere to application requirements. There are few bursary opportunities. Kolomela should also have bursaries for FET students to complete N1 to N6, and those studying through correspondence. A FET college or alternative post school training should be established in Tsantsabane, focusing on mining skills and skills in the Renewable Energy sector. Financial support should be provided to students. 	The issues of skills development, career advice and bursaries available will be considered in the EIA.	FURTHER FEEDBACK IN EIA. ONGOING CONSULTATION
13th October 2014	Postmasburg youth (refer to Appendix 5.5 for list of youth focus	EDUCATION <ul style="list-style-type: none"> Perception that high school drop-out rate is due to the high poverty level. Due to the high cost of housing (as a result of mining), schools find it difficult to recruit and retain good Maths and Science teachers. 	Comment is noted	Consensus

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
	group meeting attendees)	<ul style="list-style-type: none"> Quality of schools in Tsantsabane is a challenge. Perception that there is a huge difference between quality of white and black schools. Teacher-learner ratio and attendance by some educators is also becoming a challenge. Lack of transport to/from school, and the distance some learners have to travel to get to schools. Overcrowding in classrooms. Not enough secondary schools. Capacity at secondary schools did not increase in line with sudden population growth. Lack of post school education facilities in and around Postmasburg. Learners have to travel to Kuruman or Kathu to access post school training opportunities. 		
13th October 2014	LoveLife	There is a lot of desperation amongst young people due to high level of unemployment. Unrealistic expectations are created by Kolomela mine through its Learnership programs and the volunteering opportunities.	The issues of skills development, career advice and bursaries available will be considered in the EIA.	FURTHER FEEDBACK IN EIA
13th October 2014	Postmasburg youth (refer to Appendix 5.5 for list of youth focus group meeting attendees)	PUBLIC FACILITIES Libraries in the area are not well maintained and equipped. Stationary at the library is old and outdated.	Comment is noted	Consensus
13th October 2014	Postmasburg youth (refer to Appendix 5.5 for list of youth focus group meeting attendees)	KOLOMELA SKILLS DEVELOPMENT PROGRAMME <ul style="list-style-type: none"> Participants indicated awareness of the mine's skills development programme, consisting of courses in upholstery, construction, brick laying and farming, with a stipend of R3500. Participants expressed frustration with the focus of the programme, as core mining skills are not a focus. The mine's training programme should focus on mining skills, because that is what is required to get employed by the mine. Youth participating in the training programs struggle to find employment after completing Kolomela mine's training programme. This training program is just done just for marketing purposes. A representative from the Department of Social Development mentioned that at some point the Department was prepared to invest R500 000 into a project to assist the youth with mining skills. The project was not supported by Kolomela and was therefore discarded. Perception of participants that Kolomela is doing well with its SLP and CSI 	The issues of skills development and the alignment with community needs will be considered in the EIA.	FURTHER FEEDBACK IN EIA. ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<p>projects, but they lack conversation and direct relationships with the community. Often, the mine’s interventions are not informed by community needs. No skills audit has been conducted in the community to assess the level of skills required by the youth. The perception is that all training interventions fail because they are not aligned with community needs.</p>		
<p>13th October 2014</p>	<p>Postmasburg youth (refer to Appendix 5.5 for list of youth focus group meeting attendees)</p>	<p>RELATIONSHIP WITH THE COMMUNITY, SLP AND CSI.</p> <ul style="list-style-type: none"> • There is no relationship between the mine and communities (and especially the youth) due to a lack of proper consultation. Kolomela interprets its relationship with the municipality, as a relationship with the community, which is not good. Kolomela should learn to liaise with the community via multiple avenues. The mine misses the heart and the thinking of the community by failing to create a direct relationship with community structures. • Participants acknowledge that the first point of contact should be the Councillors or Municipality, but this alone is not sufficient. • When asked whether they are being offered opportunity to comment on Kolomela’s Social Labour Plan, they youth responded by saying they have been requested to provide input. The community is becoming uncomfortable with Kolomela’s employment practices and Corporate Social Investment (CSI) projects. The perception is that there is a lot of bias, especially with regard to the mine’s initiatives to support education. It was mentioned that schools and early childhood development centres only receive support if children of Kolomela employees attend that school. • The mine’s support of non-governmental organisations is also perceived to be biased. • Kolomela is generally seen to be performing better with regard to socio economic development as compared to other mines, such as Assmang and other small mines. There is an expectation that Kolomela mine should do more, because of its size and its contribution to damaging the environment and social fibre of the community. • The perception is that Kolomela is putting a lot of money into arts festivals without promoting local artists. The content of these festivals should speak to the average Tsantsabane community member. • The Field Band Foundation mentioned that Kolomela has given them money to buy music instruments, but this will not be meaningful if they are not given 	<p>Comments are noted. Kolomela will endeavour to improve community consultation.</p>	<p>FURTHER FEEDBACK IN EIA</p>

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		opportunity to perform during festivals. The advice from participants is for Kolomela to be cautious on how it spends money on its corporate social investment projects. Participants wanted a more long term and sustainable view from the mine when it comes to CSI projects.		
13th October 2014	Postmasburg youth (refer to Appendix 5.5 for list of meeting attendees)	SPORT Participants explained that the Tsantsabane community is a soccer community. The expectation is that investment should be made in soccer, and not cycling, which is currently getting support.	Comment is noted	FURTHER FEEDBACK IN EIA
13th October 2014	Postmasburg youth (refer to Appendix 5.5 for list of youth focus group meeting attendees)	<ul style="list-style-type: none"> There is a need to capacitate civil organisations in the area, so they become stronger partners in community development. The youth said that they have a lot of consultation/ engagement with Kolomela but nothing gets done post the engagement process. There are generally no results or any form of feedback. It is critical for the youth to be fully prepared in advance for the mine's expansion. The participants suggested that local people are provided with the necessary skills so that they are able to benefit. It is also critical for Kolomela to ensure that the community is well informed about the expansion program. Participants confirmed that they will be grateful if Kolomela can start training the community on skills required for the expansion. 	<p>During the meeting, Synergistics clarified that Kolomela was weighing up different options and models in relation to optimisation, but it is not clear which option will be opted for. Participants were assured that as soon as the detailed scope is known to Kolomela, it will be shared with the community.</p> <p>Feedback on the issues mentioned in this report will be provided in the EIA report.</p> <p>The community will be kept informed of progress with the EIA for the expansion of Kolomela and the issue of skills development will be covered in the EIA.</p>	FURTHER FEEDBACK IN EIA
13th October 2014	Postmasburg youth (refer to Appendix 5.5 for list of meeting attendees)	The youth of Tsantsabane will not benefit from the expansion. Need to strengthen the skills base of local people so that they get employed by the mine. Very few local community members employed by the mine. It is critical for the mine to employ locals. There are local people who are skilled but fail to get employed by Kolomela mine.	The issues of skills development and employment will be considered in the EIA.	FURTHER FEEDBACK IN EIA
14th October 2014	Mark S. Jina, Principal, Blinkklip High School	Long distance for learners to travel.	Comment is noted	Consensus
14th October 2014	M. Coetzee, Principal, Postmasburg high	There is currently a shortage of space.	Comment is noted	Consensus

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
	School			
14th October 2014	Bella Lekwene, Principal H.T.T Bidi Primary School	<ul style="list-style-type: none"> • Overcrowding in classes is a challenge. • There is a need of a second primary school in Boichoko. 	Comment is noted	Consensus
14th October 2014	Julian Anne Beets, Assmang Primary School, Principal	<ul style="list-style-type: none"> • A drastic increase from 200 to 1085 learners. • Desperate need for accommodation. 	Comment is noted	Consensus
14th October 2014	Conrad Rooihand, Postdene Primary School	<ul style="list-style-type: none"> • Very old infrastructure. • The current new fence is not secured. • Safety at schools is a challenge which is directly relating to Kolomela. • There is no support currently, in the past the mine has helped but it will never be enough. 	Comment is noted	Consensus
14th October 2014	Christo Sehako, Ratang Thuto High School Principal	Too few classes	Comment is noted	Consensus
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<p>INFLUX OF PEOPLE</p> <p>The mine has to take responsibility for the influx of people into the area. This increase has brought a lot of social ills which have an adverse impact on the quality of education in Tsantsabane.</p>	The social impact of the mine expansion will be assessed in the EIA.	FURTHER FEEDBACK IN EIA
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<p>BLASTING</p> <ul style="list-style-type: none"> • Damage to housing and school infrastructure as a result of blasting by Kolomela mine. • Postdene Primary school is a double story building with cracks from blasting, however due to lack of funds, it is difficult to hire structural engineers to resolve the issue. • Blasting sometimes takes place during school hours. Concerned that the mine's blasting can become a safety risk for learners in school buildings that are already badly cracked. • The process to lodge a complaint is not easy and not known. 	In the meeting, the representative from Synergistics however assured the participants that Kolomela is monitoring the vibration levels on an ongoing basis and that he will escalate their concerns to the mine. The impact of blasting will be assessed in the EIA.	FURTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<ul style="list-style-type: none"> Concern about the mine's expansion/optimisation project due to the possible impact of more intense blasting. Blasting has a negative impact on small animals such as snakes. Most of the school principals mentioned that they have seen snakes within the school premises in number of occasions, which is not safe for learners. Their theory is that snakes are fleeing to town from the mining area due to blasting. 		
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<p>OVERCROWDING</p> <ul style="list-style-type: none"> Kolomela mine employs families and provides houses without checking the capacity of other facilities like education and health facilities. Overcrowding in schools is becoming a serious challenge and this is attributed mainly to Kolomela mine. The main reason why this is attributed to Kolomela is that, as the mine started expanding, other businesses started to emerge in town. Overcrowded schools mean increased pressure on the already limited sanitation facilities at schools, which leads to health risks. No fair distribution of learners across the different schools. Postmasburg High School, which is has mainly white learners, has only 400 learners whereas other schools have in excess of 1,300 learners. This problem was raised with the Department of Education before but nothing was done. The principal of Postmasburg High School explained that the school does not have enough classrooms to accommodate more learners. Participants indicated that they've engaged the Department of Education regarding their challenges, mainly on the issue of lacking or ageing school infrastructure, but nothing was done. Although it is the responsibility of the Government to build schools, participants pointed out that the mine has to take into consideration that the children of its employees are the cause of overcrowded classrooms. As a result of this overcrowding, the mine has to assist. Kolomela should consider, what the situation would have been like if they did not have Postmasburg nor Tsantsabane as a host town, according to participants. It would have cost the mine a lot to build a new town. They instead have a host community with facilities and infrastructure, and therefore should try to assist where there is a need. 	Comments are noted. The social impact of the mine expansion will be assessed in the EIA.	FURTHER FEEDBACK IN EIA
14th	Postmasburg	SOCIAL ILLS	Comments are noted. The social impact of the mine	FURTHER FEEDBACK

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
October 2014	Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<ul style="list-style-type: none"> • Due to an increase in mining activities, there has been a drastic increase in teenage pregnancy. The perception was that learners see the presence of single men working at the mine as an opportunity to break free from their poverty-stricken lives. • Mining activities have resulted in a decline of morals and an increase in criminal activities. • The feeling among some educators was that the mine has created a lot of social problems, therefore the mine should address these problems. • The Postdene Primary School SGB representative mentioned that there have been a lot of break-ins and damage to property (a fence) at the school, which according to him is as a result of the social ills brought about by mining activities. The fence was put up by Kolomela mine. • One of the social ills mentioned was the prevalence of substance abuse in Postmasburg. With young people employed by the mine, there is more money to buy drugs. 	expansion will be assessed in the EIA and mitigation measures will be recommended.	IN EIA
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<p>TRANSPORT</p> <p>Public transport for learners is becoming a challenge, and there is fear for community unrest. Postdene & Postmasburg have boarding schools. Quite often buses provided by the Department of Education are not running and learners are impacted negatively. Participants explained that, in most cases when the mine helps out, the Department of Education sits back and fails to take responsibility.</p>	Comments are noted.	Consensus
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<p>KOLOMELA'S RELATIONSHIPS WITH SCHOOLS</p> <ul style="list-style-type: none"> • Unfair distribution of Kolomela's support to different schools and the unequal distribution of resources. • It is important for the mine to conduct a needs analysis before coming with interventions. An example given was a situation where the mine bought 20 computers for each school without considering the number of children per class at these schools and the fact that the learners were not computer literate. • The failure of the mine to respond to the needs was also mentioned by the Postmasburg High School principal, who indicated that they once sent a submission/proposal for a fence, but were given 35 computers with maths software on. However, the software was only a trial version and the school is unable to access the full package. 	Comments are noted. Kolomela Mine will aim to more closely match its donations, with the needs of schools.	FURTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<ul style="list-style-type: none"> • According to the participants the mine does not go to schools and build direct relationships with different schools within Tsantsabane. • Although the mine allocates 10 bursaries per school, the distribution of these bursaries is contentious. • The relationship between educators and Kolomela mine, and communication from the mine is generally good. The main challenge is in relation to unfair distribution of resources among schools. The perception in the community is that white schools get a bigger share than black schools. • Irrespective of some negative points made, the participants generally showed appreciation for the support provided by Kolomela. • The Assmang Primary School principal mentioned that she has requested the mine to carry the salary of an additional cleaner, but her request was rejected. She is still hopeful to get support in future. 		
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<p>ACCOMMODATION COSTS Due to an increase in mining activities residential prices have become expensive and educators cannot afford to live and work in Postmasburg. It is difficult for the Department to attract and retain talented educators. It is not possible to rent or buy a decent house for less than R15 000 a month. One of the school principals mentioned that he had to accommodate educators in a hostel room because of the lack of affordable accommodation. Educators are professionals and therefore it is an insult to their dignity to be accommodated in hostels.</p>	Comments are noted.	Consensus
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	The mine must pre-empt and prevent the negative impacts associated with mine expansion.	The social impact of the mine expansion will be assessed in the EIA and mitigation measures will be put in place.	FURTHER FEEDBACK IN EIA
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<p>ECONOMIC DIVERSIFICATION The educators suggested the following:</p> <ul style="list-style-type: none"> • Growth in tourism industry, given that Tsantsabane has a heritage site. • Build an Agricultural high school with high quality educators. Train children in Agricultural Studies because the area is also good for Agriculture. • Provide training in Woodwork, including Arts and Crafts. 	Comments are noted. The issue of skills development will be considered in the EIA.	FURTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<ul style="list-style-type: none"> It is proposed that the mine build recreational facilities. Enhance entrepreneurial skills in the community. 		
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	<p>TERTIARY EDUCATION</p> <ul style="list-style-type: none"> Few children pass matric, but those who do, are unable to pursue further studies due to a lack of funds. Some manage to go to higher education institutions. There is an FET college in Kathu, learners have to travel to Kathu to access the college. This is a challenge since there is a shortage of transport and accommodation in Kathu is expensive. Request from the mine to provide a bus to assist in transporting learners to Kathu. There is a need for a post school training institution in Postmasburg, so that the mine can build the skills pipeline. The participants said that most children aspire to work in local mines because of high salaries associated mine employment. 	The request to transport learners will be passed on to the mine for their consideration.	FURTHER FEEDBACK IN EIA
14th October 2014	Postmasburg Education Focus Group (refer to Appendix 5.5 for list of meeting attendees)	A special request was made for Kolomela to educate employees on financial management.	This request will be passed on to the mine for their consideration.	FURTHER FEEDBACK IN EIA
13th October 2014	Obakeng Sibiya, the chairperson of TBBC (Tsantsabane Black Business Chamber)	<p>BLACK-OWNED BUSINESSES</p> <ul style="list-style-type: none"> When the mine was created, black people were kept outside, and there was totally no engagement with them during the process. The consultation was not broad based enough. Most of the houses in town were changed to Bed & Breakfasts when Kolomela was constructed. People living in town, majority of who are whites, were aware of business opportunities well in advance and were able to capitalise on these opportunities. He mentioned that as blacks they did not foresee and were not aware of all the economic opportunities, because they were not engaged. The majority of business ownership in the area is still white. The blame is also shifted on the Local Municipality, because they had inside information about the upcoming growth and opportunities on time and they also held it back from the Tsantsabane community. 	Comments are noted. The community will be kept informed of progress with the EIA for the expansion of Kolomela.	ONGOING CONSULTATION
13th	Lesley of Renznz	<ul style="list-style-type: none"> Lesley of Renznz Creations added that it is difficult to get office space in town 	Comments are noted.	Consensus

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
October 2014	Creations	as a black business owner. Blacks do not own any of the buildings in the CBD. <ul style="list-style-type: none"> • Most businesses, particularly black owned, do not have physical presence in town because there are a lot of financial implications associated with living and having an office space in town. The rental prices are inflated because of the presence of the mine. • Black owned businesses opt for the townships because working from the township and living there will not harm or break the business. 		
13th October 2014	Johan Kotze, Vice Chairman of NOCCI (Northern Cape Chamber of Commerce and Industry)	WHITE-OWNED BUSINESSES <ul style="list-style-type: none"> • In response to the above points, there should be appreciation of the differences in relation to the sizes of businesses. • The notion that white owned businesses are far more advanced than black business and that land in Tsantsabane is still belonging to the whites, is just a perception. • There is a very small percentage of white people owning land in Tsantsabane. • Some white owned businesses are closing down because there is currently no business. The business is also not easy on whites particularly since the passing of the DMR regulations on BEE. 	Comments are noted.	Consensus
13th October 2014	Anton Meyer- the owner of Burma Plant Hire Company	<ul style="list-style-type: none"> • Mentioned that his company is a medium sized company and they have been experiencing the same problems experienced by smaller businesses. One of the challenges is that it is difficult to buy land. There are currently few people owning land in the region. • There are a lot of small mining companies popping up and as a result of their financial muscle they are able to buy land in the area, unlike the locals. Another challenge is the high prices of residential property. 	Comments are noted.	Consensus
13th October 2014	Postmasburg Small Business Focus Group (refer to Appendix 5.5 for list meeting attendees)	CHALLENGES FOR SMALL BUSINESSES <ul style="list-style-type: none"> • In terms of economic changes over the past 5 years, a lot has changed, especially with regard to improved infrastructure. • Some changes are not great like the influx of foreigners. Foreigners have financial resources and therefore they can afford renting shops and living in town. All the previously open spaces in town are now occupied by foreign nationals. • Black emerging businesses do not have land, or the money to pay inflated rental prices in town. 	Comments are noted.	Consensus

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
13th October 2014	Obakeng Sibiya, the chairperson of TBBC	<p>TBBC</p> <ul style="list-style-type: none"> The TBBC is one of the positive things that happened to black businesses in Tsantsabane. Some of the black owned businesses are able to access opportunities through the involvement of the TBBC. Responding to the question whether there is any possibility of TBBC & NOCCI working together, the response from black participants was that NOCCI gives the impression that they want to work with black business, but unfortunately is still too white. Most business owners who are members of NOCCI are more advanced. There is a big gap between black and a white owned business which will make it difficult to collaborate. The TBBC chairperson emphasised that TBBC serves as a great platform for black owned businesses, but he believes that as it grows collaboration with NOCCI will be possible and a great idea. 	Comments are noted.	Consensus
13th October 2014	Johan Kotze, Vice Chairman of NOCCI	<p>NOCCI</p> <ul style="list-style-type: none"> According to Johan Kotze; the main focus of NOCCI is to get municipal services in place since it impacts negatively on businesses. The local municipality is associated with corruption and lack of proper leadership, which impacts negatively on local businesses. Maintenance of infrastructure and provision of basic services by the municipality is a big challenge and economic growth in the region makes it even more difficult for municipality to cope. 	Comments are noted.	Consensus
13th October 2014	Anton Meyer- the owner of Burma Plant Hire Company	<ul style="list-style-type: none"> Mentioned that his company has already made contact with Kolomela to collaborate on support for emerging small businesses in the form of mentorships and experiential training programs. They asked the mine to identify candidates. He emphasised that his company is doing this out of goodwill and not for BEE compliance purposes. He mentioned that he will put pressure on the mine to give beneficiaries of this training program projects at the mine. According to him most of the contractors are not involved in the community and if more companies can contribute towards socio economic development, it will make a huge difference in the community. All participants agreed that this was a good initiative. The TBBC emphasised that this should be made part of the contractual agreement by Kolomela, and 	This request will be passed on to the mine for their consideration.	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<p>that they will bring it to the attention of Kolomela management at their next meeting.</p>		
<p>13th October 2014</p>	<p>Postmasburg Small Business Focus Group (refer to Appendix 5.5 for list meeting attendees)</p>	<p>BUSINESS WITH KOLOMELA</p> <ul style="list-style-type: none"> • During CAPEX close to R10 billion was spent on the new mine and most of the local businesses did not benefit from that. Nothing was left for Tsantsabane except for the steady increase on property prices which had a negative impact on local businesses. • The core business of the mine according to TBBC, excludes black owned businesses. Opportunities for black business owners are still non-existent. • NOCCI on the other hand emphasised that it is only a perception that white owned businesses are the only ones benefitting from the mine. White owned businesses are also not benefitting from the core mining opportunities. There was however a collective view that it has been a long journey to get small businesses integrated into the mine's supply chain, and that a lot of efforts have been made. • Some of the participants emphasised that although they do not do business with Kolomela, they understand that the mine is currently on a survival mode due to the deterioration of the iron ore price. The chairperson of the TBBC differed with this view, since according to him Kolomela was making profits at some point and as a global company, provision must have been made for the fall of the iron ore price. • Generally the participants felt that irrespective of some negative issues raised, a great thing about Kolomela mine is that it is accessible. 	<p>Comments are noted.</p>	<p>ONGOING CONSULTATION</p>
<p>13th October 2014</p>	<p>Postmasburg Small Business Focus Group (refer to Appendix 5.5 for list meeting attendees)</p>	<p>BUSINESS WITH KOLOMELA</p> <ul style="list-style-type: none"> • Most black owned businesses complained that the management of Kolomela and other surrounding mines is still white and as the end users, they give projects mostly to white owned businesses. It is really about time for the mine to take the risk especially on the promise they made to the Department of Mineral Resources. • The end users and the Departmental Heads at the mine have the power and they always dictate to supply chain without following the correct procedures, on who to give business to. As a result black owned businesses are always in a disadvantaged situation. All black business owners think the role of TBBC is 	<p>Comments are noted.</p>	<p>ONGOING CONSULTATION</p>

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<p>vital as a result of this prejudice.</p> <ul style="list-style-type: none"> • Lesley, the owner of Rentzu creations narrated his experience. He mentioned that his company was made to be a “parallel contractor” to one white owned company, but to his surprise when the project came out it was given to the white owned company and his company was expelled from the process. He is of the opinion that this was an extreme form of corruption. • The high rental and the price of acquiring business premises are really impacting badly on local black owned businesses. • According to TBBC the upliftment of black business still has not happened, it is still on paper but has not happened yet. The JV option between smaller and bigger companies is a challenge due to the gap existing. White owned businesses fronting with Black businesses is also one of the challenges experienced by the business community in Tsantsabane. • According to the participants, sometimes it is a struggle for small business to access opportunities at the mine. This was also emphasised by two ladies owning a laundry business. They indicated that getting a contract with Kolomela mine was a struggle. Initially there was also a lot of struggle between them and the municipality, since the municipality wanted to take their idea and make it their own. 		
13th October 2014	Postmasburg Small Business Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>TOTAL FACILITY MANAGEMENT SERVICE COMPANY (TFMSC) AND ZIMELE</p> <ul style="list-style-type: none"> • According to one of the participants Matatia, who was able to build his business through the funding, received from Zimele, Zimele is a good intervention. He could not get money from the bank and Zimele was able to assist. He is currently doing work through TFMSC, which is a company getting direct contracts from Kolomela who then outsources some of the services to small companies, at a lower rate. • There was a negative perception about TFMSC amongst participants citing that this company exploits smaller companies by subcontracting them at a very low rate and as result the benefit is not mutual. The documentation TFMSC requires for putting sub-contracting in place, is also a lot, according to participants. • The view of TBBC on Zimele is that although it is a good initiative, the process can be rigorous which makes it difficult for some of the small businesses to access loans. As a small business you will not be considered when you are at the credit bureau. You are mostly likely to get assistance/loan when you have a 	Comments are noted.	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		contract with the mine.		
13th October 2014	Postmasburg Small Business Focus Group (refer to Appendix 5.5 for list meeting attendees)	<ul style="list-style-type: none"> • There should be engagement of all the stakeholders in order to accelerate development in the region. There is also an urgent need to develop local suppliers. • The mine focuses mostly on big businesses. They want the mine to also focus on smaller local businesses. • Currently most of the local businesses are closing down because Kolomela brings businesses coming from outside the Northern Cape. There is an urgent need for Kolomela to make an effort to sustain local businesses and it is also essential that the municipality work closely with local businesses. 	Comments are noted.	ONGOING CONSULTATION
13th October 2014	Postmasburg Small Business Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>SOCIAL ILLS</p> <ul style="list-style-type: none"> • The high level of crime and social ills is a problem for everyone including businesses in Tsantsabane. Due to the growth brought by the mine, the town has exploded. • There is a lot of unhappiness, because there is no control as to who is belonging to Postmasburg. Someone has to manage the situation since it is getting out of control (but not the Municipality because it is not trustworthy); according to participants. • The suggestion made is that the mine should control the influx of people coming for employment in Tsantsabane. 	Comments are noted. The social impact of the mine expansion will be assessed in the EIA.	FURTHER FEEDBACK IN EIA
14th October 2014	South African National TB Association (SANTA)	<ul style="list-style-type: none"> • Since the construction of the mine there has been an increase in the number of TB patients. • SANTA`s focus is to establish soup kitchen for TB patients, door to door visits in informal settlement areas, and provision of assistance with applications for social grants. SANTA is active in 3 townships within the area, and is currently working with 24 volunteers with little sponsorship. • They have approached Assmang, and were given limited financial support. 	Comments are noted.	ONGOING CONSULTATION
14th October 2014	UGM Clinic at Kolomela mine	<ul style="list-style-type: none"> • Serves employees and contractors, and is does not extend its services to community members. • They are currently involved in raising awareness among employees and contractor employees for screening for diseases. 	Comment is noted.	Consensus
14th	Kolomela Life	Life Clinic is a private health institution operation within Kolomela mine.	Comment is noted.	Consensus

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
October 2014	Clinic (Wellness Practitioner)			
14th October 2014	Postmasburg Hospital CEO	<ul style="list-style-type: none"> • Postmasburg Hospital is supposed to have 51 beds but is currently only operating with 45 beds. It is very small in comparison to the current population growth. The mine has come up with a lot of positive interventions - Kolomela's plan to extend the hospital to 71 beds. • Staffing and a fair distribution of health professionals in the area are the biggest challenges. The Postmasburg hospital is currently only operating with 8 professional nurses; whereas the Barkley West hospital with a smaller population has 23 professional nurses. • The building of the clinic is one of the great interventions from the mine. The old clinic has been turned into a rehabilitation centre. 	Comment is noted.	Consensus
14th October 2014	Postmasburg Health Practitioners Focus Group (refer to Appendix 5.5 for list meeting attendees)	Given the fact that the region is surrounded by a number of mines there is a perception that it is a rich and well-resourced area, which is not necessarily true.	Comment is noted.	Consensus
14th October 2014	South African National TB Association (SANTA)	<ul style="list-style-type: none"> • Patients, particularly HIV/AIDS and TB patients do not receive quality care due to the shortage of Home Based Carers. • A lot of health problems come from informal settlements due to lack of services e.g. water, electricity and sanitation. The increase in informal settlements impacts negatively on the quality of health services and facilities in the area. 	Comment is noted.	Consensus
14th October 2014	Postmasburg Health Practitioners Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>ASSISTANCE FROM KOLOMELA</p> <ul style="list-style-type: none"> • The CEO of the Postmasburg Hospital mentioned that Kolomela mine's health projects are helpful and sustainable citing the renovation of the hospital and the building of the clinic as examples. He mentioned this as a great partnership given that the Mine assisted with the building of structures and the Department is responsible for staffing. • Participants expressed their gratitude for the collaboration with Kolomela mine and advised that long term support is ideal. • The representative from the Kolomela Wellness Program emphasised that they 	Comments are noted. Kolomela will continue to carefully consider all proposals received and assist where possible.	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<p>have good collaboration with civil society particularly on the issue of fighting substance abuse. They have currently provided funding towards substance abuse but believe that this can be improved in future. There are a lot of proposals received so far by the mine.</p> <ul style="list-style-type: none"> • According to the Environment and Health Practitioner from the District Municipality, Kolomela is doing a lot in assisting the Department of Health. Their relationship with Kolomela is good. She however emphasised the challenges experienced as a result of population growth. She indicated that the district municipality has a better partnership with Kolomela mine than with the provincial Department of Health. • The SANTA representative said that Kolomela mine has not supported them so far. They have sent a lot of proposals to the mine, but have not been successful. However, the mine does provide feedback, even if their applications for support are unsuccessful. • The Area Manager for Clinics mentioned that he has seen is a lot of involvement from Kolomela mine. There are lot of interventions from Kolomela e.g.: <ul style="list-style-type: none"> ○ Purchasing of ambulances ○ Mobile Clinics ○ Expansion of the hospital & building of the clinic ○ The building of the nursing staff accommodation which is underway • His concern is failure of Kolomela to involve the Provincial Health Department on their planning so that there is alignment. He emphasised that the Provincial Department should be involved as a partners. • The Area Manager further emphasised the need to track records on the funding received from Kolomela in relation to Health Interventions made. He is currently designing a template, and will make it available to Kolomela, so that as Health practitioners they are able to have a track record of funding made available so far and whether there is alignment with the Provincial Department's planning. 		
14th October 2014	UGM Clinic at Kolomela mine	Currently the UGM clinic is serving employees and contractor employees. The clinic's biggest challenge is contractor employees who default on their medication when their contracts come to an end. There is a need for collaboration with the government clinics in this regard.	Comment is noted.	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
14th October 2014	Postmasburg Infrastructure Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>POPULATION GROWTH</p> <ul style="list-style-type: none"> The population has indeed increased and is still growing at an alarming rate. After the stabilisation of the mine (after construction) there was an expectation that the population would stabilise, but this has not happened. The increase is also due to the emergence of other smaller mining companies in the area. As a result of increased mining activities in Tsantsabane, all people in the Northern Cape are willing to come and stay in the area with or without jobs with the hope of getting employed. Another influencing factor is the higher salaries offered by Kolomela mine in comparison to other industries. Exclusion of the municipality in planning economic activities in the region is a challenge. The municipality has been excluded from participation in the development of existing national plans, aiming at creating the Northern Cape as an economic corridor. The Solar Energy project in the area is one example of a national project on which the municipality has not been engaged or consulted. The participants indicated that they don't know if and how the Environment Impact Assessment was conducted for the Solar Energy Project. According to the participants the project will be based in Groenwater and is driven by the Department of Energy. There are also private companies involved. There are a lot of developments happening, some of which the Municipality is not aware of which makes it difficult to prepare for the changes and the increase in the population. 	Comment is noted.	Consensus
14th October 2014	Postmasburg Infrastructure Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>IMPACTS ON MUNICIPAL SERVICES</p> <ul style="list-style-type: none"> There were no studies / assessments done on the impact brought about by the mine on bulk services. The system is unable to cope because it has not been designed for a big population. The current infrastructure has to be upgraded before bringing new development into the current system. Considering the money Kolomela mine makes, they should also take responsibility of bulk infrastructure maintenance, as well as the upgrade of old infrastructure. The incapacity of the current Infrastructure to cater for the increase in population. The design of the infrastructure was done almost 80 years back and was done for a small population. Sewerage, roads were designed for a smaller population and therefore as a result of the increase there is a challenge. 	Comments are noted. The socio-economic impact and impact on infrastructure of the mine expansion will be assessed in the EIA.	FURTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<ul style="list-style-type: none"> The socio economic demand for jobs has doubled. The municipality is the point of entry for the unemployed. People come from as far as North West and other provinces with the hope of finding a job because they see more opportunities in Tsantsabane. The design of public health care facilities (hospital and clinics) was also done for a small population. 		
14th October 2014	Postmasburg Infrastructure Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>POPULATION GROWTH</p> <ul style="list-style-type: none"> The municipality is unable to quantify the projected population growth, given the demand in the area. They indicated that there is a need for population growth estimations. Informal settlements have doubled in size and are still growing rapidly. Due to the rapid growth the municipality might even find itself in a position where there is an underestimation of social and infrastructural challenges. According to a representative from Aurecon which is a Consulting Company contracted by Assmang to develop a spatial development framework for the area, population size projections from 2011 to 2030 will be on a scale of high growth based on the current expansions and expected future growth in the area. 	Comment is noted.	Consensus
14th October 2014	Postmasburg Infrastructure Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>UPGRADING MUNICIPAL INFRASTRUCTURE</p> <ul style="list-style-type: none"> The municipality is exploring a number of options to fund the upgrading of infrastructure, one of which is obtaining funding from the National Government, or a loan from DBSA. The Municipal Manager said that there is a demand from the private sector to invest in the region. There is a need to create a fund where all these private sector companies who are interested in investing in the region, should be requested to contribute towards an infrastructure fund, in exchange for land and opportunity to invest. This can be used as an opportunity to create revenue for the region. The master plan for spatial development (once finalised) will be shared with all the developers in the area, including Kolomela mine to request funding. 	Comment is noted.	ONGOING CONSULTATION
14th October 2014	Postmasburg Infrastructure Focus Group	<p>HOUSEHOLD SURVEY</p> <ul style="list-style-type: none"> The participants demonstrated a great support for the current household survey that Kolomela mine has commissioned. The survey will provide information on 	Comments are noted.	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
	(refer to Appendix 5.5 for list meeting attendees)	<p>the current population including people migrating, for the purpose of future projection. The outcome thereof will inform the Municipal 5 year plan on Development.</p> <ul style="list-style-type: none"> The household survey is proposed to be used as a baseline. It will also be great if the survey findings can outline the level of skills amongst youth. 		
14th October 2014	Postmasburg Infrastructure Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>LAND IN POSTMASBURG</p> <ul style="list-style-type: none"> The Municipal Manager gave background on the land moratorium issue by mentioning that the moratorium came into place because there was a concern that the municipality was selling land for various reasons without policies and without considering Government's agenda for transformation. The moratorium is currently partially lifted to cater for current demand of land for residential development purposes. The moratorium will only be fully lifted once there is a finalised spatial development plan in place. The municipality has conducted a land audit and is in the process of developing guidelines for the sale of land as well as a land use strategy, which should be in place before completely lifting the moratorium. 	Comment is noted.	Consensus
14th October 2014	Postmasburg Infrastructure Focus Group (refer to Appendix 5.5 for list meeting attendees)	<p>TSASSAMBA PARTNERSHIP BETWEEN THE MUNICIPALITY, KOLOMELA MINE AND ASSMANG</p> <ul style="list-style-type: none"> As part of the partnership a fund has been created where the role players contribute towards infrastructure development. The Community Development Manager of the municipality, said that there are always bullying techniques employed by the mine due to its financial muscle. This partnership is regarded by the mines as a begging opportunity for the Municipality. It usually looks like the mine is "bailing out the municipality", which is not true. According to the participants Kolomela mine underestimates disparity between what they contribute to the fund and the mine's negative impact on infrastructure and service delivery in the area. The current municipal structure feeds the growth of the mine, but the mine is not giving back. There are power struggles between the mine and the municipality. There are lot of discussions currently happening to build a long term relationship with Kolomela mine, but the mine's focus is only on what they can benefit without looking at a bigger picture. 	Comments are noted.	ONGOING CONSULTATION

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<ul style="list-style-type: none"> • There is always a perception that we do not deliver as the Municipality. We believe that the municipality should be a more powerful partner within structures created through these partnerships. • There is currently a lot of stress at the Municipal level because of the growth brought about by the mines. • The partnership was quite great in the beginning, to an extent that the model was envied by other mines, but currently the municipality is trying to reclaim its space. 		
14th October 2014	Postmasburg Infrastructure Focus Group (refer to Appendix 5.5 for list meeting attendees)	USE OF LOCAL SUPPLIERS <ul style="list-style-type: none"> • The mine has a duty to develop local suppliers, the mine is perceived to exclude local suppliers, as it is mostly whites & outside companies who are benefitting. • The revenue generated through the mine goes outside Tsantsabane, the locals have approached the municipality to assist in unlocking opportunities for HDSA companies. • Implementation of the Mining Charter is not done. • Kolomela is white dominated and its procurement system is white therefore it is failing to cater for HDSA companies. The information on supplier development is not normally shared with the municipality, and in future we will assess the value of their investment in the community. 	Comments are noted.	FURTHER FEEDBACK IN EIA and ONGOING CONSULTATION
14th October 2014	Postmasburg Infrastructure Focus Group (refer to Appendix 5.5 for list meeting attendees)	AIR QUALITY <ul style="list-style-type: none"> • The participants asked whether the mine has conducted an air quality assessment previously? • The Municipal Technical Manager suggested that the National & Provincial department should conduct an air quality assessment with or without the participation of the mine. 	<p>The response from Synergistics at the meeting was that Kolomela does monitor air quality around Postmasburg on a continuous basis as part of its legislative responsibility.</p> <p>So far the levels have been according to the required standards.</p> <p>The air quality impact assessment will be updated as part of the EIA. This will include the programme of air quality monitoring which will be carried out by the mine.</p>	FURTHER FEEDBACK IN EIA
Department of Land Affairs				
Traditional Leaders				
Department of Environmental Affairs				
8/5/2014	Mr M. Mathews	The proposed process for the scoping and EIA were discussed. NCDENC were	The EAP and NCDENC were in agreement.	Consensus

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
	(NC DENC)	satisfied with the proposed process.		
13/8/2014	D. Moleko (NC DENC)	NCDENC accepted the final scoping report and stated that the EAP could continue with the EIA.	The EAP and NCDENC were in agreement.	Consensus
Other Competent Authorities affected				
10/02/2014	Jenna Lavin (Heritage Offices for the South Africa Heritage resource Agency)	SAHRA is unable to comment on the likely impact of the proposed expansion project on heritage resources as insufficient information has been provided. As such, SAHRA requires that the following information is provided before any further comments are issued; <ul style="list-style-type: none"> A Desktop Palaeontological Assessment is required to determine the impact of the proposed mine expansion on the Campbell Rand Subgroup which is known to have moderate heritage significance. This report must be authored by a palaeontological specialist. A report on the likely impact of the new proposed infrastructure on the heritage resources identified in the reports by D. Morris (2005), U. Kusel (2011) and M. van der Ryst (2011) is required. This report must identify the proposed location for new infrastructure development in relation to the known heritage resources. This report must also take into consideration the recommendations contained in the Heritage Management Plan for Kolomela Mine (Kusel, 2011). 	Thank you for your response. A desktop palaeontological Assessment and assessment of the likely project impacts on features identified in D. Morris (2005), U. Kusel (2011) and M. van der Ryst (2011) reports will be undertaken and submitted to SAHRA.	FUTHER FEEDBACK IN EIA
14/1/2014	Raisibe Sekepane; Daniel Mashau; Kgaudi Shapo (DMR)	<ul style="list-style-type: none"> Queried whether Kolomela is backfilling mine pits. Queried infrastructure required for Kolomela Expansion. Queried the resources at Kolomela. The process for the section 102 amendment and other authorisations was discussed with the EAP. The Mine Works Programme should be aligned with the EMPr. 	The EAP explained the backfilling at Kolomela, the infrastructure required for the expansion and the resources present. the DMR's other comments are noted.	FUTHER FEEDBACK IN EIA
17 February 2015	Ntsundeni Ravhugoni; Poloko Nkatlholang; Humbulani Mashau; Takalani Khorombi (DMR)	<ul style="list-style-type: none"> It was agreed that the preferred action would be to withdraw the current application made to DENC and then reapply under the 2014 EIA Regulations to the DMR. It was agreed that the completed scoping process could be used provided that it complies with the current legislative requirements. It would need to be clearly indicated as to how the process followed previously complies. It was requested by the DMR that the scoping report be reformatted into the DMR template in order to facilitate the process. 	The EAP agrees with all of the DMR's comments mentioned here, though, in accordance with the National Environmental Management: Air Quality Act (39 of 2004) and regulations, it is required that the Environmental Authorisation is issued before submitting the Application for an Atmospheric Emissions Licence.	FUTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
		<ul style="list-style-type: none"> An integrated licence/authorisation is to be issued by the DMR and thus it is important that other approvals under the SEMA's are in place within the 300 day period (from application). The waste rock material is captured under the listed NEM: WA listed activities as of 2 September 2014. All mining waste is considered to be hazardous waste and thus the application for a waste licence is to be supported by a full EIA process. It is not practical to comply with the liner requirements as set out in the NEM: WA regulations. It would however need to be motivated why it is possible to deviate from the liner requirements. 		
OTHER AFFECTED PARTIES				
INTERESTED PARTIES				
02/01/2014	Ms Marlaine Anderson	Is the Project undergoing an EIA?	The project is currently in the scoping phase of the required full Environmental Impact Assessment (EIA) Process.	RESOLVED
2014/28/01	Mr Hentie Fourie	Request to gain understanding of product increase Kolomela mines has on logistics channel and available capacities for junior miners	A traffic impact assessment study will be undertaken as part of the EIA. The assessment will include the impacts associated with the junior miners on existing transport routes to Kolomela Mine. The spatial development master plan currently being developed by Kumba with the Municipality. The master plan would include a cumulative assessment on the entire Postmasburg region.	FUTHER FEEDBACK IN EIA
17/12/2013	Ms S.R. Browne	Concerns about water and dust pollution	Currently at the Kolomela Mine various management intervention measure are employed to reduce dust generation from the site. These aspects have been included in the mines approved EMP. Some of these measures are employed through the application of dust suppressants on exposed road surface; plant dust extraction system. It is however very difficult to reduce dust generation due to blasting operations, however various other measure are employed to try and reduce	FUTHER FEEDBACK IN EIA

DATE	NAME	ISSUES RAISED	EAPs RESPONSE TO ISSUES AS MANDATED BY THE APPLICANT	CONSULTATION STATUS (consensus, dispute, not finalised, etc.)
			<p>dust generated from the site. The planned updating of the existing air quality impact assessment will re-evaluate existing practices and identify if there are any additional management intervention measure to implement on site. The study will also model the extent of the additional impact on air quality as part of the expansion project.</p>	

8.4 THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE SITES

8.4.1 BASELINE ENVIRONMENT

Climate

The project falls in an area with a regional climate that is semi-arid with a mean annual precipitation of 318 mm. The average monthly temperatures for the project site, calculated from the weather station are presented in Table 8.1. The maximum temperature recorded at this weather station is 46.5 °C and the minimum is -8.4 °C.

Table 8-1: Long-term minimum and maximum average monthly temperatures for the study area for the period 2008-2010.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Min Temp (°C)	16.2	15.1	13.8	10.3	6.0	2.1	1.9	4.4	6.9	10.0	13.4	15.6
Max Temp (°C)	32.0	29.3	28.6	25.0	22.3	17.1	18.0	20.7	24.4	27.0	29.7	31.2

From Figure 4, it is evident that the precipitation tends to fall in summer and autumn (November to April). It is also noted that small amounts of rainfall are recorded over the winter and spring months (May to October).

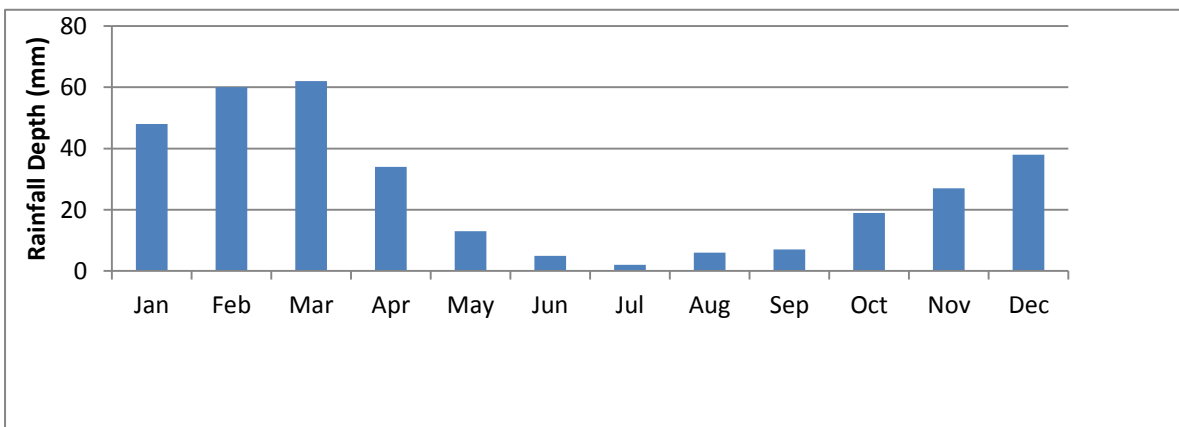


Figure 4: Long-term average monthly rainfall for the study area for the period 1950 to 2000.

The annual potential evaporation rate for Kolomela Mine is 2 450 mm. From Table 8.2, the highest evaporation rates occur during the hotter summer months of October to March. The mean annual evaporation is higher than mean annual precipitation (318 mm) which results in a net moisture deficit of 2 132 mm over the year.

Table 8-2: Calculated monthly mean evaporation rates for the study area (Jeffares & Green, 2013).

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean Evaporation Rate (mm)	333	256	221	154	111	85	98	133	184	247	292	336	2450

Period, day-time and night-time wind roses for the Kolomela are provided in Figure 5. The prevailing wind direction is on average from the northeast. These are generally associated with weak winds. The

less frequent south-westerly winds have higher velocities. Similarly, infrequent strong winds are indicated from the north northwest. Strong winds occur during daytime with weaker winds associated with night-time (primarily from the north-east).

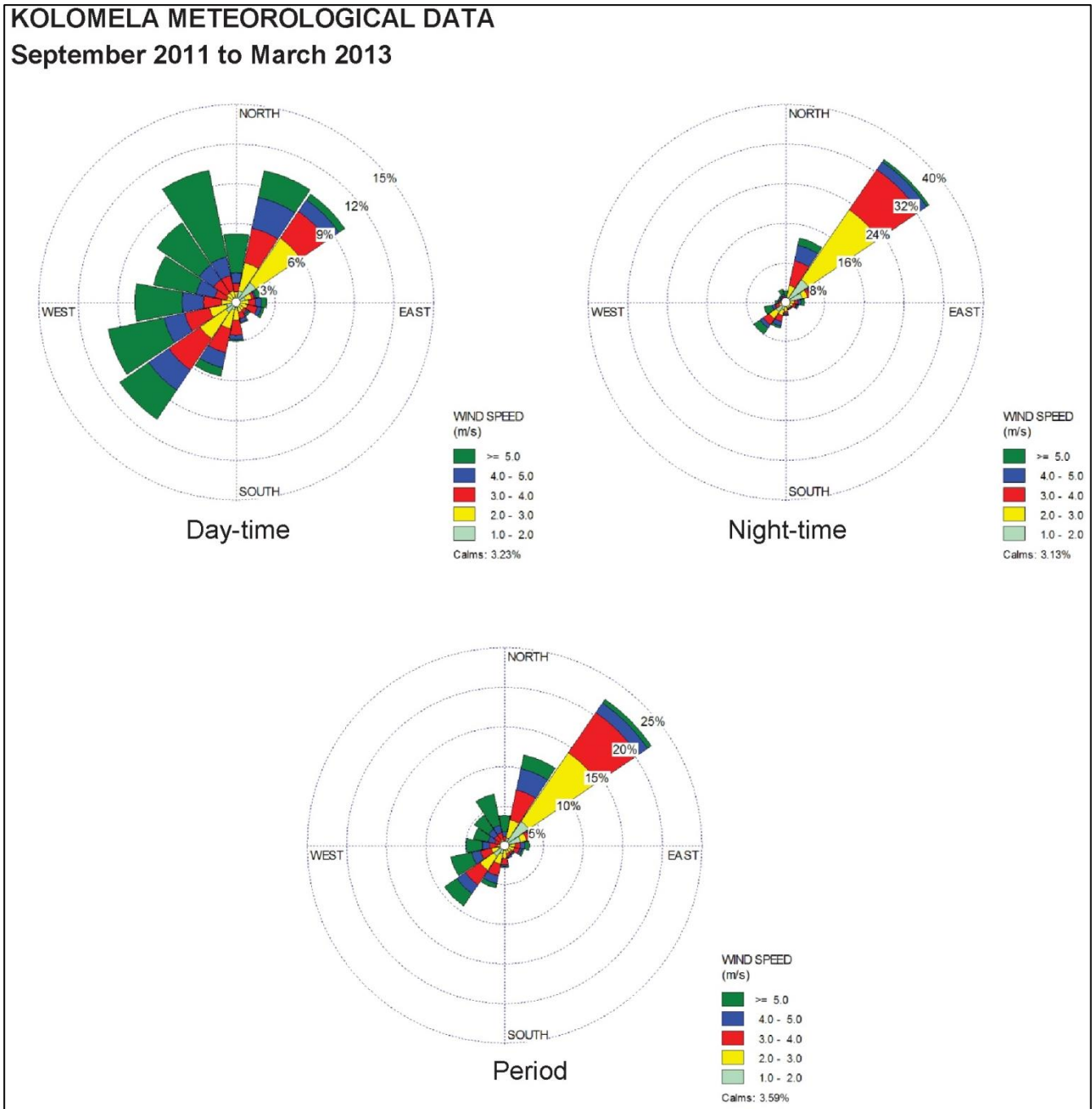


Figure 5: Period, day and night-time wind roses from 2011-2013 (Airshed, 2013).

Topography

Man-made topographical features, including open pits, waste rock dumps and mining infrastructure, dominate the topography of the mining rights area at Kolomela Mine. Three pits, up to 300m deep and covering an area of approximately 384 hectare’s, have been excavated at the mine. The associated

waste rock dumps are up to 20m high and cover approximately 926 hectare's. The natural surface topography of the mining area (unaffected by mining activities) is relatively flat with an ephemeral stream, the Groenwaterspruit, incising a dendritic drainage pattern up to 40 m deep along the eastern border of the Kolomela mining right area (See Figure 6).

The majority of the area slopes gently to the south west from the Ploegfontein area (approximately 1 290 masl) to Welgevonden (1 220 masl) with several drainage courses converging to the south of the mining area into a small spruit, which has generally been referred to as the Welgevondenspruit. The south-eastern part of the Kolomela Mine property, which comprises around 50 000 ha, consists of mainly calcrete-capped plains on red soils.

Numerous small shallow pans, also known as dolines, of 100 to 200 m in diameter with a couple of larger pans, occur over most of this area. These pans collect and hold rainwater for short periods after the seasonal rains. A prominent hill, Wolhaarkop (1 448 masl), rises above the plains on the south-western portion of the project area.

Geology

The Transvaal Supergroup lithologies (Figure 8) have been deposited on a basement of Archaean granite gneisses and greenstones, and/or lavas of the Ventersdorp Supergroup. In the Kolomela – Postmasburg region, the oldest rocks of the Transvaal Supergroup form a carbonate platform sequence (i.e., dolomites with minor limestone, chert and shale) known as the Campbell Rand Subgroup. The upper part of the Transvaal Supergroup comprises a banded iron formation unit (i.e. the Asbestos Hills Subgroup), which has been conformably deposited on the carbonates. The upper portion of the banded iron formations has in places, been supergene-enriched to ore grade. The iron ore / banded iron formation zone is often referred to as the Kuruman Formation. The ores found within this formation comprise the bulk of the higher-grade iron ores in the region.

An altered, intrusive sill originally of gabbroic composition, usually separates the ore bodies from the underlying host iron formation. It intruded into the Transvaal Supergroup in late Proterozoic times. A thick sequence of younger clastic sediments (i.e. shales, quartzites and conglomerates) belonging to the Gamagara Subgroup unconformably overlies the banded iron formations. Some of the conglomerates consist almost entirely of haematite and are of lower-grade ore quality. The unconformity separating the iron formations from the overlying clastic sediments represents a period of folding, uplift and erosion. At the time, solution and karstification took place in the upper dolomitic units.

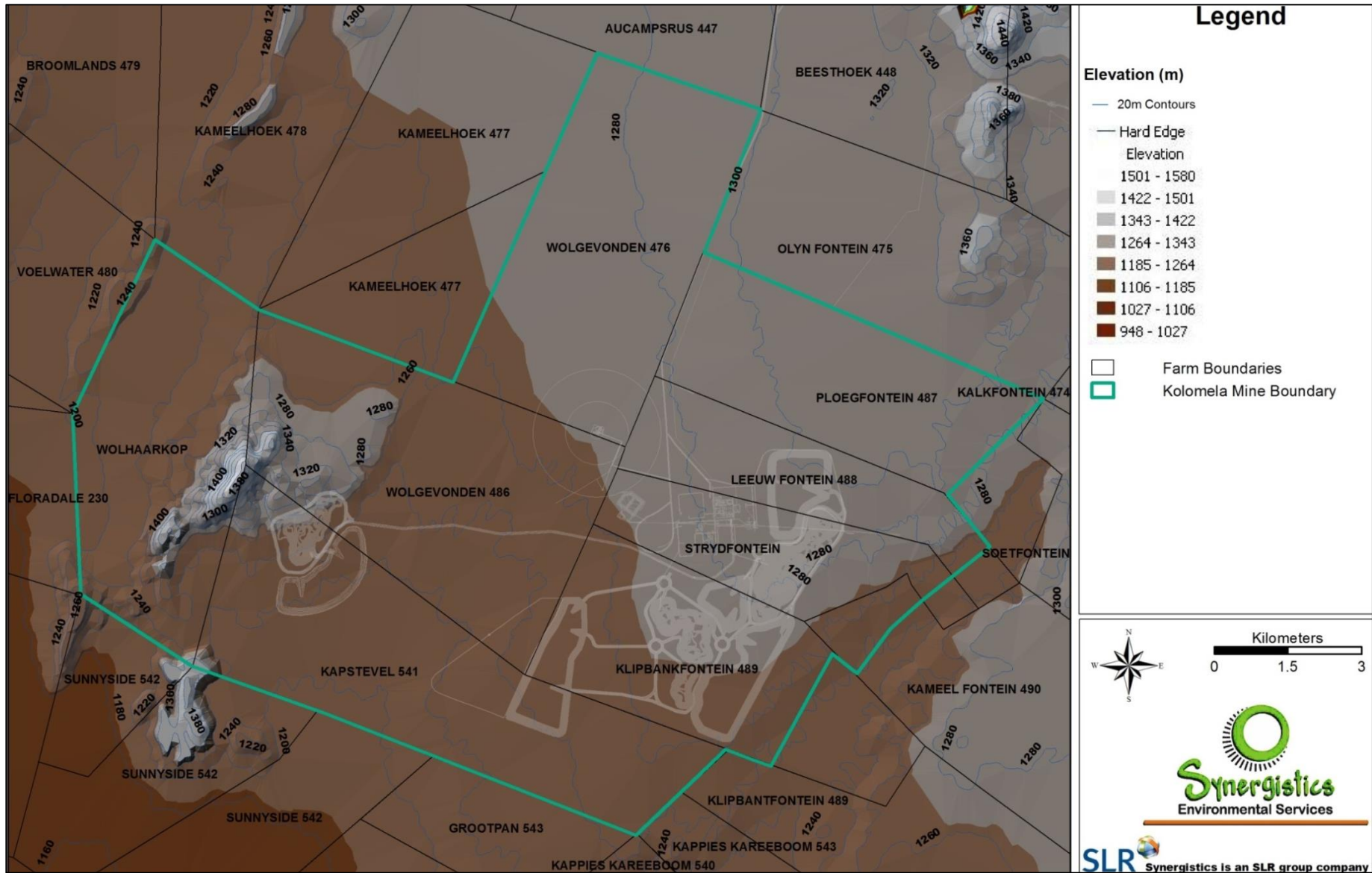


Figure 6: Topography of the study area

Iron ore at the Kolomela deposit is preserved in chemical and clastic sediments of the Proterozoic Transvaal Supergroup. These sediments define the western margin of the Kaapvaal Craton in the Northern Cape Province. The stratigraphy has been deformed by thrusting from the west and has also undergone extensive karstification. The thrusting has produced a series of open, north to south plunging, anticlines, synclines and grabens. Karstification has been responsible for the development of deep sinkholes. The iron ore at Kolomela has been preserved from erosion, within these geological structures (see Figure 7).

A residual solution breccia, referred to as the ‘Manganese Marker’ or ‘Wolhaarkop Breccia’, developed between the basal dolomites and overlying banded iron formations. This breccia is the highest yielding aquifer in many parts of the Kolomela Mine as well as at Sishen Mine to the north. In places, deep sinkholes developed in the dolomites, into which the overlying iron formation and mineralized iron ore bodies collapsed.

Diamictite of the Makganyene Formation and lava belonging to the Ongeluk Formation have been thrust over the Gamagara sediments. It is now preserved only within the larger synclinal structures. A considerable portion of the upper parts of the stratigraphy have been eroded during Dwyka glaciation and re-deposited as tillite.

The entire folded sequence was later truncated by Tertiary erosion. A thick blanket of calcrete, dolocrete, clays and pebble layers belonging to the Kalahari Supergroup was unconformably deposited over the older lithologies.

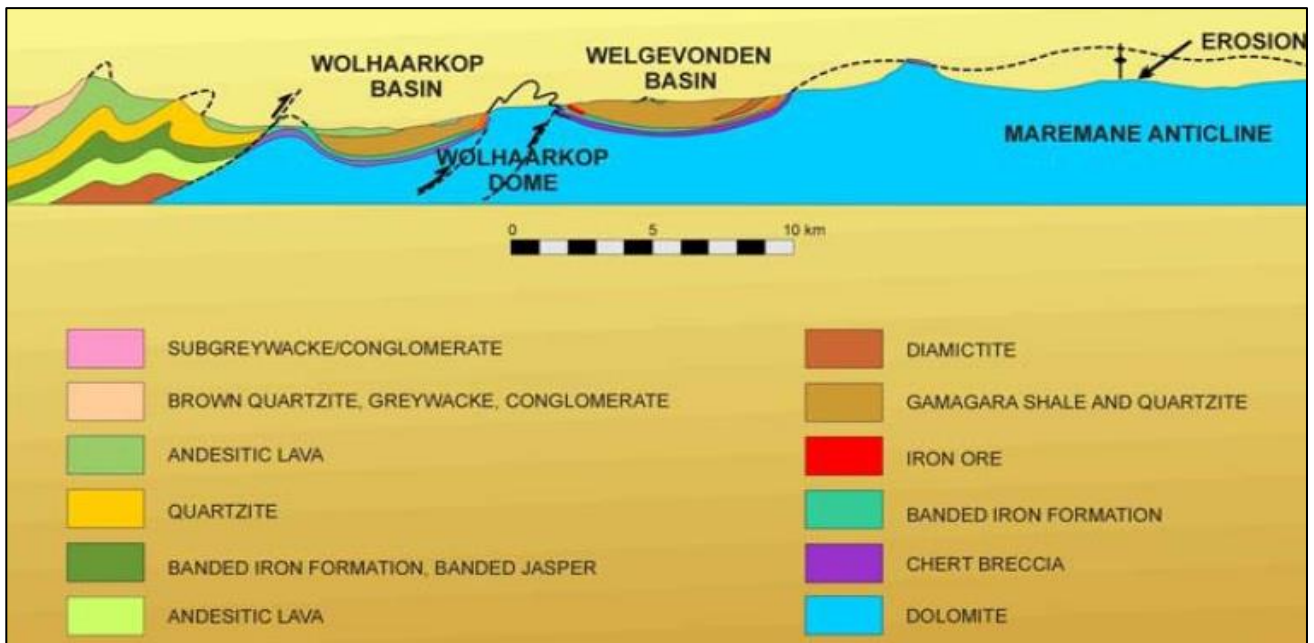


Figure 7: Regional section of the distribution of the Kolomela iron ore.

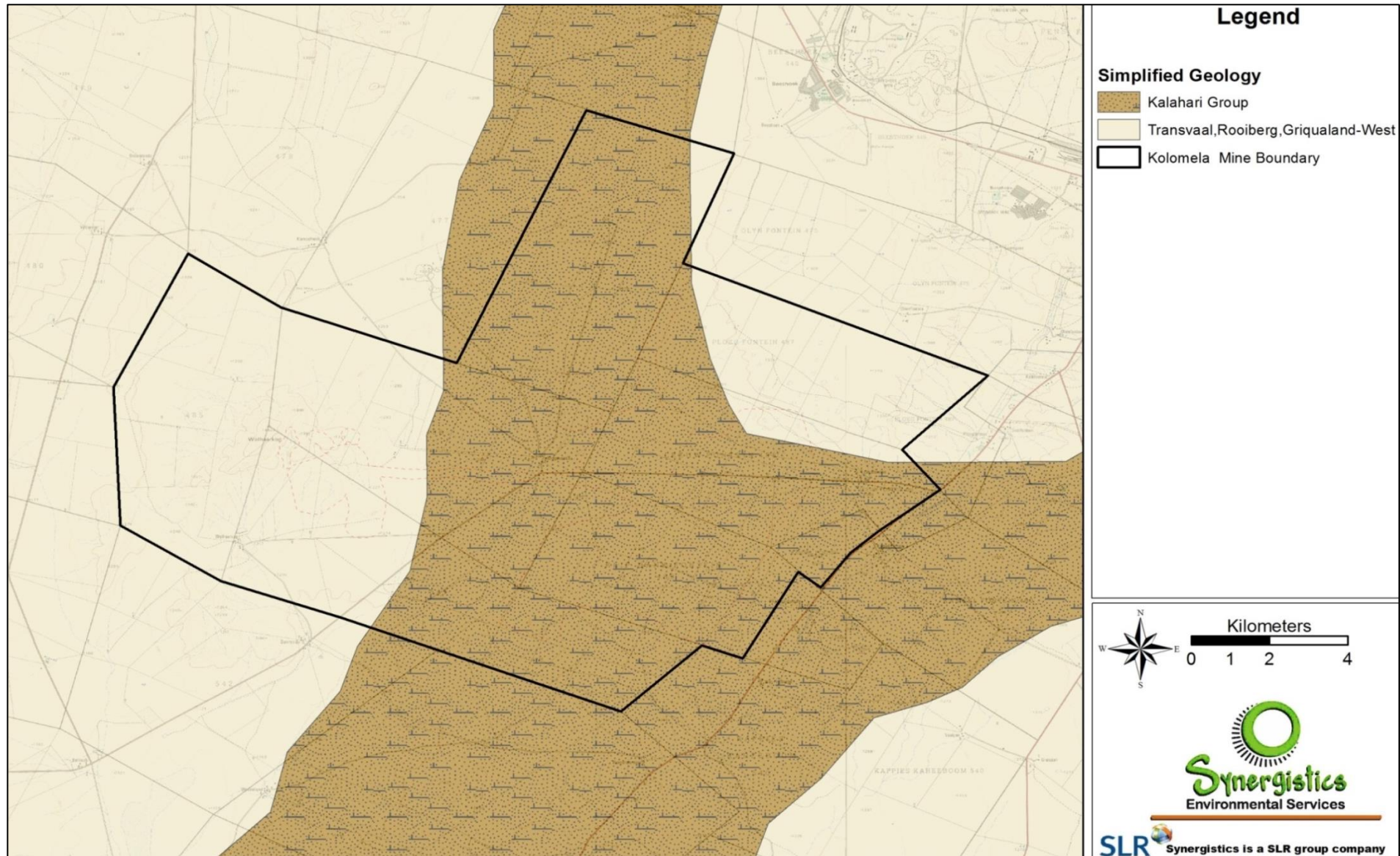


Figure 8: Geology of the Study Area

Soils and Land Capabilities

The soils in the region are generally shallow, normally not exceeding more than 300 mm in depth (PGS Consulting, 2013). The predominant soil types found at the Kolomela Mine Site are those of Augrabies, Coega and Mispah (Viljoen and Associates, 2005). Coega and Mispah soils cover the majority of the Mine Site, whereas the Augrabies type is largely restricted to Kapstevél and Wolhaarkop. The Augrabies soil is characterised by an Orthic A-Horizon overlaying Neo-carbonate B-Horizon overlaying unspecified material. The Coega is comprised of an Orthic A-Horizon overlying a Hard Carbonate B-Horizon. The Mispah soil is characterised by an Orthic A-Horizon overlaying Rock. The average effective depth of the Augrabies, Coega and Mispah soils are 1 200mm, 300mm and 300mm respectively.

The mining area can generally be described as suitable for livestock grazing purposes. The agricultural potential of the dominant soils present at the sites investigated is summarised in Table 8.3. The low plant biomass on account of the dry climate limits the volume of organic material that enters the soil profile, further reducing the agricultural potential of the soil.

Table 8-3: Agricultural potential of dominant soils on the Kolomela Mine (Viljoen and Associates, 2005).

Soil Form	Effective Depth (mm)	Agricultural Potential (Dryland)	Agricultural Potential (Irrigated)
Mispah	<300	Low	Low
Coega	<300	Low	Medium
Augrabies	<1200	Low	High

The soils within the mining area of neutral pH with low electrical conductivity levels; indicating that there are no signs of soil salinization. Low sodium levels indicate that there is a low risk of erosion due to dispersion of clay particles by sodium ions. No determinants are present at levels that would inhibit plant growth. Based on the classification system of the Chamber of Mines, the vast majority (98.7%) of the surface area is most suitable for wilderness areas. A small percentage (1.23%), mostly on the farm Kapstevél, is suitable for intensive agricultural use (see Table 8.4).

Table 8-4: Land Capability at Kolomela Mine (Viljoen and Associates, 2005).

Land capability class	Leeuwfontein, Strydfontein, Klipbanksfontein	Kapstevél (ha)	Wolhaarkop (ha)	Percentage of Total
Arable (>600mm)	-	40	31	1.23
Grazing (250 – 600mm)	3	-	-	0.05
Wilderness (<250mm)	5600	68	29	98.72
Wetland (high clay content)	-	-	-	0

Groundwater

The geohydrological regime in the study area is made up of two main aquifer systems. The first, the upper, unconfined to semi-confined aquifer occurs in the calcrete that cover most of the surface area of Kolomela. The aquifer is usually developed on the contact between the calcrete and underlying clay formations of Kalahari age or in localised pebble horizons within the calcrete. Although relative low yields occur in this aquifer, it is developed widely throughout most of the region and has been the sole reliable source of water supply to most of the farms in the area for more than a century.

The second aquifer is associated with fractures, fissures, joints and other discontinuities within the consolidated bedrock and associated intrusives of the Transvaal/Griqualand West Sequences. The aquifer occurs at depths from 40 to more than 200 meters below surface in the area. It is semiconfined and has greatly varying yields that are directly associated with the geology and geological structure.

In the Postmasburg area, static groundwater levels vary from zero meters (springs flowing out at surface), usually in the topographically lower lying areas, to a maximum of approximately 75 meters below surface to the north-east of Postmasburg. There are no definite groundwater level trends, apart from a possible distinction of deeper groundwater levels to the east and north-east of Postmasburg on the banded iron formation with shallower groundwater levels to the south-east on the Ghaap Plateau dolomites. Groundwater moves in secondary, fractured rock aquifers which occur over the entire area, with groundwater moving through the fissures and fractures within the geology. This means that static groundwater levels can vary significantly, even on a localised scale, depending at what depth a fissure or fracture is intersected by a borehole. The overall transmissivity of the chert breccia and the banded iron formation is very high, meaning that high groundwater flow rates occur.

The natural groundwater flow direction generally mimics surface topography, with groundwater moving in a south-south-easterly direction. Both the abstraction of groundwater for irrigation within the Groenwaterspruit valley and the mine dewatering taking place at Kolomela Mine and Beeshoek Mine to the north of the site affect the natural groundwater flow direction significantly.

Kolomela mine has conducted annual hydro census of properties surrounding the Kolomela Mine from 2008 to 2013 and boreholes on the following surrounding farms have been recorded: Several farms were targeted for this investigation, namely: Sunnyside, Wildealsput, Kappieskaree, Bonnetsfontein, Kameelfontein, Kameelhoek, Soetfontein, Voëlwater, Bermoli, Brand,

Klipbanksfontein, Grasvlakte, Witboom, Olynfontein, Geelbult, Kalkfontein, Aucampsrus, Floradale, Koeispeen, Heuningkrantz, Broomlands, Lucasdam and Lynput. The 2013 hydro census was conducted during February and March 2013.

The 2013 monitoring results indicated that water levels remained stable with less than 1 meter fluctuation at most sites. The majority of the boreholes in the area indicated a general decline in water levels. This could mainly be attributed to conditions returning to normal after the 2011 rainfall period (high rainfall season). Seventeen localities experienced a drop of more than one meter in groundwater levels compared to 2012. The annual 2014 hydro sense is currently being undertaken. This data will be integrated into the EIA phase as far possible (Aquatico, 2013).

Groundwater is of a good to very good quality, although it tends to be somewhat hard due to dissolution reactions taking place when groundwater moves through the calcrete and dolomitic aquifer bedrock. The pH typically falls within the range pH 7 – pH 8, with electrical conductivity (EC) in the order of 50 mS/m and iron levels of less than 1 mg/l.

The water quality of the surrounding farms generally resembles that found at Kolomela Mine. The water quality recorded from boreholes at some of the surrounding farms has high salinity and may exceed the guideline for stock watering (farm Witboom). Dangerous nitrate levels have been recorded at the farm Bermoli and it has been advised that this source not be used as a source of water.

Approximately 7 123 m³ per day of water is abstracted at Kolomela mine for dewatering purposes. Potable and process water required by the mine is obtained from the reservoir storing water from dewatering activities. From this reservoir water is piped to a potable water tank and a process water tank. The potable water is treated to ensure it is fit for purpose. A maximum of 2 600 000 m³ of water is utilised by Kolomela Mine per annum.

Groundwater on surrounding properties is mainly used for domestic supply, livestock watering and watering of gardens. Although well outside the expected affected groundwater zone, the municipality of Postmasburg also utilizes groundwater from boreholes in the Groenwaterspruit as a significant portion of water supply to the town.

Surface Water

The Kolomela Mine is situated within quaternary catchment area D73A, which is 3 238 km² in size. The catchment is part of a large endoreic area. The major drainage feature within the mine area is the Groenwaterspruit on the eastern boundary of the site. Groenwaterspruit has a catchment of approximately 27 km². The stream discharges into a major depression south of the mining area, Vleiput, and has no outlet.

A large portion of the mining property has a general slope towards the west and southwest. Numerous pans occur and the only defined watercourses are close to the south and south-western boundary of the property. These short streams enter wide vlei areas that drain into Biesieputs located south of the mining area. The drainage flow is mainly in the form of sheet flow.

Clean water is diverted around the plant and administration areas as well as at the iron ore pits and waste rock dumps at Kolomela Mine. This was done by constructing soil berms upstream of the infrastructure that could pose a risk to contamination of clean water. Four evaporation ponds are located near the plant infrastructure. This collects clean storm water run-off that poses a risk to the safe operation of the plant infrastructure. All clean water infrastructure is designed to manage a 1 in 50 year storm event.

Flow of surface water on site is ephemeral. The surface water, when flowing, is expected to be clean water typical of runoff from agricultural land in the arid Northern Cape. Surface water is generally not used for consumption by farmers in the area. The only surface water features in the area include pollution control dams at Kolomela and Beeshoek mines. Farmers make use of groundwater for livestock watering.

Numerous endorheic pans are prevalent within the Kolomela Site. Endorheic pans make up 21% of South Africa's wetlands. The pans of the Ghaap plateau occur in an area of approximately 1 000 km² extending from the Kolomela area in the west to the Ghaap escarpment in the east. The pans that occur on surface limestone west of the Asbestos Hills, which includes the Kolomela site, however, only cover an area of approximately 100 km². The panveld occurring in the Postmasburg area is classified as the 'western Ghaap lime panveld' for the purposes of this study and should be distinguished from other lime pans occurring further to the east. This classification was based on climate (lower rainfall on the western section of Ghaap plateau), geology (pans occur on surface limestone) and plant species composition (occur within the Postmasburg Thornveld). The plant species occurring on pans in the mining area differ by approximately 50% from other pans surveyed further to the east. Approximately 60% of the western Ghaap lime pans are estimated to occur within

the mining area.

A wetland assessment of the wetlands on the Kolomela Mine site was conducted by Scientific Aquatic Services in 2013. Four feature groups are present within the study area namely Wetland Pans, Terrestrial Pans, Valley Bottom Wetlands and Drainage lines. From the results of the assessment, it is evident that none of the wetland features encountered within the study area are not regarded to be of exceptional importance in terms of function and service provision except for biodiversity maintenance. This is mainly a result of lack of surface water for extended periods of time limiting the ability to support any aquatic communities or the formation of seasonal and permanent wetland zones that could support a more diverse wetland floral community, that would increase the wetland features assimilation capacity as well as sediment trapping ability (Scientific Aquatic Services, 2013). Identified wetland features at Kolomela mining site are illustrated in figure 9.

Flora

The study area falls within the Eastern Kalahari Bushveld Bioregion of the Savanna Biome (Mucina & Rutherford 2006). The vegetation of the southern Kalahari in general is relatively species-poor and less than 2.5% of the total species list of the southern Kalahari is regarded as endemic, while less than 6% of the plant species is regarded as near-endemic species (Van Rooyen & Van Rooyen 1998).

Anderson (2004) has identified and mapped 6 local vegetation types within the mining area. This map was updated by Smit et al. (2012) (see Figure 10). The vegetation types are described in detail below:

- **Wild Olive Savanna** occurs along the eastern section of the mining area on the slopes that gradually drop off towards the Groenwaterspruit. This vegetation type is characterised by a predominance of *Olea europaea* subs. *africana*. The tree and shrub layer is poorly developed and includes *Rhus burchelli*, *Acacia mellifera* and *Boscia albitrunca*. Smaller shrubs include *Indigofera sessilifolia*, *Asparagus* cf. *laricinus*, *Melhania rehmannii* and *Lycium cinereum*. The grass layer is well developed, with *Aristida diffusa* and *Eragrostis lehmanniana* dominant.
- The **Panveld** is characterised by the presence of numerous pans and an open to closed bushveld with the dominant trees *Rhus tridactyla*, *Olea europaea* subsp. *africana* and *Acacia mellifera*. The pans of the Western Ghaap Lime Panveld are generally circular in shape and vary in size from 40m to 200 m in diameter but generally cover an area of less than 2 hectares. Characteristically, isolated thickets of large shrubs and trees grow on the pan edges. Typically this includes *Diospyros lycioides* (Blue Bush), *Olea europaea* subsp. *africana*, *Ziziphus*.

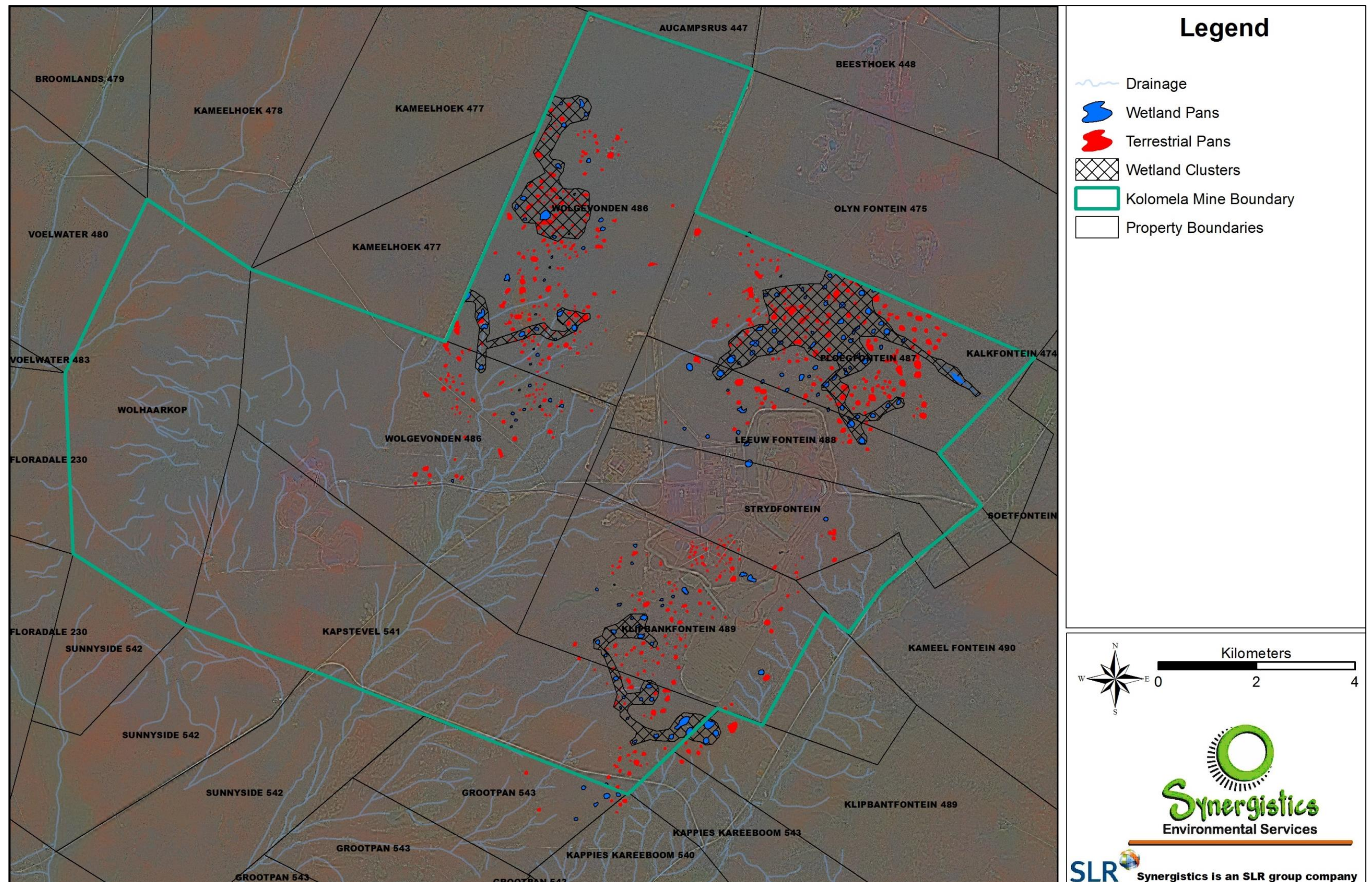


Figure 9: Surface Water Features and Catchment Areas at Kolomela Mine.

- **Camphor Bush Bushveld** lies to the west of the panveld. This unit varies from an open to closed bushveld dominated by large *Tarchonanthus camphoratus* shrubs and has a fairly well-developed grass layer. Other common large shrubs include *Rhus ciliata*, *Diospyros lycioides*, *Ehretia rigida* and *Grewia flava*, and small *Ziziphus mucronata* trees and large *Rhus lancea* occur at intervals. Patches of *Rhigozum trichotomum* occur particularly where small, rounded stones of banded ironstone and chert cover the limestone surface. Protected and endemic species tend also to be associated with these areas and these sections are thus regarded as sensitive.
- **Wild Olive – Camphor Bush Bushveld** is found on the gently undulating limestone areas and drainage lines on Welgevonden 486. The dominant species are *Olea europaea* subsp. *africana* and *Tarchonanthus camphoratus*, with *Ziziphus mucronata* occurring mainly in the drainage lines. *Boscia albitrunca* also occurs. The dwarf shrub layer is well developed, and *Pentzia calcarea*, *Chrysocoma ciliata*, *Lycium cinereum*, *Geigeria ornativa*, *Pteronia* and *Zygophyllum* species are dominant. The grass layer is poor and *Eragrostis lehmanniana* and *Aristida congesta* are common.
- **Black Thorn Bushveld** occurs on the foothills of the banded ironstone areas in the vicinity of Wolhaarkop. This vegetation type is dominated by *Acacia mellifera* and varies from an open to closed bushveld. Common large shrubs and small trees include *Rhigozum obovatum*, *Boscia albitrunca*, *Boscia foetida*, as well as stunted *Searsia tridactyla* and *Ehretia rigida*. *Rhigozum trichotomum*, *Barleria rigida*, *Asparagus* species, *Dicoma capensis*, *Hermannia comosa* and *Hermannia* species are common in the dwarf shrub layer, while *Stipagrostis uniplumis*, *Aristida congesta*, *Eragrostis lehmanniana* and *Fingerhuthia africana* form the grass layer. Open patches with few trees and shrubs and a dominant dwarf shrub and grass layer occur on very rocky areas. In these patches *Rhigozum obovatum*, *Lopholaena cneorifolia*, *Hermannia comosa*, *Waltheria indica* and *Sida* cf. *ovata* are common shrubs. A few *Ficus cordata* trees and a fern *Pellaea calomelanos* occur in this vegetation type. *Boscia foetida* is also more abundant in this area, and *Olea europaea* subsp. *africana* is present in the drainage lines between the hills.

The **Sandveld** occurs on the deeper red soils along the drainage line running from east to west below the banded ironstone hills on Welgevonden, and wherever patches of deeper red soils are found. It is an open savanna dominated by the Camel Thorn *Acacia erioloba*, with *Ziziphus mucronata* and *Acacia mellifera* common. The dominant large shrubs are *Acacia hebeclada* and *Tarchonanthus camphoratus*. Smaller shrubs that are common include *Plinthus sericeus*, *Chrysocoma ciliata*, *Lycium cinereum* and *Zygophyllum pubescens*. The grass layer is well developed and *Eragrostis lehmanniana*, *Aristida congesta*, *Stipagrostis uniplumis*, *Schmidtia pappophoroides* and *Cymbopogon plurinodis* are common. The Camel

Thorn *Acacia erioloba*, *Ammocharis coranica*, *Trichodiadema pomeridianum* and *Mestoklema arboriforme* occur in the sandveld and are protected species. To the east of this vegetation unit on the gentle slopes of the drainage line, rounded stones occur on outcrops of calcrete/limestone and in this habitat two protected species are found: *Titanopsis cf. fulleri* and *Tridentea* species, as well as one near-endemic species *Euphorbia cf. bergii*.

Smit *et al.* (2012) monitored the impact of mining at Kolomela on vegetation on site. Visible impacts of the mining activity were restricted to red dust on the plants, which were most notable on the plots closest to the core mining activity in the Wild Olive Savanna, Panveld, Black Thorn Bushveld and Sandveld. Die back of a few *Acacia mellifera* trees were observed in the Wild Olive Savanna and Panveld. Since many of them showed signs of dieback before the mining activity started, it is unlikely that the dieback occurred as a direct consequence of the mining activity. In general the vegetation of the main Kolomela mine property are in a healthy condition, but there are indications of improvement brought about by lenient grazing and adequate resting of the veld.

A potential serious ecological problem identified by Smit *et al.* (2012) on the Kolomela Mine property is bush encroachment. Bush encroachment increases rainwater runoff losses, soil erosion and lower the grazing capacity for both wildlife and livestock and inevitably also results in the lowering of the biodiversity (Smit *et al.*, 1999). Smit *et al.* (2012) found that three vegetation units, namely the Wild Olive Savanna, Panveld and Camphor Bush Bushveld are somewhat affected by bush encroachment which presents a concern, whereas the Black Thorn Bushveld unit was found to be heavily affected by bush encroachment in some areas.

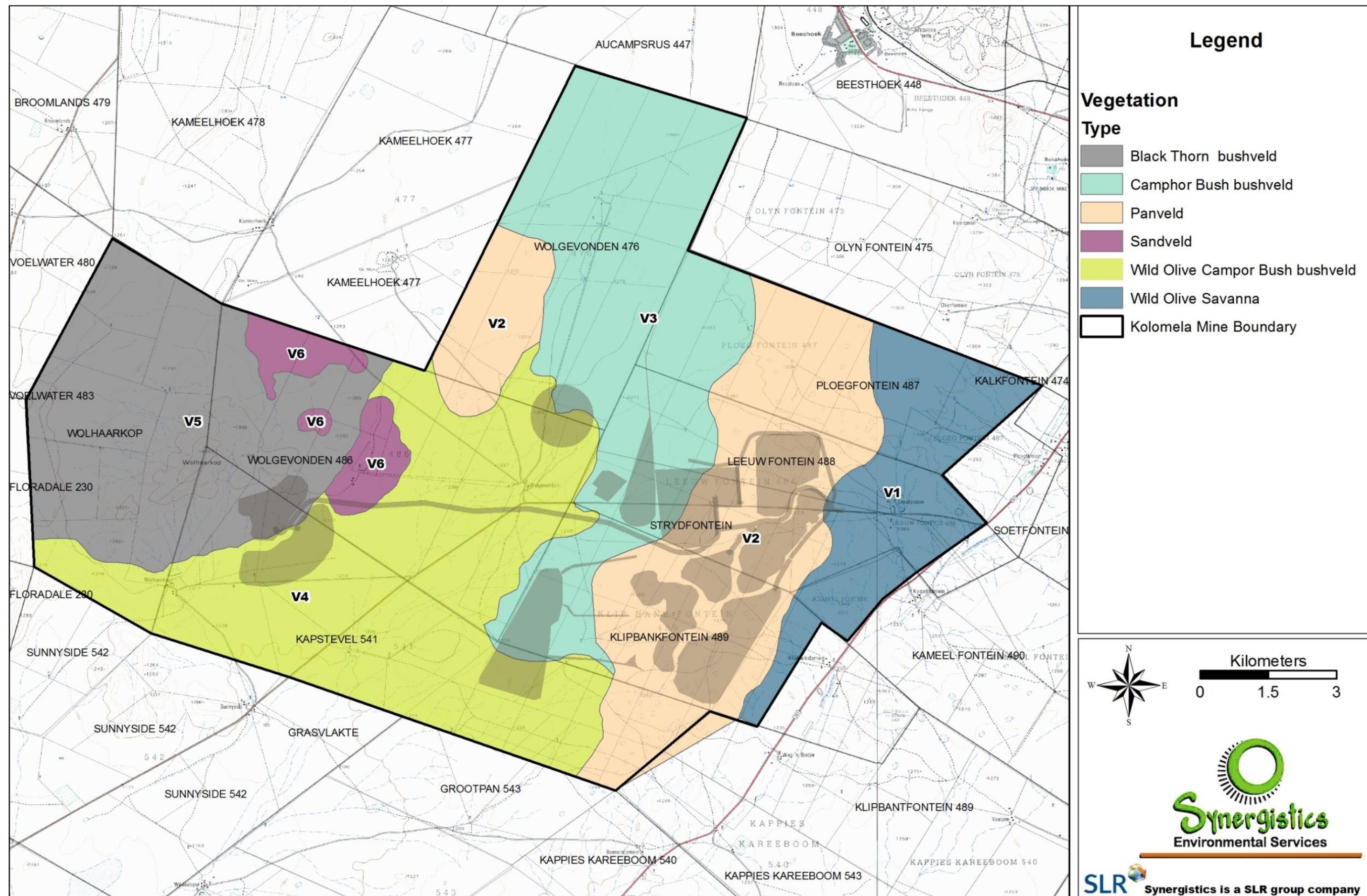


Figure 10: Vegetation map of the Kolomela mining property with indication of broad vegetation units and habitat for species of conservation importance (Smit et al. 2012).

Fauna

Faunal species diversity and numbers in the region is relatively low as is typical of semi-desert areas (Wilson, 2013). Considerable degradation of the natural habitat has occurred in the region due mainly to mining, especially on the iron and manganese ore hills and outcrops between Kathu and Postmasburg. The occurrence of major animal groups on the Kolomela mining site is discussed below:

- Mammals:** A total of 19 mammal species have been recorded on the Kolomela mining site and a total of 33 species are expected to occur in the area. The Welgevonden area was found to have the highest diversity of mammal species. Very few species were recorded in the Leeuwfontein area. There is an exceptionally high density of steenbok (*Rhaphicerus campestris*) within the mining area. The high numbers of this territorial species is indicative of an ecologically healthy ecosystem. Evidence of poaching has however been observed on site. Various bat species use the Ghaap Plateau as a migratory route and over-wintering refuge. No bat roosts have been located within the mining area to date. The closest known bat roost is located on the farm Soetfontein outside of the mining area approximately 5 km from the closest pit located on the farm Leeuwfontein. All bats (except for fruit bats) are protected under the Northern Cape Nature Conservation Act (No 9 of 2009). Vertebrate species with formal conservation status occurring on the site are given in Table 8.5.

Based on monitoring of small mammals, conducted by Nico Avenant in 2011 and 2012, mining activities at Kolomela Mine has had some negative impacts on small mammal communities around the mine. This is largely due to dust, noise and vibrations generated by mining activities (Avenant, 2013).

Table 8-5: Mammals of Conservation Importance occurring within the Kolomela mining site

Common Name	Scientific Name	Conservation Status
Aardwolf (expected)	<i>Proteles cristatus</i>	Protected
Bat-eared Fox	<i>Otocyon megalotis</i>	Protected
Cape Serotine Bat	<i>Eptesicus capensis</i>	Protected
Common Duiker	<i>Sylvicapra grimmia</i>	Protected
Geoffroy's Horseshoe Bat (expected)	<i>Rhinolophus clivosus</i>	Red Data – Near Threatened
Kudu	<i>Tragelaphus strepsiceros</i>	Protected
Small Spotted Cat (expected)	<i>Felis nigripes</i>	Protected
Springbok	<i>Antidorcas marsupialis</i>	Protected
Aardvark	<i>Orycteropus afer</i>	Protected

- Birds:** A total of 98 bird species have been recorded at the site, with the greatest diversity of birds recorded in the Klipbankfontein area. Note that the presence of aquatic birds on the list presents an artificial indication of the diversity that can be expected on the farms under

natural conditions. These species are only present on site due to the presence of water resulting from activities in the mining area. Species of conservation importance are given in Table 8.6.

Table 8-6: Bird Species of Conservation Importance occurring within the Kolomela mining site

Common Name	Scientific Name	Conservation Status
Acacia Pied Barbet	<i>Lybius leucomelas</i>	Protected
African Fish Eagle	<i>Haliaeetus vocifer</i>	Protected
African Hoopoe	<i>Upupa Africana</i>	Protected
African Spoonbill	<i>Platalea alba</i>	Protected
Ashy Tit	<i>Parus cinerascens</i>	Protected
Barn Owl	<i>Tyto alba</i>	Protected
Barn Swallow	<i>Hirundo rustica</i>	Protected
Black-chested Prinia	<i>Prinia flavicans</i>	Protected
Blacksmith Plover	<i>Vanellus armatus</i>	Protected
Black-throated Canary	<i>Serinus atrogularis</i>	Protected
Bokmakierie	<i>Telephorus zeylonus</i>	Protected
Brownthroated Martin	<i>Riparia paludicola</i>	Protected
Brubru	<i>Nilaus afer</i>	Protected
Cape Bunting	<i>Emberiza capensis</i>	Protected
Cape Glossy Starling	<i>Lamprotornis nitens</i>	Protected
Cape Robin	<i>Cossypha caffra</i>	Protected
Cape Turtle Dove	<i>Streptopelia capicola</i>	Protected
Cape Wagtail	<i>Motacilla capensis</i>	Protected
Cape White-eye	<i>Zosterops pallidus</i>	Protected
Capped Wheatear	<i>Oenanthe pileata</i>	Protected
Chat Flycatcher	<i>Meleanornis infuscatus</i>	Protected
Chestnutvented Titbabbler	<i>Parisoma subcaeruleum</i>	Protected
Clapper Lark	<i>Mirafra apiata</i>	Protected
Common Fiscal Shrike	<i>Lanius collaris</i>	Protected
Common Sandpiper	<i>Tringa hypoleucos</i>	Protected
Crowned Plover	<i>Vanellus coronatus</i>	Protected
Dabchick	<i>Tachybaptus ruficollis</i>	Protected
Desert Cisticola	<i>Cisticola aridulus</i>	Protected
Dusky Sunbird	<i>Nectarinia fusca</i>	Protected
Egyptian Goose	<i>Alopochen aegyptiacus</i>	Protected
European Bee-eater	<i>Merops apiaster</i>	Protected
Familiar Chat	<i>Cercomela familiaris</i>	Protected
Fawncoloured Lark	<i>Mirafra africanoides</i>	Protected
Fiscal Flycatcher	<i>Sigelus silens</i>	Protected
Gabar Goshawk	<i>Micronisus gabar</i>	Protected

Common Name	Scientific Name	Conservation Status
Golden-tailed Woodpecker	<i>Campethera abingoni</i>	Protected
Grassveld Pipit	<i>Anthus cinnamomeus</i>	Protected
Greater Striped Swallow	<i>Hirundo cucullata</i>	Protected
Grey-headed Sparrow	<i>Passer diffuses</i>	Protected
Groundscraper Thrush	<i>Turdus litsitsirupa</i>	Protected
Hadedda	<i>Bostrychia hagedash</i>	Protected
Hamerkop	<i>Scopus umbretta</i>	Protected
Helmeted Guineafowl	<i>Numida meleagris</i>	Protected
Jacobin Cuckoo	<i>Clamator jacobinus</i>	Protected
Kalahari Robin	<i>Erythropygia paeon</i>	Protected
Kori Bustard	<i>Ardeotis kori</i>	Red Data – Vulnerable. Protected
Lanner Falcon	<i>Falco biarmicus</i>	Red Data - Near-threatened Protected
Larklike Bunting	<i>Emberiza impetuani</i>	Protected
Laughing Dove	<i>Streptopelia senegalensis</i>	Protected
Lesser Grey Shrike	<i>Lanius minor</i>	Protected
Levaillant's Cisticola	<i>Cisticola tinniens</i>	Protected
Little Swift	<i>Apus affinis</i>	Protected
Namaqua Dove	<i>Oena capensis</i>	Protected
Namaqua Sandgrouse	<i>Pterocles namaqua</i>	Protected
Olive Thrush	<i>Turdus olivaceus</i>	Protected
Pale Chanting Goshawk	<i>Melierax canorus</i>	Protected
Pygmy Falcon	<i>Polihierax semitorquatus</i>	Protected
Pin-tailed Whydah	<i>Vidua macroura</i>	Protected
Pirit Batis	<i>Batis pirit</i>	Protected
Redbacked Shrike	<i>Lanius collurio</i>	Protected
Red-crested Korhaan	<i>Eupodotis ruficrist</i>	Protected
Redeyed Dove	<i>Streptopelia semitorquata</i>	Protected
Redfaced Mousebird	<i>Urocolius indicus</i>	Protected
Redheaded Finch	<i>Amadina erythrocephala</i>	Protected
Redknobbed Coot	<i>Fulica cristata</i>	Protected
Reed Cormorant	<i>Phalacrocorax africanus</i>	Protected
Rock Martin	<i>Hirundo fuligula</i>	Protected
Rock Pigeon	<i>Columba guinea</i>	Protected
Rufouseared Warbler	<i>Malcorus pectoralis</i>	Protected
Sabota Lark	<i>Mirafraba sabota</i>	Protected
Sacred Ibis	<i>Threskiornis aethiopicus</i>	Protected
Scalyfeathered Finch	<i>Sporopipes squamifrons</i>	Protected
Sociable Weaver	<i>Philetairus socius</i>	Protected
South African Shelduck	<i>Tadorna cana</i>	Protected
Southern Anteater Chat	<i>Myrmecocichla formicivora</i>	Protected

Common Name	Scientific Name	Conservation Status
Southern Thick-billed Lark	<i>Galerida magirostris</i>	Protected
Spikeheeled Lark	<i>Chersomanes albofasciata</i>	Protected
Spotted Dikkop	<i>Burhinus capensis</i>	Protected
Spurwing Goose	<i>Plectropterus gambensis</i>	Protected
Three-banded Plover	<i>Charadrius tricollaris</i>	Protected
Violet-eared Waxbill	<i>Uraeginthus granatinus</i>	Protected
Wattled Starling	<i>Creatophora cinerea</i>	Protected
White-backed Mousebird	<i>Colius colius</i>	Protected
White-breasted Cormorant	<i>Phalacrocorax carbo</i>	Protected
White-browed Sparrow-weaver	<i>Plocepasser mahali</i>	Protected
White-quilled Korhaan	<i>Eupodotis afra</i>	Protected
White-rumped Swift	<i>Apus caffer</i>	Protected
White-throated Swallow	<i>Hirundo albigularis</i>	Protected
Wood Sandpiper	<i>Tringa glareola</i>	Protected
Yellow Canary	<i>Serinus flaviventris</i>	Protected
Yellow-bellied Eremomela	<i>Eremomela icteropygialis</i>	Protected
Yellow-billed Kite	<i>Milvus aegyptius</i>	Protected

Two red data species are known to occur on the site i.e. the Kori Bustard (*Ardeotis kori*), which is vulnerable, and the Lanner Falcon (*Falco biarmicus*), which is classified as near-threatened. The Kori Bustard is prevalent on site having been recorded in most flat areas. The lanner falcon was recorded on Welgevonden but due its mobility can occur throughout the mining area.

- Reptiles and amphibians:** Recorded and expected species and their formal conservation status in the project area are listed in Table 8.7. The amphibian species that were recorded on site all occurred at the artificial pan on Klipbankfontein and do not naturally occur on site. All lizards and tortoises are protected by the Northern Cape Nature Conservation Act (No 9 of 2009). None of the species have red data book status. The Southern Rock Agama is a species endemic to the Northern Cape and was recorded in the Welgevonden – Kapstevl area.

Table 8-7: Reptile Species of Conservation Importance occurring within the Kolomela mining site

Common Name	Scientific Name	Conservation Status
Helmeted Terrapin (expected)	<i>Pelomedusa subrufa</i>	Protected
Leopard (Mountain) Tortoise	<i>Geochelone pardalis</i>	Protected
Cape Cobra (expected)	<i>Naja nivea</i>	Endemic
Namaqua Sand Lizard	<i>Pedioplanis namaquensis</i>	Protected
Rock Monitor (expected)	<i>Varanus exanthematicus</i>	Protected
Southern Rock Agama	<i>Agama a. atra</i>	Endemic. Protected

Common Name	Scientific Name	Conservation Status
Spotted Sand Lizard	<i>Pedioplanus lineocellata</i>	Protected
Spotted Sandveld Lizard	<i>Nucras intertexta</i>	Protected
Cape River Frog	<i>Rana fuscigula</i>	Protected
Common Platanna	<i>Xenopus laevis</i>	Protected
Karoo Toad	<i>Bufo garipeensis</i>	Protected

- Invertebrates:** Pans provide an important habitat for the completion of the life cycle of many invertebrate species. The pans in the mining area have a very short period of inundation per year, with the length of this period determining the nature of the invertebrate species that are present. While there are many opportunistic species that can live in a variety of water bodies, the characteristic ones of pans are primitive crustaceans known as Eubranchiopods, which tend to be specific to pans because they have limited means of migration between water bodies.

The organisms that occur within the pans in the mining area are known to be widespread and typical of the pans of the dry western sections of southern Africa. The pans were not found to support a faunal composition of particular conservation importance.

The Common Baboon Spider (*Harpactira* species) occurs on site. The species is already protected under the Transvaal Provincial Nature Conservation Ordinance of 1983. This restriction is still in place in all of the South African provinces. Therefore they may not be collected, transported or kept without a permit. This species is usually associated with red Kalahari sands and the sand quick grass (*Schmidtia pappophoroides*).

Air Quality

Current potential air emissions sources within the study area include mining activities, the use of gravel access roads, vehicle exhaust emissions and farming activities. Fugitive dust, generated from mining activities at Kolomela Mine, represent the dominant emissions in the study area. The major mining activities that generate dust at Kolomela Mine include materials handling operations, wind erosion from stockpile areas, blasting, crushing/screening and vehicle-entrainment from paved and unpaved roads.

Dust fallout monitoring has been undertaken at a number of sites in and around the Kolomela Mining Site since 2011. Based on dust monitoring results, dust fallout in and around Kolomela Mine is high and regularly exceeded the South African National Standards (SANS 1929:2011) Industrial limit of 1200 mg/m²/day on the mine site and on surrounding farms.

In addition, a continuous monitoring station was installed to the south of the mine site, on the farm

Kappies Karee 11, Postmasburg, to monitor ambient air quality. Exceedences of the daily maximum 8 hour mean for ozone (O₃), PM₁₀ and PM_{2.5} have been recorded since monitoring commenced in 2011. GNR 827 National Dust Control Regulation, 2013 GN 1210 National Ambient Air Quality Standards of 2009 and GN 486 National Ambient Air Quality Standards for Particulate Matter with Aerodynamic diameter less than 2.5 micron meters (PM_{2.5}), 2012 set out new limits and standards for common pollutants, are shown in Table 8.8 and Table 8.9 respectively.

Table 8-8: Acceptable dust fallout rates in terms of GNR.

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

Table 8-9: National Ambient Air Quality Standards for SO₂, NO₂, O₃, PM-10 and PM-2.5.

Pollutant	SO ₂	SO ₂	NO ₂	O ₃	PM-10	PM-2.5
Period	10 minute	1 hour	1 hour	8 hour	1 day	1 day
RSA AQ Standard (µg/m ³)	500	350	200	120	120	65

Noise

Kolomela Mine is situated in an area that can be classified as a rural district. The relatively flat topographical features in the Study Area provide little acoustic shielding between the open cast mining areas and the adjacent noise sensitive areas. The main sources of noise in the area surrounding the Kolomela Mine include operations at the Kolomela and Beeshoek mines, traffic, railway operations on the general freight railway line and general farming activities. Noise receptors in the area include the farm homesteads surrounding the Kolomela Mine. Baseline noise monitoring was conducted before and during the mining operation commenced. No exceedances were recorded.

Archaeological Resources

Morris (2005) established that within the eastern portion of the Kolomela site the landscape of the farms Ploegfontein, Klipbankfontein and Leeuwfontein is marked by numerous small pans within calcrete-capped plains on red soils. Virtually all the pans contain assemblages of stone tools with various levels of significance. Stone tools found here include cores, flakes, blades, bladelets, formal tool types and some large cutting tools from the early to late Stone Age (refer to Figure 11). The occurrence of these artefacts were however found to be largely restricted to the pans, with the surrounding plains having very low densities of artefacts with large tracts of land showing no visible archaeological remains.

On the Farm Wolhaarkop, a later Stone Age site of significant archaeological importance was identified against large boulders at a haematite outcrop on the hill (Morris, 2005). Artefacts found near the outcrop included stone tools in association with worn fragments of ostrich eggshell. A number of animal rubbing stones were also identified at the outcrop. A Pre-colonial open haematite mine workings consisting of a narrow trench with two stopes are also present on a hill on the Wolhaarkop farm. The Wolhaarkop sites are considered to be of high significance.



Figure 11. Typical hand tools found in the study area, especially in and around the pans to the east of the Kolomela Site (Photograph from van der Ryst, 2011).

In July 2007, Miller (2011) of African Heritage Consultants conducted a phase 2 assessment of architectural elements on the farms Leeufontein, Kapstevél, Welgevonden and Strydfontein. Miller (2011) identified a number of structures of heritage and cultural importance on the Kolomela property. Identified structures of heritage and cultural importance include the following (refer to Figure 11):

- Herders dwellings of undetermined age or significance next to a drainage line on the southern side of the farm Kapstevél (Wolhaarkop).
- A walled site (kraal) previously identified as an iron age site of high significance, but later revised by Miller (2011) to be of relatively low significance.
- The Leeufontein farmstead, situated on the farm Leeufontein, was identified to comprise structural elements dating back to the early 20th century. These structures are therefore protected under the National Heritage Resources Act (Act No. 25 of 1999) (NHRA).

- The Strydfontein farmstead, located to the south of the main Leeuwfontein farmstead, comprises the foundation of a building, a limestone dam structure and a cemented irrigation canal. These features probably relate to the first phase of settlement on Strydfontein and are therefore protected under the NHRA.
- Kappies se plek (Kapjes Kareeboom), which appears to have had two phases of construction dating to the early 20th century (first phase) and the 1960s (second phase). Of the early period farmhouse and outbuildings only faint outlines consisting of lime bricks remain. A cemetery, an animal enclosure complex and a water collection complex also still survive and are protected under the NHRA.
- The Welgevonden farmstead, the farmyard configuration of which consists of structures dating to early in the 20th century and perhaps earlier. The main dwelling is an exceptional example of the affluence of some of the farming communities of the Postmasburg and Kuruman regions due to the diamond mining industry of Kimberley.
- The Kapstevél farmstead, with a farmyard comprising the main dwelling that features several phases of expansion, a wagon shed from the 1920s, kitchen with bakery extension, a school, a power generation shed, a cooler room and an exemplary array of early 20th century tools associated with farming practices. This locality is considered to be the best preserved, renovated and functional site on the Kolomela property and retains and effectively communicates the history and farming character of the Kolomela farms.

Socio-Economic

Land Tenure

The large majority of the proposed project footprint is located on the Kolomela Mine property which is owned by the applicant (SIOC) represented by Aart van den Brink. In addition, SIOC intends to utilise Farm Floradale 230, owned by Jannie Kotze, for the proposed project specifically for assessing the feasibility for additional aquifer recharging of surplus dewatering water.

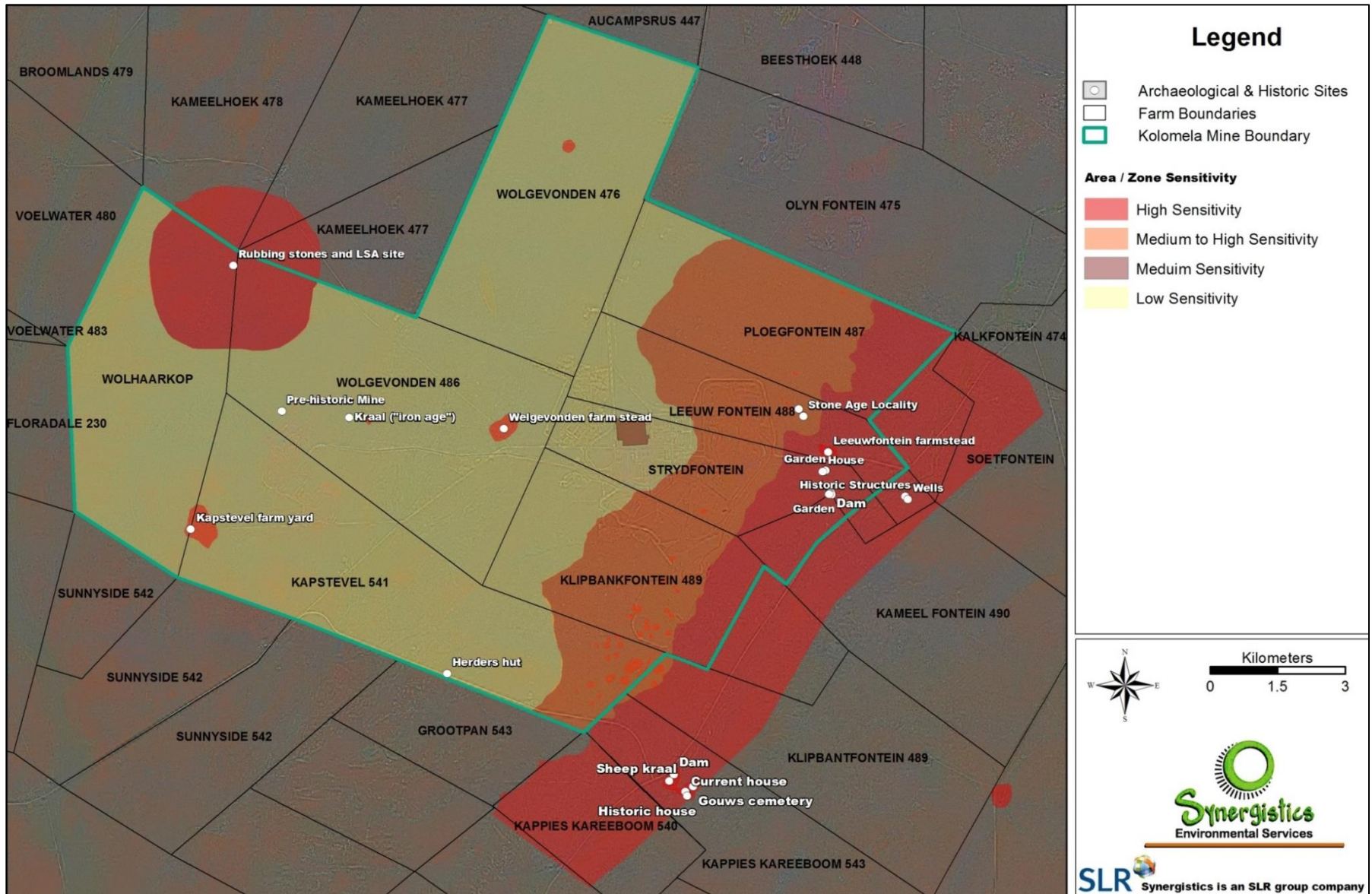


Figure 12: Heritage resources located within the Kolomlea Mine boundary

Demographic Information

The study area falls within the Tsantsabane local municipal area and is situated approximately 70 km south of the Sishen Mine in the Northern Cape Province. The nearest towns are Postmasburg and Olifantshoek. The municipality also includes Beeshoek, Biotshoko, Ditloung, Glosam, Goedgedacht, Tsantsabane (Postmasburg non-urban areas) and Vergenoeg. The population of Tsantsabane local municipal area as at the 2011 census was 35 093 persons or 17 931 households. The average household size amounts to approximately 3.5 members per household. The average annual population growth of the municipality is estimated at 2.59%.

According to the 2011 census, the Tsantsabane municipality is characterised by a relatively young population, with 27.9% of the population under 15 years of age, 67.6% between the ages of 15 and 64, and only 4.4% over the age of 65 years. Men also significantly out-number woman, with 109.8 males being present for every 100 females. This can be attributed to the employment of young males at the surrounding mines.

Economic Outline

Tsantsabane's local economy makes up approximately 17% of the district's economy and it is the third largest economy in the district. The municipality hosts one of the country's largest iron ore reserves, and as such, mining is an important sector within the municipality contributing approximately 39% of the local economy in 2011, see Figure 13.

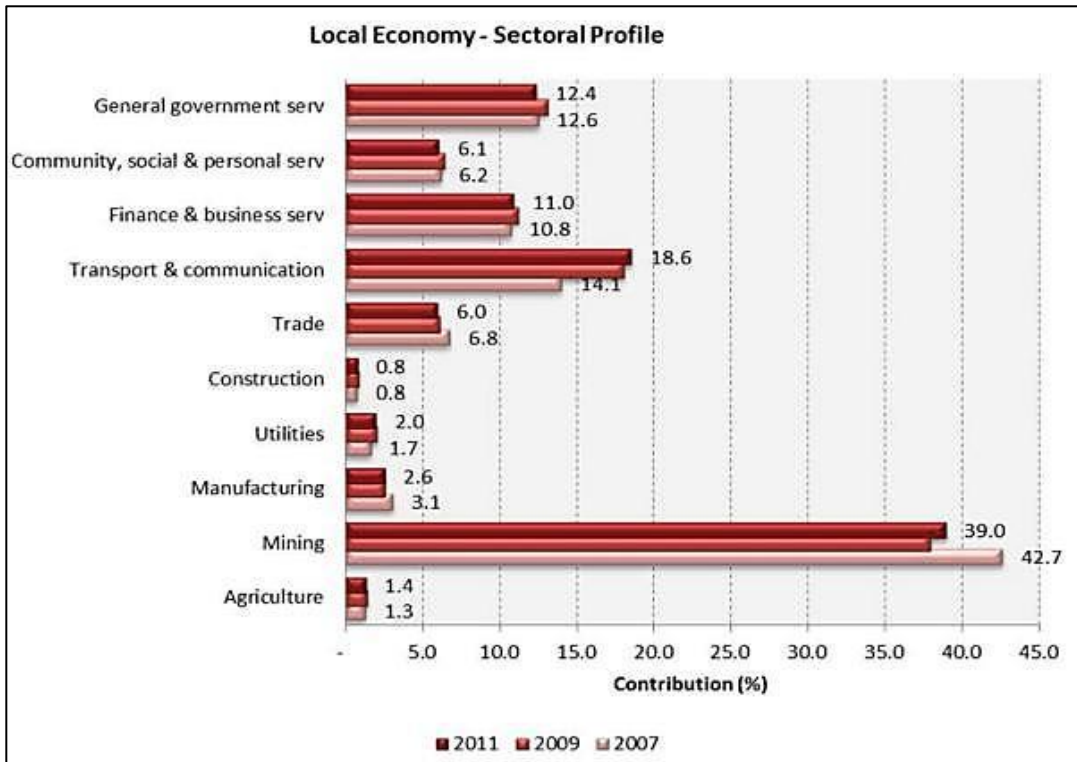


Figure 13: Economic Structure and Performance (GVA), 2011 (Demacon Market Studies, 2013)

Level of Economic Diversity

The level of economic diversity of a region can be measured using the tress index. A tress index of zero represents a totally diversified economy and the higher the tress index (closer to 100), the more concentrated or vulnerable the region’s economy. Figure 14 shows the tress index for the nation, province and on a local level. Tsantsabane local economy dependence on its driving sectors decreased from 64.1 in 2001 to 60.2 in 2011. The growth in transport and communications sector over the past few years has led to the decrease in dependency on the mining sector.

Education Profile

The area has moderate figures of illiteracy with 13.7% having had no schooling. 25.3% of the market population has at least Grade 12 and 6.3% has obtained higher education.

Employment Profile

The official unemployment rate of Tsantsabane municipality is 26.1%. The municipality has an official youth unemployment rate (ages 15-34) of 32.3%.

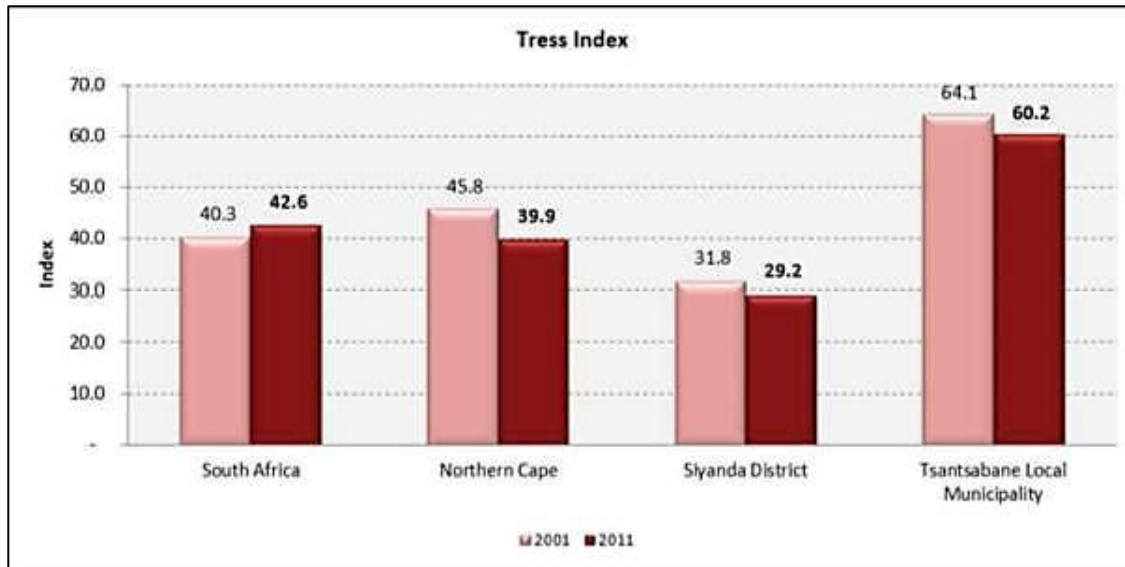


Figure 14: Tress Index for the affected administrative areas (Demacon Market Studies, 2013)

8.4.2 DESCRIPTION OF THE CURRENT LAND USES

The Kolomela Mine is situated in a rural district on land owned by SIOC. Land use on these farm portions is dominated by mining activities and the infrastructure associated with mining activities (e.g. powerlines and railway).

The dominant land use in the area surrounding Kolomela Mine is livestock farming. Due to the arid nature of the climate, intensive commercial crop production is not possible. There are also a number of human settlements and other land uses adjacent to the mine site. These are as follows:

- Residential:
 - a) The Town of Postmasburg. This urban area lies approximately 12 kilometres northeast of the mine.
 - b) Beeshoek Mine Residential Village. This residential complex lies approximately 10 kilometres north of the mine.
 - c) Farmhouses and farm labourer homes. There are a number of these residences scattered around the area.
- Educational: There are a number of schools in Postmasburg. The closest to Kolomela Mine is the high school, which is located on the south-eastern sector of the town.
- Mining: The Beeshoek Mine is located 11,5 kilometres north of Kolomela Mine.
- Agriculture: The main farming activities are mainly restricted to sheep, cattle and goat farming due to the semi-arid climate and thin soil cover.

Land use is depicted in Figure 15.

8.4.3 DESCRIPTION OF SPECIFIC ENVIRONMENTAL FEATURES AND INFRASTRUCTURE ON THE SITE

Environmental features on site have been described in the sections above. The following existing infrastructure may be affected by the project:

- **Road System:** Road R385 links eastwards from Postmasburg to Kimberley, Road R325 links northwards to Sishen and Road R325 links southwards to Griquastad. The Study Area to the southwest of Postmasburg is directly served by only two secondary roads. These are:
 - a) Road R383 (the Postmasburg – Groblershoop Road) is aligned in a north to south direction through the area just to the east of the planned mine.
 - b) The Witsand Road is aligned in an east to west direction through the centre of the Sishen South Mine property. It intersects with Road R383 approximately 7 kilometres south of Postmasburg. The section through the mine property was re-aligned to the south along the southern boundary of the farms Kapstevél and Kappieskareeboom during the construction phase of Kolomela Mine.
- **Railway Network:** There is a railway line running northwards from Postmasburg to Sishen. A link railway line from the processing plant at Kolomela Mine connects to the existing Transnet line near to the Beeshoek Mine. Iron ore is transported from Kolomela Mine via the Sishen-Saldanha export line. The 861 km Sishen-Saldanha line was purposely built to transport iron ore from Sishen Mine to the Port of Saldanha for export and is owned and operated by Transnet Limited.
- **Pipeline:** A pipeline was also constructed to carry water from pit de-watering towards the Vaal-Gamagara water supply scheme.
- **Power line:** A power line was constructed to bring power from a substation in the proximity of Postmasburg to Kolomela Mine.

Figure 15 represents a site sensitivity map based on the sections discussed above. The map has been developed by integrating various specialist assessment that have been undertaken for the Kolomela Mine.

8.4.4 ENVIRONMENTAL AND CURRENT LAND USE MAP

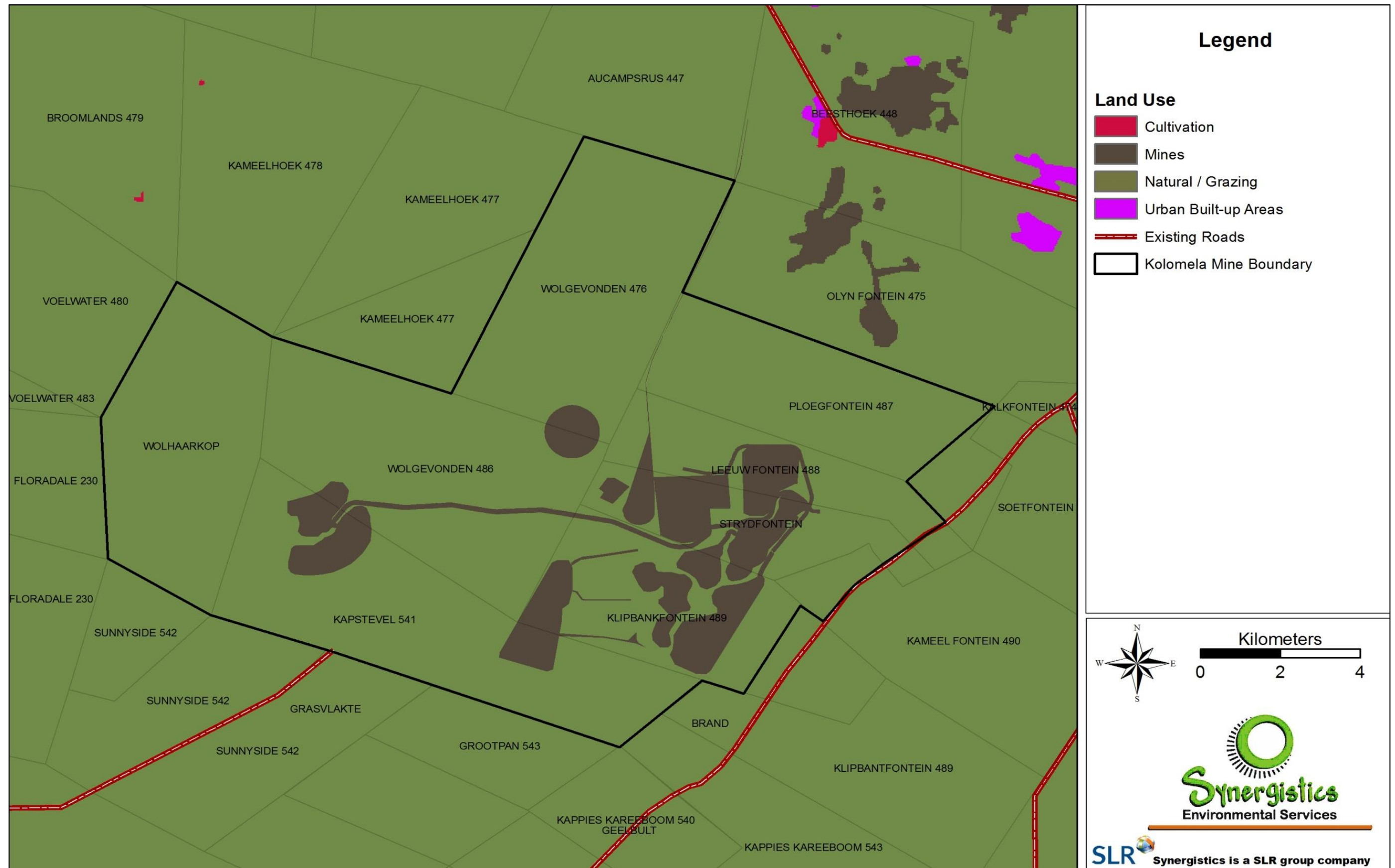


Figure 15: Land Use surrounding the Study Area

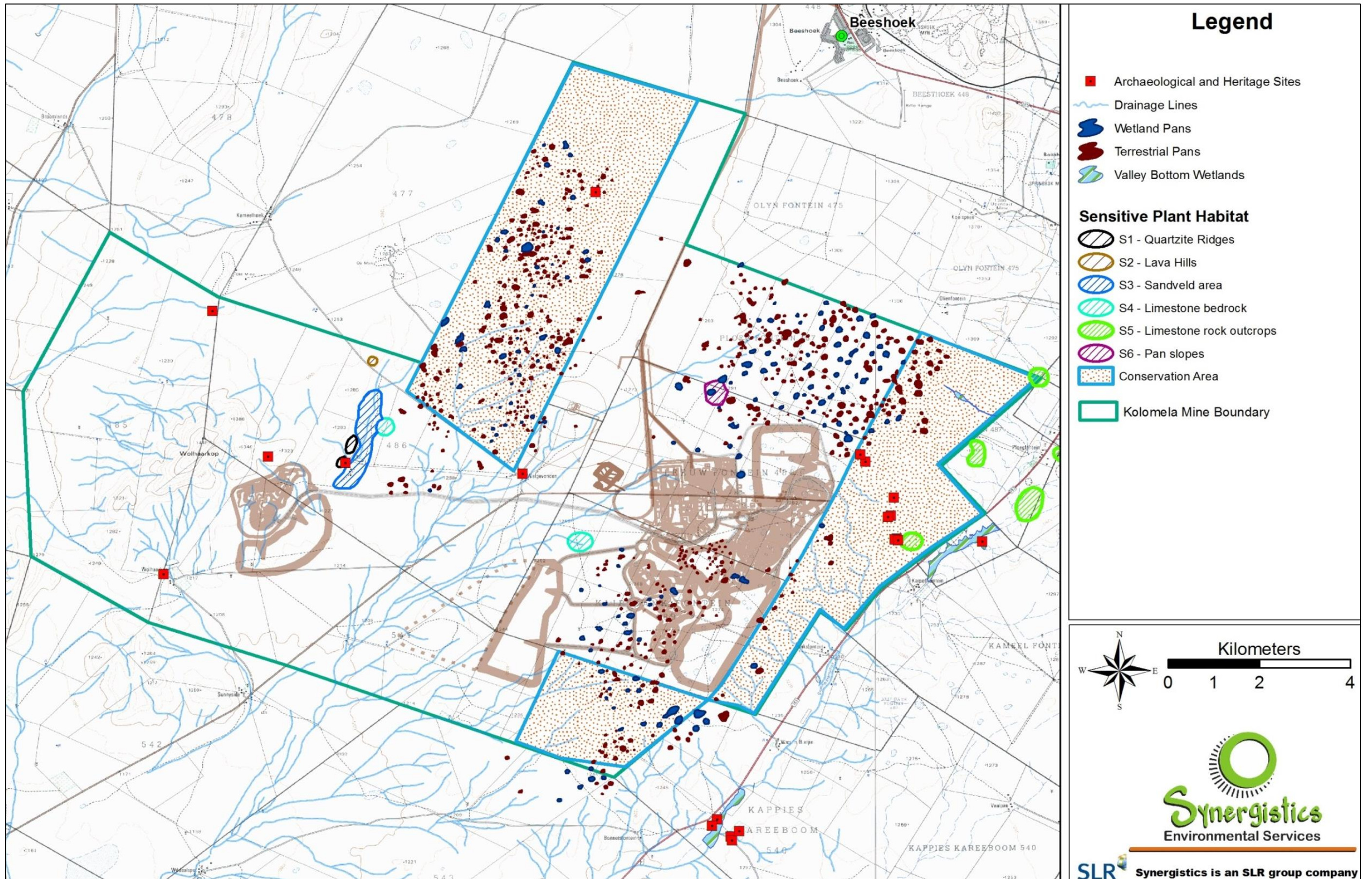


Figure 16: Sensitive plant habitats, pans and conservation areas.

8.5 IMPACTS IDENTIFIED

A scoping level identification of potential environmental impacts (physical, biological, social and economic) associated with the proposed project are listed in Table 8.10, with a framework for further work during the EIA phase also provided.

Table 8-10: Potential Environmental and Social Impacts (for all alternatives)

IMPACT (for all alternatives)	IMPACT SOURCE (for all alternatives)	SIGNIFICANCE/COMMENT	SCOPE OF WORK FOR EIA / FURTHER WORK
CLIMATE			
Contribution to climate change	Increased emission of greenhouse gases (GHGs) from additional vehicles and machinery used on site.	The project will not have a significant contribution to GHG emissions, however efforts should be made to minimise such emissions where practicable.	Measures for the minimisation of GHG emissions to be investigated by Synergistics.
NOISE			
Increase in ambient noise levels.	Increase in noise generating activities including operation of machinery, movement of vehicles and blasting.	An increase in noise levels associated with increased activity associated with the Project may have a significant impact on surrounding sensitive receptors.	An updated noise impact assessment, involving rebase lining the noise study and impact assessment, will be conducted to determine the potential noise footprint of the expansion project and its impact on surrounding sensitive receptors. Options for mitigation and management of excessive noise impacts will be considered.
AIR QUALITY			
Increase in ambient dust levels.	Increase in dust generating activities, including additional operation of machinery, movement of vehicles, blasting and stockpiling.	The increased dust impact is likely to be significant given the arid climatic conditions. Increased dust levels may lead to secondary impacts such as, decrease in palatability of grazing land, possible loss of faunal and floral habitats and public nuisance.	Revised emissions inventory to be developed and the contribution of various sources to fallout dust and PM10s to be identified. Updated Air quality modelling to be undertaken to determine the possible dispersion of pollutants from sources. Mitigation measures to address impacts on, land capability, ecology and surrounding communities that have been identified.
SURFACE WATER			
Disturbance of surface water resources	Disturbance to endorheic pans and wetlands due to mining activities.	The endorheic pans to the north and north west of the mine are considered unique and sensitive habitat. Any impact on this habitat is considered significant.	Previous specialist assessment on wetlands and pans in the area will be updated. This will involve the delineation of potentially affected wetlands and pans as well as the assessment of potential impacts on these features. Alternatives may have to be considered where possible to protect these water features.
Spillage of polluted mine water into receiving environment	Incorrect or insufficient storm water and/or dirty mine water management.	With an increase in production associated with the Project, as well as additional infrastructure to be constructed, the current water	An updated storm water management plan in line with the requirements of GN704 of the National Water Act will be developed. A site wide environmental water balance

IMPACT (for all alternatives)	IMPACT SOURCE (for all alternatives)	SIGNIFICANCE/COMMENT	SCOPE OF WORK FOR EIA / FURTHER WORK
		balance and storm water management plan needs to be updated to accommodate the expansion in mining associated with the Project.	will also be developed.
Inadequate water management practices	Surplus Excess water management practices from dewatering operations.	Sedibeng Water management the Vaal Gamagara Pipeline cannot at this stage accept any additional dewatering water from Kolomela Mine. The mine is therefore currently disposing excess dewatering water into the Welgevonden Spruit. An aquifer-recharging project has been initiated to mitigate surface water management problems. Additional excess water management due to additional water dewatering requirements can contribute to the existing Inadequate water management practices	A further phase of the aquifer recharging project to be investigated within the Lucas Dam Spruit on the western boundary of Kolomela Mine.
GROUNDWATER			
Reduction in groundwater availability and quality.	Increased groundwater abstraction associated with increased mine dewatering.	Surrounding farms rely heavily on groundwater for domestic use and livestock watering. Increased dewatering requirements associated with the project may affect surrounding groundwater users.	Impacts on groundwater availability for users as well as the potential changes in groundwater quality will need to be assessed. Mitigation and management measures to be identified for unavoidable impacts. The feasibility of additional aquifer recharging will also be included in the EIA.
ECOLOGY			
Loss of systems, habitats or species of conservation importance	Clearance of vegetation for the construction of additional infrastructure required with the implementation of the project. Disturbance of floral and faunal habitats due to the construction of additional infrastructure. Secondary impacts disturbing ecological habitats such as an increase in noise, fallout dust, contamination of resources.	Sensitive habitats and species of conservation importance do occur in the area to be disturbed by the proposed project. This project therefore poses a risk to ecological resources in the area.	Systems, habitats and species of conservation importance occurring in directly affected areas are to be identified and mapped. Layout alternatives which promote the preservation of the above are to be given due consideration. Mitigation and management measures to be identified for unavoidable impacts.
ARCHAEOLOGY & CULTURAL HERITAGE			
Disturbance of sites of archaeological, Palaeontological cultural or heritage	Site clearance and earth moving activities to allow for the construction of infrastructure required for	Sites of Archaeological, cultural or heritage importance have been identified in the area. This project therefore poses a risk in terms of	The mine has completed a heritage assessment of the mining area and developed a comprehensive heritage and archaeological management plan. An

IMPACT (for all alternatives)	IMPACT SOURCE (for all alternatives)	SIGNIFICANCE/COMMENT	SCOPE OF WORK FOR EIA / FURTHER WORK
importance	the expansion.	cultural and heritage resources. The existing mine is underlain, at least in part, by the Campbell Rand Subgroup of the Transvaal Supergroup. This geological formation is known to be of moderate palaeontological significance.	assessment is required on the likely impact of the new proposed infrastructure on the heritage resources identified in the reports by D. Morris (2005), U. Kusel (2011) and M. van der Ryst (2011). This report must identify the proposed location for new infrastructure development in relation to the known heritage resources. A Desktop Palaeontological Assessment is required.
SOCIO-ECONOMICS			
Risk of social upheaval and social ills due to the increased production and workforce requirements. Mainly regarding adequate service provision for the community, housing and existing social environment;	Influx of workers to the mine associated with the construction and operation phases of the Project. Employments of local labour, service delivery and housing issues	The project will require additional personnel. The influx of personnel and their families into the area may affect surrounding communities in a number of ways, for example an increase in crime, AIDS, or the requirement of additional services, including schools and housing.	Previous specialist social impact assessment to be updated to determine the impacts on surrounding communities as a result of the Project
Contribution to employment and local economy	Opportunities for the employment of local persons and engagement of local procurement.	Additional personnel and production capacity of the mine associated with the project is likely to have significant benefits to the local and regional economy.	A comprehensive economic assessment will be conducted which will focus on analysing the value of the project to the local and regional economy in the current environment.
LAND USE AND LAND CAPABILITY			
Reduction in land use of surrounding areas.	Increased dust fallout due to an increase in dust generating activities related to the Project.	Dust deposition on surrounding agricultural land would render the land less suitable for livestock farming.	Results of air quality modelling will be used to assess the significance of the impact.
TRAFFIC			
Compromise in safety for motorists and pedestrians.	Increase in heavy vehicles using public roads.	Increased production related to the project would result in increased traffic mainly on the R309.	Traffic impact study to be undertaken to assess safety risks because of increase in traffic flow.
Damage to road pavement.	Increase in heavy vehicles using public roads.	Public roads are currently used by heavy vehicles from operating mines.	Traffic impact study to be undertaken to assess impacts of additional heavy trucks on the road pavement. Mitigation measures to be identified.
VISUAL ENVIRONMENT			
Disturbance of natural views and sense of place.	View of new mine infrastructure from surrounding receptors.	This impact is likely to be significant given the fact that mining activities will be visible to surrounding communities and local game.	Visual receptors to be identified. Lines of site to be determined. Mitigation measures to be identified as required.

8.6 METHODOLOGY USED IN DETERMINING THE SIGNIFICANCE OF ENVIRONMENTAL IMPACTS

Further information regarding the methodology for assessing the environmental impacts is provided in Section 9.3. The significance of impacts described in Table 8.10 gave due consideration to the nature, consequence, extent, duration and probability. However, further studies are required to properly assess the significance. Such studies have been identified and will inform the impact assessment phase of the project.

Layout Plan 2 has been developed for consideration in the EIA Phase of the project. Layout Plan 1 was considered in initial specialist studies and served to inform Layout Plan 2, where known environmental sensitivities were avoided as far as practicable. Additional specialist work is being undertaken in the EIA Phase with respect to Layout Plan 2. This plan will be updated where practicable giving cognisance to the outcomes of specialist reports, the EIA, public issues and concerns as well as the authorities.

8.7 THE POSITIVE AND NEGATIVE IMPACTS THAT THE PROPOSED ACTIVITY (IN TERMS OF THE INITIAL SITE LAYOUT) AND ALTERNATIVES WILL HAVE ON THE ENVIRONMENT AND THE COMMUNITY THAT MAY BE AFFECTED.

The potential positive and negative impacts of the proposed project activities (for all of the project alternatives) are described in Table 8.10.

Layout planning for the proposed expansion to the Kolomela Mine was only completed in December 2014. Layout Plan 1, was then replaced with Layout Plan 2 for consideration in the EIA. Since the plan differs from that included in the initial Scoping Report (2014) circulated to the public, the revised plan was circulated for comment to the public.

Specialist studies are aimed at addressing the concerns of interested and affected parties. Specialist studies are currently being updated to ensure that the impacts of Layout Plan 2 are being assessed. Where practicable the layout will be revised to ensure that impacts are reduced.

The revised layout plan will be presented in the EIA Report as Layout Plan 3. It should be noted that this layout may however be further modified given further consultation with other environmental authorities in particular the Department of Water & Sanitation as part of the water use licensing process.

8.8 THE POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND THE LEVEL OF RESIDUAL RISK.

Consideration was given to known environmental sensitivities when developing Layout Plan 2. These included the outcomes of specialist work previously undertaken and updated based on Layout Plan 2. However, further investigations were considered necessary in order to obtain an understanding of the risks associated with the proposed layout and as such studies have been updated to give due consideration to the revised layout and proposed production rates. Only once these are completed will there be a comprehensive understanding of the potential impacts of the proposed amendment to the operations at Kolomela Mine.

A scoping-level description of the impacts, possible mitigation measures and level of residual risk is described in Table 8.11 below.

Table 8-11: Project impacts, mitigation measures and the level of residual risk

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
New Kapstevl South Pit	Disturbance of vegetation and habitats	Minimise footprint area to that required	High as pit location cannot be changed due to location of ore to be extracted
	Dust during materials handling and hauling of material	Dust suppression including wet suppression on in pit roads and chemical suppression on permanent haul roads	Medium, dust suppression is effective but haulage is expected to be a major contributor to dust levels.
	Noise due to blasting, materials handling and hauling.	Deposition of waste rock on inside of waste rock at night. No blasting at night	Medium, but noise will become less evident to neighbours as pit increases in depth.
New Ploegfontein and Tierbult Pits	Disturbance of vegetation and habitats	Minimise footprint area to that required	High as pit location cannot be changed due to location of ore to be extracted
	Dust during materials handling and hauling of material	Dust suppression including wet suppression on in pit roads and chemical suppression on permanent haul roads	Medium, dust suppression is effective but haulage is expected to be a major contributor to dust levels.
	Noise due to blasting, materials handling and hauling.	Deposition of waste rock on inside of waste rock at night. No blasting at night	Medium, but noise will become less evident to neighbours as pit increases in depth.
New Haul Road to Ploegfontein Pits	Disturbance of vegetation and habitats	Route road so as to minimise impact.	Low – it is expected that sensitive habitats can be avoided.
	Dust from vehicle movement	Chemical suppressant to be applied.	Medium, as although chemical suppression is effective, entrainment of dust during haulage is a major contributor to dust emissions.
	Noise due to vehicle movement	Maintenance of vehicles	Medium, as even if maintained movement of vehicles still generate noise.
Extension of approved Kapstevl Waste Rock Dumps	Disturbance of vegetation and habitats	Minimise footprint area to that required	Medium, the waste rock dump layout can be changed to avoid sensitive habitats within the limits of feasible haulage.
	Dust during materials handling and hauling of material	Dust suppression including wet suppression on temporary roads and chemical suppression on permanent haul roads	Medium, dust suppression is effective but haulage is expected to be a major contributor to dust levels.
	Noise mainly due to deposition of rock.	Deposition of waste rock on inside of waste rock at night.	Medium, it is difficult to mitigate noise due to deposition
	Disturbance of heritage resources	Layout to be changed to avoid heritage resources.	Low – as layout of the waste rock dump can be changed to avoid heritage sites.
New Kapstevl at Pit Facility (parking, fatigue centre, workshops and refuelling area)	Disturbance of vegetation and habitats	Site to be located to avoid sensitivities.	Low – site location can change to avoid sensitive habitats.
	Pollution of water resources	Containment systems (bunds), and containment of dirty water to be included and monitoring to be undertake to	Low

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
		assess efficiency.	
New Kapsteveld DMS Processing Plant and Product Stockpile Area	Disturbance of vegetation and habitats	Site to be located to avoid sensitivities.	Low – site location can change to avoid sensitive habitats.
	Dust from materials handling	Dust suppression at plant	Low – processing plant presents a small part of material handling and can be managed relatively easily.
New Klipbankfontein at Pit Facility (parking, fatigue centre, workshops and refuelling area)	Disturbance of vegetation and habitats	Site to be located to avoid sensitivities.	Low – site location can change to avoid sensitive habitats.
	Pollution of water resources	Containment systems (bunds), and containment of dirty water to be included and monitoring to be undertaken to assess efficiency.	Low
New Haul Road to Klipbankfontein At Pit Facility	Noise due to vehicle movement	Maintenance of vehicles	Medium, as even if maintained movement of vehicles still generate noise.
	Dust from vehicle movement	Chemical suppressant to be applied.	Medium, as although chemical suppression is effective, entrainment of dust during haulage is a major contributor to dust emissions.
New Conveyor from Kapsteveld at Pit Facility to Load out Station	Dust from materials handling and entrainment en-route	Placement of cover over conveyor and management of spillages	Low – not a major source of dust
	Noise from mechanics of conveyor	Placement of cover and maintenance of mechanical parts	Low not considered to be major source of noise
New Explosives Magazine	Pollution of water resources	Containment systems (bunds), and containment of dirty water to be included and monitoring to be undertaken to assess efficiency.	Low
	Disturbance of vegetation and habitats	Site to be located to avoid sensitivities.	Low – site location can change to avoid sensitive habitats.
	Disturbance of drainage lines	Site to be located to avoid disturbance of drainage	Low – site location can be changed to avoid drainage
Tierbult DMS Processing Plant	Dust from materials handling	Dust suppression at plant	Low – processing plant presents a small part of material handling and can be managed relatively easily.
New Product Stockpile Area at existing DSO Processing Plant	Dust from materials handling	Dust suppression (product is kept moist)	Low – product stockpiles are not a major source of dust.
	Pollution of water resources	Surface water management to contain dirty water run-off	Low – risk to groundwater limited and surface water management can easily be implemented.
New Sewage Treatment Works	Pollution of water resources	Containment systems (bunds), and containment of dirty water to be included and monitoring to be undertaken to assess efficiency.	Low – systems easy to implement effectively
New Klipbankfontein	Dust from materials handling	Dust suppression at plant	Low – processing plant presents a small part of material

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
DMS Processing Plant			handling and can be managed relatively easily.
Extension of the approved Leeuwfontein North Waste Rock Dump	Disturbance of vegetation and habitats	Minimise footprint area to that required and plan layout to avoid sensitivities.	Medium, there are wetland pans that cannot be avoided to proximity to dump.
	Dust during materials handling and hauling of material	Dust suppression including wet suppression on temporary roads and chemical suppression on permanent haul roads	Medium, dust suppression is effective but haulage is expected to be a major contributor to dust levels.
	Noise mainly due to deposition of rock.	Deposition of waste rock on inside of waste rock at night.	High, site is in close proximity to receptors.
Extension of the approved Leeuwfontein South Waste Rock Dump	Disturbance of vegetation and habitats	Minimise footprint area to that required and plan layout to avoid sensitivities.	Medium, there are wetland pans that cannot be avoided to proximity to dump.
	Dust during materials handling and hauling of material	Dust suppression including wet suppression on temporary roads and chemical suppression on permanent haul roads	Medium, dust suppression is effective but haulage is expected to be a major contributor to dust levels.
	Noise mainly due to deposition of rock.	Deposition of waste rock on inside of waste rock at night.	High, site is in close proximity to receptors.
Amendment of the approved Klipbankfontein Waste Rock Dump	Disturbance of vegetation and habitats	Minimise footprint area to that required and plan layout to avoid sensitivities.	Medium, there are wetland pans that cannot be avoided to proximity to dump.
	Dust during materials handling and hauling of material	Dust suppression including wet suppression on temporary roads and chemical suppression on permanent haul roads	Medium, dust suppression is effective but haulage is expected to be a major contributor to dust levels.
	Noise mainly due to deposition of rock.	Deposition of waste rock on inside of waste rock at night.	Medium, as deposition is a major source of noise.
New Aquifer Recharge Facility	Disturbance of heritage resources	Change location of infrastructure	Low – infrastructure location can be changed
	Disturbance of valley bottom wetland	Limit site clearance for construction of infrastructure	Low – infrastructure footprints are limited.
	Proliferation of invasive plant species due to water availability	Invasive vegetation management	Low – extent of proliferation is not known but this is manageable.

8.9 THE OUTCOME OF THE SITE SELECTION MATRIX. FINAL SITE LAYOUT PLAN

The final layout (Layout Plan 3) will be presented in the EIA Report after the completion of specialist studies. This layout may be further revised after consultation with the relevant environmental authorities as part of the authorisation process.

8.10 MOTIVATION WHERE NO ALTERNATIVE SITES WERE CONSIDERED.

The revised layout (Layout Plan 3) will be presented in the EIA Report after the completion of specialist studies. This layout may be further revised after consultation with the relevant environmental authorities.

As the Kolomela Mine has already been authorised and is already operating, the potential alternatives are limited. Many of the proposed changes to infrastructure at the mine are expansions to authorised structures and thus the location will not change. The location of new structures is also based on the location of already approved structures. The only feasible locality alternatives relate to the layout options - Layout Plans 1, 2 (in scoping) and 3 (in EIA).

8.11 STATEMENT MOTIVATING THE PREFERRED SITE.

At the scoping level, Layout Plan 2 has been proposed and considered as feasible. The final layout of the proposed expansion of the Kolomela Mine will be informed by the outcomes of specialist studies (Layout Plan 3), further consultation with interested and affected parties as well as environmental authorities.

9 PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

9.1 DESCRIPTION OF ALTERNATIVES TO BE CONSIDERED INCLUDING THE OPTION OF NOT GOING AHEAD WITH THE ACTIVITY.

The following alternatives will be considered as part of the EIA Process:

9.1.1 No-Go ALTERNATIVE

The no-go alternative (not proceeding with the proposed expansion) will be further considered in the EIA phase of the project.

9.1.2 LAYOUT ALTERNATIVES

Specialist studies will assess the proposed layout to determine environmental sensitivities associated with the layout. Should sensitivities be identified that can be mitigated by a revision in the proposed layout, the layout will be revised where practicable to mitigate the impact on the environment. The final project layout that is presented in the EIA Report for approval will reflect the changes that have been made to mitigate such impacts.

9.2 DESCRIPTION OF THE ASPECTS TO BE ASSESSED AS PART OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS (INCLUDING ASPECTS TO BE ASSESSED BY SPECIALISTS)

Where the EAP does not have sufficient expertise or information in a particular field to adequately determine the baseline environmental conditions or to assess the impacts, specialists in those fields will be appointed to provide the necessary information required to facilitate the EIA.

The Kolomela Mine has an extensive collection of baseline studies which will be utilised during the EIA. Only specialist update studies will be required to assess impacts on air quality, surface and groundwater resources, soils and land capability, socio-economics, heritage resources, traffic, terrestrial ecology, wetlands, visual and noise.

The following outlines the scope of work for specialist studies to inform the environmental impact assessment and environmental management programme. Should it be deemed necessary that additional specialist studies are required, terms of reference will be drawn up and these will then be included in the EIA report.

Specialist reports will be structured in terms of *GNR 982 Appendix 6*. The specialist studies identified thus far are discussed below.

9.2.1 AIR QUALITY IMPACT ASSESSMENT

Airshed Planning Professionals (Pty) Ltd (Airshed) will be appointed to update the existing air quality impact assessment for Kolomela; including the update of baseline data, the emissions inventory, the atmospheric dispersion model, the impact assessment report and air quality management plan. The assessment will be undertaken in support of the planned EIA process as well as and if required the update of Kolomela's existing Atmospheric Emission Licence (AEL) (if required). The purpose of this assessment will be to revalidate the current air quality status quo and determine the additional mining related atmospheric emissions impacts on the ambient air quality of communities surrounding the

project area.

Of importance to the assessment is the baseline air quality data within the study area. Kolomela has sufficient ambient air quality information available from the mines extensive air quality monitoring programme. The current monitoring network includes: the monitoring of fallout dust, PM10 and PM2.5 at the site and surroundings.

The current baseline air quality data will be used as the bases for determining the impacts resulting from the Project. An updated emission inventory (all sources of atmospheric emissions of the various projects) will be developed for the project; this will include fugitive particulate and gaseous emissions from mining and transportation. The emission from the bulk fuel storage area will also be included. The updated sources of emissions will then be used to update the existing atmospheric dispersion model which will determine the project impact and the extent to which these impacts will advance.

Dispersion simulations of ground level PM10, PM2.5 and dust fallout for highest hourly, highest daily and annual average emissions will be undertaken using all available monitoring data. Management measures will be identified to ensure that target control efficiencies are achieved. The end product of the assessment will be an updated air quality management programme together with recommendations.

- Data identification and review of all existing sources of information.
- Updating baseline climatic and air quality data for the project site; Update meteorological data and preparing model with meteorological data.
- All sources of atmospheric emission associated with the proposed Project will be identified and quantified and included in the existing emissions inventory.
- Atmospheric dispersion modelling will be undertaken with the application of either the US EAP or AERMOD. Ambient particulate (PM10 and PM2.5) and gaseous concentrations as well as dustfall from Kolomela operations, including changes to operations, will be calculated.
- The potential for inhalation human health impacts will be evaluated against relevant air quality standards and international guidelines where applicable.
- A draft and final specialist updated air quality impact assessment report to cater for the requirements of **Appendix 6 of Regulation 982 of National Environmental Management Act.**
- Maps providing representation of the baseline and impacts relating to the specialist field (All maps relating to the updated air quality impact assessment are to be provided in a form that

can be exported into the project's GIS database (ArcView, DXF or DWG)).

- Provide the necessary technical information to amend the existing AEL if required.

9.2.2 TRAFFIC IMPACT ASSESSMENT

The Traffic Impact Study will be undertaken to identify the traffic impact of the traffic to and from the proposed mine and assess the safety risks of the existing access route or routes to the mine. The following tasks will be undertaken as part of the Traffic Impact Study:

- Determine baseline traffic conditions;
- Conduct traffic counts;
- Determination of trip generation, distribution and assignment due to mining operation;
- Intersection and access analysis;
- Safety assessment, including safe sight distances and pedestrian safety as well as the railway crossing;
- Impact of the proposed project on existing road pavements and traffic conditions; and
- Development of recommendations & Mitigation Plan.

9.2.3 GROUNDWATER IMPACT ASSESSMENT

An updated groundwater (geohydrological) study will be conducted to assess the potential risk that the Project will place on groundwater quantity and quality. The terms of reference for the study are as follows:

- Utilise existing hydro-census data of the study area;
- Updated baseline assessment: Analyse and describe ground water use, current water levels and qualities and aquifer parameters;
- Assess the potential impacts of the mining project on the groundwater environment;
- Update calculation of dewatering rates, cones of depression and inflows into the pit areas;
- Update the transport model to determine the dispersion plume; and
- Update the monitoring and management plan for groundwater.

9.2.4 INJECTION TESTS AND GEOPHYSICAL STUDY ON THE FARM FLORADALE 230 & 484 FOR MINE WATER RECHARGE INTO AQUIFERS

Additional phases of the feasibility of Artificial Recharge Project will need to be undertaken. This

involves pumping water under pressure into injection boreholes within the tributary of the Soutloop River. The Kolomela Mine abstracts an average of 1 940 m³/h of water to drop the natural groundwater level below the pit excavations. The local aquifer on the farm Floradale 230 & 484 (Located on the western boundary of the Kolomela Mine) is planned to be recharged with surplus water from dewatering activities that cannot be released into the Sedibeng Vaal-Gamagara Water Supply Scheme.

The assessment involved a geophysical survey to locate the optimum test sites and carry out a surface resistivity surveys. The objectives of this survey were to:

- Investigate the conductive nature of the unsaturated zone (+/- 8m depth)
- Determine optimal areas for water discharge to the subsurface.

The geophysical survey will be followed with the drilling of injection testing boreholes. Water infiltration test and borehole injection tests will then be conducted to assess the aquifer injection potential. The results of the feasibility study on mine water disposal will be recorded in a specifically designed specialist report also indicating the amount of water that can be recharged.

9.2.5 UPDATE OF STORMWATER MANAGEMENT PLAN

A updated of the existing Stormwater Management Plan will be developed to evaluate the current and potential impacts of the project on surface water flow and water quality conditions. This study will also act as an input into the required integrated water and waste management plan for the Project.

9.2.6 SOCIAL IMPACT ASSESSMENT

An updated social impact assessment to determine the impacts on surrounding communities as a result of the Project. The assessment will include:

- Desktop review of social information such as local and regional statistics, review of relevant policy.
- Baseline assessment of the study area.
- Development of a social baseline report.
- Identification of social impacts which will be described and analysed based on baseline conditions.
- Assessment of impacts referring to each project phase.

- Preparation of a social impact assessment report.

9.2.7 ECONOMIC IMPACT ASSESSMENT

An economic study will be conducted to evaluate the economic benefits and/or impacts of the proposed development. The following activities will form part of the socio-economic impact assessment:

- Base Profiling and Trend Analysis of the study area;
- Identification of economic indicators to reflect the state of the market;
- Develop and analyse community demographics and profiles at regional level;
- Assess the economic benefits of mining vs. agriculture
- Estimate value of impacts to the local economy due to project investment;
- Model Development and Impact Assessment; and
- Development of recommendations and Mitigation Plan.

9.2.8 TERRESTRIAL ECOLOGY

The bio-monitoring programme currently being implemented at the mine includes the monitoring of the impact of mining operations on vegetation diversity, terrestrial invertebrates, mammal diversity and aquatic invertebrates caused by mining activity. The last bio-monitoring reports available includes:

- Vegetation monitoring on the property of the Sishen South (Kolomela) mine, Postmasburg - 2011/12 season.
- A biomonitoring report for pan invertebrate diversity at Kolomela Mine Property, Northern Cape Province (2011).
- A biomonitoring report for pan ecosystems at Kolomela Mine Property, Northern Cape Province (2011).
- A technical report for pan habitat and pan invertebrate diversity at Kolomela Mine Property, Northern Cape Province (2011).
- A biomonitoring report for terrestrial invertebrate ecosystems at Kolomela Mine Property, Northern Cape Province (2012).
- Bio-monitoring protocol at Kolomela mine: Vegetation diversity (2010).
- Vegetation diversity at Kolomela Mine, Postmasburg (2013).
- Bird Diversity at Kolomela Mine (2013).

- Mammal report at Kolomela Mine (2013).

All the above reports have been developed in line with the biodiversity protocol for the mine. The mine therefore has extensive information on the terrestrial ecological and this will be integrated EIA process. The information is regarded as being sufficient to inform the baseline site conditions, however a site survey of all affected natural areas would be required to inform the relevant plant removal permits.

A site floral and faunal survey will be undertaken by the OMNI Eko of directly affected areas to determine the impacts relating to protected floral and faunal. The fauna and flora within these areas will be surveyed and any identified protected species will be identified. The following activities will form part of the study:

- Desktop review of initial project information, maps, satellite imagery and reference searches.
- Identification and sourcing of biodiversity resources.
- Identification and review of relevant provincial and national legislation.
- Desktop review of data to identify broad vegetation types and species of potential concern.
- Field surveys to list potential and occurring species for the area and surrounds will be compiled (Including alien and invasive species), Identification of occurrence of red data and protected species, and the occurrence of protected trees and plants within 100 m from the site will be mapped.
- Offset strategy for Kolomela Mine will be provided as input into the EIA.

9.2.9 UPDATED WETLAND ASSESSMENT AND DELINEATION

Various wetland features have been identified within the Kolomela Mine and are mainly associated with large drainage networks and pans. The specialist wetland assessment undertaken for the Kolomela Mine by Scientific Aquatic Service will need to be updated as part of the EIA process. The following activities will form part of the study:

- Desktop study of NFEPA database.
- Fieldwork and Wetland delineation in terms of the Department of Water Affairs (DWA) methodology.
- Assessment of the Present Ecological Status in accordance with DWA protocols.

- A wetland assessment report will be developed

9.2.10 HERITAGE, ARCHAEOLOGICAL AND PALEONTOLOGICAL IMPACT ASSESSMENT

The mine has completed various heritage and archaeological assessment of the mining area and developed a comprehensive heritage and archaeological management plan. The Kolomela Mine has wealth of existing information regarding heritage and archaeological resources within the Kolomela mine boundary. Initial consultation with relevant authority (SAHRA) has verified the relevant requirements; however a assessment will be required. A heritage consultant will be approached to assess the proposed project impacts on heritage resources. Paleontological significance of the affected area will also be evaluated through a desktop study and carried out on the basis of existing field data, database information and published literature.

Additional field work was undertaken based on the outcomes a desktop study which revealed gaps in previous work undertaken and also to include the aquifer recharge area on the Farms Floradale 230 and 484.

9.2.11 VISUAL IMPACT ASSESSMENT

A visual assessment will be required to assess the new mine infrastructure's visibility within the landscape. The assessment will involve the determination of impacts and utilisation of modelling techniques to establish visual intrusion, visibility and visual exposure of the project proponents. Detailed mitigation measures to reduce the visual impact and the impact on sense of place will be included in the final report. The work will be done by Synergistics using the viewshed module in the ArcGIS package:

- Undertaking site visits and fieldwork;
- Undertaking a literature review and collecting baseline data to establish the receiving environment, a view catchment area, view corridors, viewpoints and receptors;
- Undertake viewshed and photomontage simulations for the proposed site, demonstrating applicable views with and without mitigation; and
- Propose mitigation measures to reduce or eliminate the visual impacts identified.

9.2.12 NOISE IMPACT ASSESSMENT

A Noise Assessment in support of the consolidated EIA process for the Project. The following activities will form part of the study:

- Conduct a scoping survey of the area in which the general character of the ambient noise

climate in the area needs to be assessed.

- Site visit of areas or locations where noise will be sampled.
- Probe noise levels and set up monitoring stations at locations identified as representative of key areas to record and log ambient noise levels over 24 hour periods.
- Process the data. Determine characteristic daytime and night-time baseline ambient noise ratings and generate baseline noise maps for the study area.
- Impact Assessment: This phase involves undertaking the full EIA and EMP process to inform the Environmental Impact Assessment Report:
 - Using project data, model the generation and atmospheric propagation of noise from future operations.
 - Use the model to determine the expected noise footprint of the project.
 - Quantify and assess the incremental and cumulative noise impact profiles and the impacts on identified noise-sensitive receptors in the external surroundings in terms of criteria outlined in the relevant Noise Regulations and SANS 10103.
 - Consider options for mitigation and management of excessive noise impact.
 - Compile and submit a report presenting the results and findings of the baseline and predictive noise impact study. Consider mitigation requirements and options and noise impact management.

9.2.13 WETLAND PAN HYDROLOGICAL ASSESSMENT

An additional study was added to the plan of study subsequent to the initial scoping report. A study is being undertaken to obtain a better understanding of the functioning of wetland pans that occur with the mining area. The aim of the study is determine the catchment of all wetland pans identified and investigate the contribution of groundwater sources to the pan hydrology. The purpose of the study is to obtain a comprehensive understanding of the proposed layout plan (layout Plan 2) to wetland pans at Kolomela Mine.

9.2.14 WASTE ROCK ASSESSMENT

An additional study was added to the plan of study subsequent to the initial scoping report. A study is being undertaken to obtain a better understanding of the functioning of wetland pans that occur with the mining area. The aim of the study is determine the catchment of all wetland pans identified and investigate the contribution of groundwater sources to the pan hydrology. The purpose of the study is to obtain a comprehensive understanding of the proposed layout plan (layout Plan 2) to

wetland pans at Kolomela Mine.

9.3 PROPOSED METHOD OF ASSESSING THE ENVIRONMENTAL ASPECTS INCLUDING THE PROPOSED METHOD OF ASSESSING ALTERNATIVES

9.3.1 IMPACT RANKING CRITERIA

The impact assessment method takes into account the current environment, the details of the proposed project and the findings of the specialist studies. Cognisance will be given to both positive and negative impacts that may result from the development. The significance of the impact is dependent on the consequence and the probability that the impact will occur.

$$\textit{impact significance} = (\textit{consequence} \times \textit{probability})$$

Where:

$$\textit{consequence} = (\textit{severity} + \textit{extent})/2$$

and

$$\textit{severity} = [\textit{intensity} + \textit{duration}]/2$$

Each criterion is given a score from 1 to 5 based on the definitions given in Table 9.1. Although the criteria used for the assessment of impacts attempts to quantify the significance, it is important to note that the assessment is generally a qualitative process and therefore the application of this criteria is open to interpretation. The process adopted will therefore include the application of scientific measurements and professional judgement to determine the significance of environmental impacts associated with the project. The assessment thus largely relies on experience of the environmental assessment practitioner (EAP) and the information provided by the specialists appointed to undertake studies for the EIA.

Where the consequence of an event is not known or cannot be determined, the “precautionary principle” will be adhered to and the worst-case scenario assumed. Where possible, mitigation measures to reduce the significance of negative impacts and enhance positive impacts will be recommended. The detailed actions, which are required to ensure that mitigation is successful, will be provided in the EMPR, which will form part of the EIA report. Consideration will be given to the phase of the project during which the impact occurs. The phase of the development during which the impact will occur will be noted to assist with the scheduling and implementation of management measures.

Table 9-1: Criteria for Assessing the Impact Significance**SEVERITY CRITERIA**

INTENSITY = MAGNITUDE OF IMPACT	RATING
Insignificant: impact is of a very low magnitude	1
Low: impact is of low magnitude	2
Medium: impact is of medium magnitude	3
High: impact is of high magnitude	4
Very high: impact is of highest order possible	5

DURATION = HOW LONG THE IMPACT LASTS	RATING
Very short-term: impact lasts for a very short time (less than a month)	1
Short-term: impact lasts for a short time (months but less than a year)	2
Medium-term: impact lasts for the for more than a year but less than the life of operation.	3
Long-term: impact occurs over the operational life of the proposed extension.	4
Residual: impact is permanent (remains after mine closure)	5

EXTENT = SPATIAL SCOPE OF IMPACT/ FOOTPRINT AREA / NUMBER OF RECEPTORS	RATING
Limited: impact affects the mine site	1
Small: impact extends to the whole farm portion	2
Medium: impact extends to neighboring properties	3
Large: impact affects the surrounding community	4
Very Large: The impact affects an area larger the municipal area	5

PROBABILITY

PROBABILITY = LIKELIHOOD THAT THE IMPACT WILL OCCUR	RATING
Highly unlikely: the impact is highly unlikely to occur	0.2
Unlikely: the impact is unlikely to occur	0.4
Possible: the impact could possibly occur	0.6
Probable: the impact will probably occur	0.8
Definite: the impact will occur	1

IMPACT SIGNIFICANCE**NEGATIVE IMPACTS**

≤1	Very low	Impact is negligible. No mitigation required.
>1≤2	Low	Impact is of a low order. Mitigation could be considered to reduce impacts. But does not affect environmental acceptability.
>2≤3	Moderate	Impact is real but not substantial in relation to other impacts. Mitigation should be implemented to reduce impacts.
>3≤4	High	Impact is substantial. Mitigation is required to lower impacts to acceptable levels.
>4≤5	Very High	Impact is of the highest order possible. Mitigation is required to lower impacts to acceptable levels. Potential Fatal Flaw.

POSITIVE IMPACTS

≤1	Very low	Impact is negligible.
>1≤2	Low	Impact is of a low order.
>2≤3	Moderate	Impact is real but not substantial in relation to other impacts.
>3≤4	High	Impact is substantial.
>4≤5	Very High	Impact is of the highest order possible.

CUMULATIVE IMPACTS

Cumulative impacts are defined as: “the impact of an activity that in itself may not be significant but may become significant when added to the existing and potential impacts eventuating from similar or diverse activities or undertakings in the area”. Taking into consideration the above definition, the cumulative impacts for the Project will be assessed by considering the potential impacts of the mine and the current status of the environment in which the project will be developed.

MITIGATION MEASURES

A **no net loss** approach will be adopted in terms of the management of impacts at the Project.

- **Avoidance** – impacts are to be avoided where practicable e.g. through the implementation of alternatives.
- **Mitigation** – should it not be possible to avoid all impacts, the remaining impacts are to be mitigated to acceptable levels.
- **Offset** – should it not be possible to avoid and mitigate all impacts to acceptable levels it will be necessary to offset the remaining impacts. Suitable offsets will need to be identified.

Mitigation measures for significant impacts which cannot be avoided will be identified. The impacts will be ranked before and after the implementation of the mitigation measures. Consideration will also be given to the confidence level that can be placed on the successful implementation of the mitigation level as follows:

- **High Confidence:** mitigation measure easy and inexpensive to implement.
- **Medium Confidence:** mitigation measure expensive or difficult to implement.
- **Low Confidence:** mitigation measure expensive and difficult to implement.

Where mitigation is not sufficient to reduce the impact to acceptable levels offsets will need to be considered.

PROJECT PHASES

The environmental impacts for the project will be assessed over the five phases of the project i.e. the planning and design, construction, operation, decommissioning and post-closure phase.

The planning and design phase refers to the stage when the pre-feasibility and feasibility studies are being undertaken, the project description is being developed and the mine is being designed. During this phase the EIA is completed and environmental authorisations are applied for. This phase commenced early 2013 and is anticipated to be completed in fourth quarter of 2014.

The construction phase will commence after the environmental authorisations have been obtained. This phase will involve the physical construction of the infrastructure required for the expansion project. Construction is currently anticipated to commence in last quarter of 2015 until the second quarter of 2016.

The project will start operation is anticipated to commence in 2016. Operational activities are anticipated to proceed for the entire life of mine. The decommissioning phase refers to the time in the mine life when mining operations are reduced in preparation for closure. This phase will occur once the resource has been mined optimally and economically. The closure phase refers to when the mine is shut down and no mining activities are undertaken, this phase will occur after successful decommissioning has been achieved.

9.3.2 THE PROPOSED METHOD OF ASSESSING DURATION SIGNIFICANCE

The method for assessing duration and significance is included above.

9.4 THE STAGES AT WHICH THE COMPETENT AUTHORITY WILL BE CONSULTED

As of 4 December 2014, the competent authority changed from the Northern Department of Environmental and Nature Conservation (DENC) to the Department of Mineral Resources (DMR) for application relevant to mining and associated activities. However, the Transitional Arrangements under Section 53 of Regulation 982, allow for application made under the 2010 EIA Regulations to be dispensed with under those regulations. However, on consultation with the regional representatives of the DMR on 17 February 2015, it was decided by the applicant together with the DMR, that the existing application made to DENC in terms of the 2010 EIA Regulations should be withdrawn and a new application be made to the DMR in terms of the 2014 EIA Regulations.

It was agreed that the applicant would work closely with the Regional representatives of the DMR through the process. The following specific consultations will be included:

- Site visit to Kolomela Mine after submission of the EIA Report
- Ongoing consultation and feedback as to the status of applications and authorisation of other environmental authorisations in particular: water use licence application and atmospheric emissions licence application.

The scoping, EIA and EMP reports will be submitted to the DMR for review.

9.5 PARTICULARS OF THE PUBLIC PARTICIPATION PROCESS WITH REGARD TO THE IMPACT ASSESSMENT PROCESS THAT WILL BE CONDUCTED

9.5.1 STEPS TO BE TAKEN TO NOTIFY INTERESTED AND AFFECTED PARTIES

All persons registered as IAPs will be given an opportunity to comment on the EIA Report. Note that registration of additional IAPs will continue throughout the process. IAPs will be contacted regarding the availability of the report via email, registered mail or bulk SMS.

9.5.2 DETAILS OF THE ENGAGEMENT PROCESS TO BE FOLLOWED

Public Review of the Scoping Report

Following the public review of the original Draft and Final Scoping Reports (DSR) in 2014, this current Scoping Report (November 2015) will also be made available for public review for 30 days. The report will be circulated to the public and commenting authorities. Any new issues raised during review of the scoping report will be incorporated in the final scoping report which will be submitted to the DMR.

Focal Feedback Meeting during EIA

On completion of the EIA report, public or focus group meetings may be arranged (if required) to present the results of the specialist studies and the identified environmental and social impacts of the development. Landowners and registered IAPs will be invited to attend such meetings.

Public Review of the EIA Report

The EIA report will be made available for public review for a period of 30 calendar days.

Report Distribution

The scoping and EIA reports will be made available for review using the following means:

- Placement at Postmasburg Library and at the Security Office on Kolomela Mine.
- On the Synergistics website: www.synergistics.co.za
- On request from SLR Consulting: Tel: 011 467 0945,
email: kerry@bustardsbirding.co.za or apheiffer@slrconsulting.com
- At the Quarterly Kolomela Environmental Forum Meeting.

9.6 DESCRIPTION OF THE TASKS THAT WILL BE UNDERTAKEN DURING THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

The following tasks are to be completed as part of the EIA Process:

- Consultation with stakeholder focus groups (completed)
- Completion of specialist studies
- Assess layout alternatives and develop Layout Plan 3
- Assess impacts of Layout Plan 3 and revise as required
- Consult with regulatory authorities (including DAFF, DEA, DENC, DW&S and DMR)
- Reassess Layout Plan 3 as per outcomes of authority consultation
- Compile Draft EIA Report
- Compile Draft Environmental Management Programme (EMP)
- Public Review of Draft Report
- Address public comment including reassessment of Layout Plan 3 as required
- Finalise EIA Report and EMP

A description of the tasks that will be undertaken during the EIA phase is provided below in Table 9.2.

Table 9-2: EIA tasks and timing

Phase	EAP activity	Opportunities for Consultation and Participation		SCHEDULE
		Competent Authorities	IAPs, State Departments and Organs of State	
Scoping	Submit Final scoping report to authority	Authority to Accept scoping report OR Refuse environmental authorisation (43 days of receipt)	IAPs comments are in the scoping report	November-December 2015
Specialist Assessments and Input	EAP to manage specialist activities and receive inputs for EIA.			April 2015 – January 2016
EIA Phase	Assess environmental impacts. Compile draft EIA and EMP report			January 2016
	Submit draft EIA report to I&APs authorities.	Review of draft EIA report (30 days). Comments to EAP	Review of draft EIA report (30 days). Comments to EAP	February 2016
	Arrange meetings and consultations	Meetings with authorities during EIA if required.	Public Feedback Meeting. Focused consultation with I&APs or commenting authorities if required.	
	Address public comment and finalise EIA and EMP reports			February 2016
Authority review and Authorisation Phase	Final EIA report to Authority (106 days from acceptance of scoping).	Authority Acknowledge Receipt of EIA report (10 days).	Review of final EIA report (30 days). Comments to CA	February 2016 – June 2016
		Environmental Authorisation Granted / Refused (107 days).		
			Notifications to I&APs regarding environmental authorisation (granted or refused).	July 2016
Appeal Phase	EAP to provide guidance regarding the appeal process as and when required.	Consultation during processing of appeal if relevant.	Submit appeal in terms of National Appeal Regulations	variable

9.7 MEASURES TO AVOID, REVERSE, MITIGATE, OR MANAGE IDENTIFIED IMPACTS AND TO DETERMINE THE EXTENT OF THE RESIDUAL RISKS THAT NEED TO BE MANAGED AND MONITORED.

Refer to Table 8.11.

10 OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

10.1 IMPACT ON THE SOCIO-ECONOMIC CONDITIONS OF ANY DIRECTLY AFFECTED PERSON.

Specialist studies are being undertaken in the EIA Phase to assess the social and economic impacts of the proposed amendment of the operations at Kolomela Mine.

10.2 IMPACT ON ANY NATIONAL ESTATE REFERRED TO IN SECTION 3(2) OF THE NATIONAL HERITAGE RESOURCES ACT.

A Heritage Impact Assessment is being undertaken as part of the EIA Phase.


11 OTHER MATTERS REQUIRED IN TERMS OF SECTIONS 24(4)(A) AND (B) OF THE ACT

None applicable at this stage.

12 UNDERTAKINGS BY THE EAP

I, Kerry Colleen Fairley, the Environmental Assessment Practitioner responsible for compiling this report, undertake that:

- the information provided herein is correct;
- the comments and inputs from stakeholders and I&APs has been correctly recorded;
- information and responses provided to stakeholders and I&APs by the EAP is correct; and
- the level of agreement with I&APs and stakeholders has been correctly recorded and reported.



 Signature of the EAP

Date: 10-12-2015



 Signature of Commissioner

Date: 10-12-2015

BRANDON IAN STOBART
EX OFFICIO
COMMISSIONER OF OATHS
NON-PRACTISING ATTORNEY
REPUBLIC OF SOUTH AFRICA
UNIT 7, FOURWAYS MANOR OFFICE PARK
FOURWAYS

APPENDIX 1: PROOF OF EAP REGISTRATION

APPENDIX 2: CURRICULUM VITAE OF EAPS

APPENDIX 3: LOCAL AND REGIONAL SETTING

APPENDIX 4: SITE PLANS

APPENDIX 5: STAKEHOLDER ENGAGEMENT DOCUMENTS

5.1 IAP DATABASE

5.2 COPIES AND PROOF OF DISTRIBUTION OF PUBLIC AND AUTHORITY NOTIFICATIONS (2013 AND 2015)

5.3 ADVERTS AND SITE NOTICES (2013 AND 2015)

5.4 COPIES OF THE MINUTES AND ATTENDANCE REGISTERS OF THE AUTHORITY MEETINGS

5.5 COPIES OF THE MINUTES AND ATTENDANCE REGISTERS OF THE PUBLIC MEETINGS

5.6 IAP COMMENTS & RESPONSES (2013 AND 2015)

5.7 AUTHORITY COMMENTS & RESPONSES (2013 AND 2015)

5.8 PROOF OF DISTRIBUTION OF PREVIOUS SCOPING REPORTS (2014)

5.9 PROOF OF DISTRIBUTION OF NOVEMBER 2015 SCOPING REPORT

5.1 IAP DATABASE

5.2 COPIES AND PROOF OF DISTRIBUTION OF PUBLIC AND AUTHORITY NOTIFICATIONS (2013 AND 2015)

5.3 ADVERTS AND SITE NOTICES (2013 AND 2015)

5.4 COPIES OF THE MINUTES AND ATTENDANCE REGISTERS OF THE AUTHORITY MEETINGS

5.5 COPIES OF THE MINUTES AND ATTENDANCE REGISTERS OF THE PUBLIC MEETINGS

5.6 IAP COMMENTS & RESPONSES (2013 AND 2015)

5.7 AUTHORITY COMMENTS & RESPONSES (2013 AND 2015)

5.8 PROOF OF DISTRIBUTION OF PREVIOUS SCOPING REPORTS (2014)

5.9 PROOF OF DISTRIBUTION OF NOVEMBER 2015 SCOPING REPORT