Luhlaza

Advisory and Consulting

DRAFT SCOPING REPORT FOR THE MINING PERMITS PROPOSED ON THE FARM RIETFONTEIN

PORTION 2 OF THE FARM RIETFONTEIN 314 JR, MAGESTERIAL DISTRICT OF MIDDELBURG

FILE REFERENCE NUMBER SAMRAD:
MINING PERMIT 1: MP 30/5/1/1/3/12731 MP (Myae (Pty) Ltd)
MINING PERMIT 2: MP 30/5/1/1/3/12730 MP (Amaren Anaia (Pty) Ltd)
MINING PERMIT 3: MP 30/5/1/1/3/12732 MP (Ndlovamahle Resources (Pty) Ltd)

SEPTEMBER 2021

Compiled by C. Lambrechts

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mineral resources
Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

DRAFT SCOPING REPORT

FOR LISTED ACTIVITIES ASSOCIATED WITH APPLICATION FOR THREE MINING PERMITS, MPUMALANGA PROVINCE.

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

Mining Permit 1 MP 30/5/1/1/3/12731 MP	**NAME OF APPLICANT:** **REGISTRATION NUMBER:** **CONTACT PERSON:** **EMAIL:** **TEL NO:** **POSTAL ADDRESS:** **PHYSICAL ADDRESS:**	Myae (Pty) Ltd **2013 / 110416 / 07** Nokuthula Khumoetsile Msimang Nokuthula@zabi.tv +27 (82) 350-7513 PO Box X 921, Bassonia Johannesburg, Gauteng, 2061 11 Saffier Street, Mayfield Park Johannesburg, Gauteng, 2091
Mining Permit 2 MP 30/5/1/1/3/12730 MP	**NAME OF APPLICANT:** **REGISTRATION NUMBER:** **CONTACT PERSON** **EMAIL:** **TEL NO:** **POSTAL ADDRESS:** **PHYSICAL ADDRESS:**	Amaren Anaia (Pty) Ltd **2014 / 283993 / 07** Pearly Ann Law Habib pearly@phaccount.co.za +27 (82) 672 2445 PO Box X 921, Bassonia Johannesburg, Gauteng, 2061 11 Saffier Street, Mayfield Park Johannesburg, Gauteng, 2091
Mining Permit 3 MP 30/5/1/1/3/12732 MP	**NAME OF APPLICANT:** **REGISTRATION NUMBER:** **CONTACT PERSON:** **EMAIL:** **TEL NO:** **POSTAL ADDRESS:** **PHYSICAL ADDRESS:**	Ndlovamahle Resources (Pty) Ltd **2019 / 230172 / 07** Nonceba Zamanguni Mnguni noncebamnguni@icloud.com +27 (61) 449-8051 PO Box X 921, Bassonia Johannesburg, Gauteng, 2061 11 Saffier Street, Mayfield Park

	Johannesburg, Gauteng, 2091

DOCUMENT HISTORY

Document Control, Quality Control and Disclaimer

Report	Draft Scoping Report for listed activities associated with application for three mining permits, Mpumalanga province.		
Client	MINING PERMIT 1: MP 30/5/1/1/3/12731 MP (Myae (Pty) Ltd) MINING PERMIT 2: MP 30/5/1/1/3/12730 MP (Amaren Anaia (Pty) Ltd) MINING PERMIT 3: MP 30/5/1/1/3/12732 MP (Ndlovamahle Resources (Pty) Ltd)		
Report Number	RFN_09_2021_EA	**Report Status**	Draft
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Report No.	Date	Version	Status
RFTN_2021_EA	9 September 2021	00	Public Review

Responsible Person	Date	Position
C Lambrechts	22 April 2021	Environmental Assessment Practitioner, Author
DuToit Wilken	22 April 2021	Senior Project Manager and Reviewer

BASIS OF REPORT

This document has been prepared by Luhlaza Advisory and Consulting (Pty) Ltd (Luhlaza) with reasonable skill, care and diligence, and taking account of the manpower, timescales and resources devoted to it in accordance with the appointment from the applicant.

This document has been prepared in accordance with the Department of Mineral Resources (DMRE) Scoping Report template format, and was informed by the guidelines posted on the official DMRE website. This is in accordance with the requirements of the Minerals and Petroleum Resources Development Act (Act No. 28 of 2002) (MPRDA). Given this, Luhlaza has included additional information in the Introduction section of the report that it deems necessary and relevant to setting the scene for the environmental impact assessment (EIA) process. In addition, this report has been compiled in line with the requirements of the National Environmental Management Act (Act No. 107 of 1998) (NEMA) and EIA

regulations (2014), as amended. A Water Use Licence in terms of the requirements of the National Water Act (Act 36 of 1998) will be submitted for the proposed project.

The information contained in this report is relevant only to the specific project area and plan. It cannot be relied on for any other purpose or by any other person.

Information reported herein may be based on the interpretation of public domain data collected by Luhlaza Advisory and Consulting (Pty) Ltd and/or information supplied by the applicant and/or its other advisors and associates. The data has been accepted in good faith as being accurate and valid.

This document may contain information of a specialised and/or highly technical nature and the reader is advised to seek clarification on any elements which may be unclear to it.

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ABBREVIATIONS

Abbreviation	Description
ARC	Agricultural Research Council
BoQ	Bill of Quantities
BPEO	Best Practicable Environmental Option
CS	Community Survey
DAFF	Department of Agriculture, Forestry and Fisheries
DFFE	Department of Forestry, Fisheries and Environment
DEA	Department of Environmental Affairs
DFS	Definitive Feasibility Study
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act (Act 73 of 1989)
ECO	Environmental Control Officer
EIA	Environmental Impact Assessment
EIR	Environmental Impact Assessment Report
EMPR	Environmental Management Programme
FAII	Fish Assemblage Integrity Index
FTE	Full Time Equivalent
GNR	Government Notice Regulation
I&APs	Interested and Affected Parties
IDP	Integrated Development Programme
IEM	Integrated Environmental Management
IHAS	Invertebrate Habitat Assessment System
IHIA	Intermediate Habitat Integrity Assessment
IWUL	Integrated Water Use License
IWULA	Integrated Water Use License Application
LOM	Life of Mine
MAMSL	Meter Above Mean Sea Level
MPRDA	Mineral and Petroleum Resources Development Act (Act 28 of 2002)

MP	Mining Permit
MRA	Mining Right Application
NEMA	National Environmental Management Act (Act 107 of 1998)
NEMAQA	National Environmental Management: Air Quality Act, 39 of 2004
NEMBA	National Environmental Management: Biodiversity Act (Act 10 of 2004)
NEMWA	National Environmental Management: Waste Act (Act 59 of 2008)
NFA	National Forest Act (Act 84 of 1998)
NHRA	National Heritage Resources Act (Act 25 of 1999)
NWA	National Water Act (Act 36 of 1998)
PAIA	Promotion of Access to Information Act (Act 2 of 2000)
PAJA	Promotion of Administrative Justice Act (Act 3 of 2000)
PES	Present Ecological State
PM10	Thoracic Particulate Matter
PM2.5	Inhalable Particulate Matter
POPIA	Protection of Personal Information Act
PPP	Public Participation Process
ROM	Run of Mine
RVI	Riparian Vegetation Index
SAHRA	South African Heritage Resources Agency
SANRAL	South African National Roads Agency Limited
SANS	South African National Standard
SASS	South African Scoring System
STLM	Steve Tshwete Local Municipality
TSF	Tailings Storage Facility
TPA	Tons Per Annum
TSP	Total Suspended Particulates

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 (or Mining Permit) 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.

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.

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DRAFT SCOPING REPORT FOR PUBLIC REVIEW

1 INTRODUCTION

Luhlaza Advisory and Consulting (Pty) Ltd was appointed by the various applicants to undertake the environmental authorisation process in terms of the National Environmental Management Act, 1998 (Act 107 of 1998) (as amended) and the National Environmental Management Waste Act, 2008 (Act 59 of 2008) for the proposed mining permits to be implemented on portion 2 of the farm Rietfontein 314 JR. The proposed permits are located near Middelburg, within the Steve Tshwete Local Municipality (MP313) and Nkangala District Municipality (DC31), Mpumalanga.

The proposed mining permit areas will all be located on Portion 2 of the farm Rietfontein 314 JR, and the acceptances have the following reference numbers (See Appendix F-viii):

- Mining Permit 1 - MP 30/5/1/1/3/12731 MP
- Mining Permit 2: MP 30/5/1/1/3/12730 MP
- Mining Permit 3 MP 30/5/1/1/3/12732 MP

On the 10th of August 2021, during consultation with the Department of Mineral Resources and Energy (DMRE), it was instructed that the application should follow the NEMA EIA timeframes and process, although mining permits separately fall within Listing Notice 1. The combined and cumulative impacts should be assessed within one EIA to be submitted to the Competent Authority (CA).

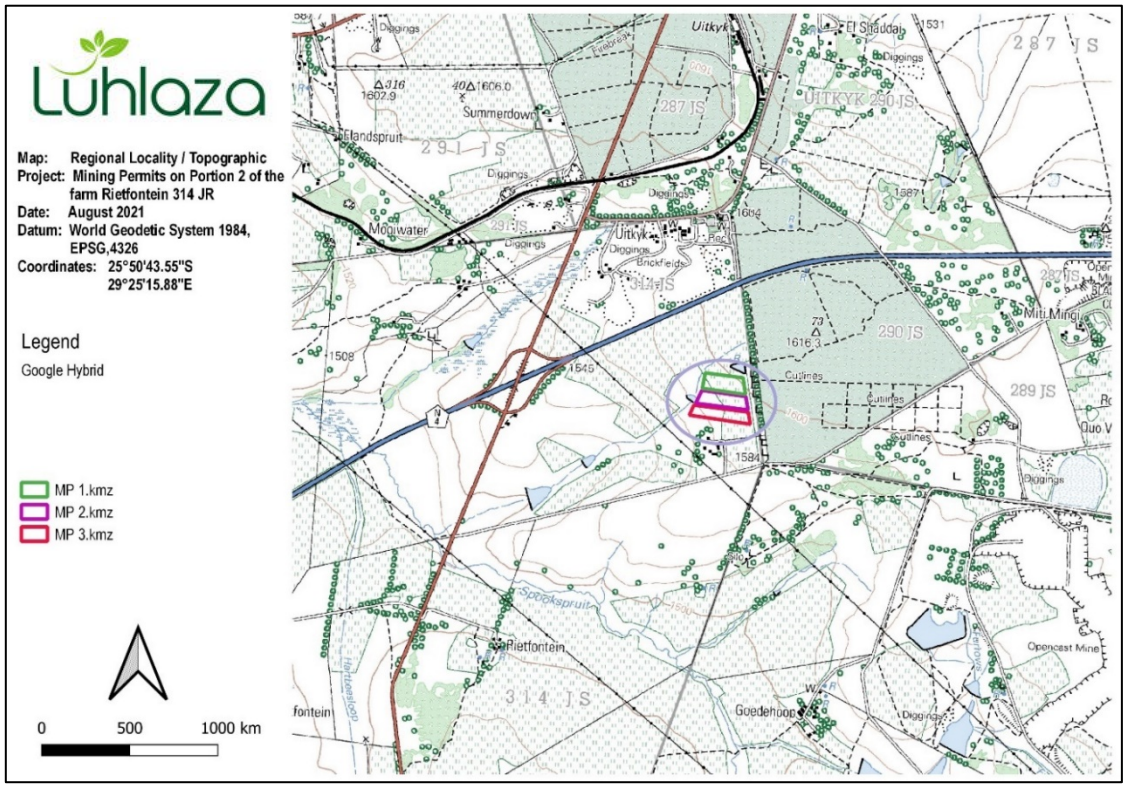


Figure 1: Positioning of the Rietfontein Mining Permits

1.1 SUMMARY OF ENVIRONMENTAL AUTHORISATIONS REQUIRMENTS

Prior to the commencement of the proposed project environmental authorisations are required from the following competent authorities:

- Environmental authorisation from the DMRE in terms of the NEMA. The proposed project incorporates several activities listed in the Environmental Impact Assessment Regulations (EIA Regulations): Listing Notice 1 and 3, 2014 published in Government Notice (GN) No. 983, 984 and 985 of 4 December 2014 and amended by GN No. 327, 325 and 324 of 7 April 2017. The EIA regulations being followed in this study are the EIA Regulations, 2014 published in GN No. 982 of 4 December 2014 and amended by GN No. 326 of 7 April 2017.
- A waste management license (WML) from the DMRE in terms of the NEM:WA. The proposed project incorporates waste management activities listed in GNR 921 of 29 November 2013, as amended (GN 633).
- A water use license (WUL) from the Department of Water and Sanitation (DWS) in terms of the National Water Act, 1998 (No. 36 of 1998) (NWA). The proposed project incorporates water uses in terms of Section 21 of the NWA and a water use license needs to be obtained prior to the onset of mining.

The applicable listed activities and water uses are listed in Section 3.1 (Table 4) of this report. Three Mining Permit applications by means of an integrated NEMA and NEM:WA application (one EIA) will be lodged with the DMRE. The WUL application will need to be applied for before the onset of mining.

This list will be refined, as may be necessary, during the course of the EIA process.

2 CONTACT PERSON AND CORRESPONDENCE ADDRESS

2.1 DETAILS OF EAP WHO PREPARED THE REPORT

Name of the Practitioner:	Corlien Lambrechts (*Pr.Sci.Nat, EAPASA*)
Tel No.:	064 618 2646
Fax No.	None
E-mail address:	corlien@elemental-s.co.za
Name of the Practitioner / Reviewer:	DuToit Wilken (*Pr.Sci.Nat*)
Tel No.:	084 588 2322
Fax No.	None
E-mail address:	dutoit@elemental-s.co.za

2.2 EXPERTISE OF THE EAP

2.2.1 The qualifications of the EAP

Please refer to Table 1 for a summary of the qualification and experience of the EAP (with evidence attached as Appendix A):

Ms Corlien Lambrechts (Pr.Sci.Nat & EAPASA):

- University of Pretoria, BSc Hons Zoology – 2015
- University of South Africa / North West University, BSc Environmental Management (including Zoology) – 2009

Mr DuToit Wilken (Pr.Sci.Nat):

- University of Pretoria, MSc Geography – 2015
- University of Pretoria, BSc Hons Environmental Science – 2010
- University of Pretoria, BSc Environmental Science – 2009

2.2.2 Summary of the EAPs' experience

Please refer to Table 1 for a summary of the qualification and experience of the EAP. *Attach the EAP's curriculum vitae as Appendix B.*

Table 1: Details of EAP

Environmental Consultants:	Luhlaza Advisory and Consulting (Pty) Ltd
Postal address:	**Blairgowrie Plaza Office Park,** Cnr Conrad & Susman Street, Office 128, Level One, Randburg, 2194
Telephone:	084 588 2322
Fax:	None
Author EAP	Corlien Lambrechts (Pr.Sci.Nat & EAPASA)
Qualifications:	University of Pretoria, BSc Hons Zoology – 2015 University of South Africa / North West University, BSc Environmental Management (including Zoology) – 2009
Professional affiliation(s):	Natural Professional Scientist (Pr.Sci.Nat) Environmental Assessment Practitioners Association of South Africa (EAPASA)
Expertise of the EAP:	**Corlien Lambrechts** is an Environmental Scientist with 8 years of applicable experience in the relevant field of Environmental Management and has qualifications in Environmental Management and Zoology. She is a Professional Natural Scientist with the South African Council of Natural Scientific Professions (Pr.Sci.Nat: 009135) and has been registered and accredited by Environmental Assessment Practitioners Association of South Africa (EAPASA), Registration number: 2020/935. After consulting for a number of years, she enrolled for her Honors degree in Zoology at the University of Pretoria in 2015 where she completed a project in the Cathedral Peak Drakensberg Mountain range studying differences in community structures of invertebrate species between natural grasslands and grasslands

	subjected to rehabilitation by South African Environmental Observation Network (SAEON) and in association with the University of Pretoria Centre of Invasion Biology (CIB). During her career within the Environmental management field, she has been involved in a wide variety of Ecological and Environmental applications and compilation of reports, which include as relevant to the compilation of this report: Basic Assessment Reports, Scoping and Environmental Impact Assessment Reports and Environmental Management Plans, Environmental Audit Reports, Water-Use Application Reports and Mining Right Applications.
Experience	She has 8 years of experience.
Author and Reviewer EAP	DuToit Wilken (Pr.Sci.Nat)
Qualifications:	University of Pretoria, MSc Geography – 2015 University of Pretoria, BSc Hons Environmental Science – 2010 University of Pretoria, BSc Environmental Science – 2009
Professional affiliation(s):	Natural Professional Scientist (Pr.Sci.Nat)
Expertise of the EAP:	**DuToit Wilken** is an Environmental Scientist with more than 12 years of experience in applying the principles of Integrated Environmental Management, and in applying the Environmental Legislation to a number of development projects and initiatives in Southern Africa. He has co-ordinated and managed number of diverse projects and programs related to the Environment and Mining within both the public and private sectors and for national, multi-national and international companies. His interpersonal and organisational skills have enabled him to efficiently direct these projects from initiation to implementation. A significant element of public participation is required throughout the life cycle of an EIA process. DuToit has successfully liaised with interested and affected parties, ensuring that all communication procedures and dialogues are open and transparent, and that capacity building is conducted where necessary. His proficient report-writing skills have been utilised for the compilation of a wide variety of reports, which include but is not limited to Basic Assessment Reports, Scoping and Environmental Impact Assessment Reports, Environmental Management Plans (Planning, Construction, Operation and Closure), Environmental Audit Reports, Opportunities and Constraints Analyses, Waste License Applications, Water-Use Application Reports and Mining Right Applications.
Experience	He has 12 years of experience.

2.3 DESCRIPTION OF THE PROPERTY

Table 2: Description of the property

Name:	MINING PERMIT 1: MP 30/5/1/1/3/12731 MP (Myae (Pty) Ltd)

	MININGPERMIT 2: MP 30/5/1/1/3/12730 MP (Amaren Anaia (Pty) Ltd) MININGPERMIT 3: MP 30/5/1/1/3/12732 MP (Ndlovamahle Resources (Pty) Ltd)	
Application area (Ha)	Each Mining Permit area is maximum 5 ha 15 ha Combined Coal Mining Area	
Magisterial district:	Steve Tshwete Local Municipality (MP313) and Nkangala District Municipality (DC31) within the Mpumalanga Province.	
Distance and direction from nearest town	The sites are located approximately 9.5km southwest of the town Middelburg in Mpumalanga Province.	
21-digit Surveyor General Code for each farm portion	Portion 2 of the farm Rietfontein 314 JS	T0JS000000000031400002

2.4 LOCALITY MAP

(Show nearest town, scale not smaller than 1:250000 attached as Appendix C) The locality map is also appended in Appendix C.

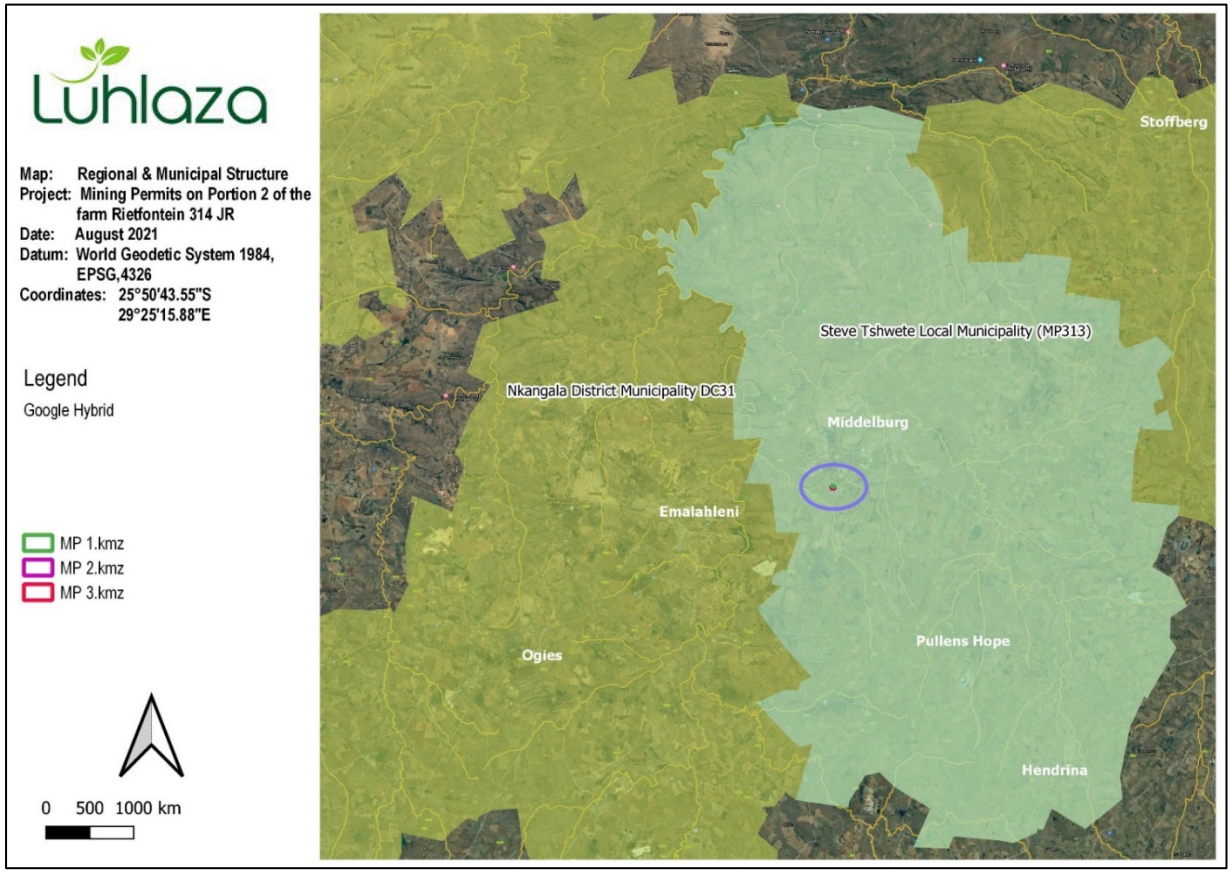


Figure 2: Regional locality and Municipal Structures of the Mining Permits

3 DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY

3.1 LISTED AND SPECIFIED ACTIVITIES

(Provide a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site and attach as Appendix D)

Table 3: Listed and specified activities

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE	WASTE MANAGEMENT AUHTORISATION
***(E.g. For prospecting to** drill site, site camp, ablution facility, accommodation, equipment storage, sample storage, site office, access route **etc…etc…etc E.g. for mining**, to excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc…etc…etc.)*	*Ha or m²*	*Mark with an X where applicable or affected*	*(GNR 327, GNR 325 or GNR 324) of 7 April 2017*	*(Indicate whether an authorisation is required in terms of the Waste Management Act).* ***(Mark with an X)***
Storm water management structures, pipelines, berms and water resources diversions.	TBC – specifically subjected to WUL requirements			
Generation of electricity *The development and related operation of facilities or infrastructure for the generation of electricity from a non-renewable resource where—* *the electricity output is more than 10 megawatts but less than 20 megawatts; or the output is 10 megawatts or less but the total extent of the facility covers an area in excess of 1 hectare.*	*TBC – below trigger limit. Electricity supply from Eskom is mentioned in MWPs*			
Fuel Storage *The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good,*	*TBC*			

where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres.				
NEMA and the EIA Regulations, 2014, [as amended] - **GNR 327 – Listing Notice 1**				
Activity 21 (Mining Permit) – Mining of coal by opencast mining including Crushing and Screening, and any other extraction and / or primary processing of a mineral. *Any activity including the operation of that activity which requires a mining permit in terms of section 27 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002, including-* *) associated infrastructure, structures and earthworks directly related to the extraction of a mineral resource or* *) the primary processing of a mineral resource including wining, extraction, classifying, concentrating, crushing, screening or washing*	Each permit 5 ha – crushing will take place in pit, no washing	**X**	GNR 327	N/A
Activity 24 *The development of a road—* (i) ***[a road]*** *for which an environmental authorisation was obtained for the route determination in terms of activity 5 in Government Notice 387 of 2006 or activity 18 in Government Notice 545 of 2010; or* (ii) **[a road]** with a reserve wider than 13,5 meters, or where no reserve exists where the road is wider than 8 metres;	Access Road and haul road) – width of road 8 m	**X**	GNR 327	N/A
Activity 27 *The clearance of an area of 1ha or more, but less than 20 hectares of indigenous vegetation, except where such clearance of indigenous vegetation is required for- maintenance or linear activities.*	Clearance of vegetation during mining and access and haul roads– 8 m	**X**	GNR 327	N/A
Activity 28 (Mining) – *Residential, mixed, retail, commercial, industrial or institutional developments where such land was used for agriculture, game farming, equestrian purposes or afforestation on or after 01 April 1998 and where such development:*	Mining a total of 15 ha (5 ha per permit x 3) on land previously used for agriculture and mining	**X**	GNR 327	N/A

(i) will occur inside an urban area, where the total land to be developed is bigger than 5 hectares; or *(ii) will occur outside an urban area, where the total land to be developed is bigger than 1 hectare; excluding where such land has already been developed for residential, mixed, retail, commercial, industrial or institutional purposes.*				
Activity 30 (Section 53(1) process or activity in terms of NEM:BA) *Any process or activity identified in terms of section 53(1) of the National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004).*	Mining a total of 15 ha (5 ha per permit x 3) – Rand Highveld Grassland is Vulnerable in NBA (2011 & 2018)	**X**	GNR 327	N/A
Activity 56 *The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre—* *(i) where the existing reserve is wider than 13,5 meters; or (ii) where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.*	TBC – Haul and access roads – 8 m width – roads will likely be upgraded and broadened.	**X**	GNR 327	N/A
NEMA and the EIA Regulations, 2014, [as amended] - **GNR 324 – Listing Notice 3**				
Activity 4 Clearance of Vegetation in Mpumalanga	Mining a total of 15 ha (5 ha per permit x 3)	**X**	GNR 324	N/A
Activity 12 The development of a road wider than 4 metres with a reserve less than 13,5 metres. f. Mpumalanga i. Outside urban areas: (aa) A protected area identified in terms of NEMPAA, excluding disturbed areas; (bb) National Protected Area Expansion Strategy Focus Areas; (cc) Sensitive areas as identified in an environmental management framework as contemplated in chapter 5 of the Act and as adopted by the competent authority; (dd) Sites or areas identified in terms of an international convention;	(Access road and haul road) – 8 m width – However, no Protected Areas, CBAs or within 10 km of any of the mentioned features.	**X**	GNR 324	N/A

(ee) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the competent authority or in bioregional plans; (ff) Core areas in biosphere reserves; or (gg) Areas within 10 kilometres from national parks or world heritage sites or 5 kilometres from any other protected area identified in terms of NEMPAA or from the core areas of a biosphere reserve, excluding disturbed areas, where such areas comprise indigenous vegetation; or				
NEMWA				
GN R. 633 Category A, (15) – Stockpiles resulting from Prospecting or a Mining Permit Residue stockpiles (Overburden and Waste Rock Dump Stockpiles)	1,36 ha – but to be confirmed	**X**	GNR 633	**X**
WUL				
NWA Section 21 Water Uses • Section 21a: Taking water from a water resource • Section 21b: Storing water • Section 21 c: Impeding or diverting the flow of water in a watercourse • Section 21 g: Disposing of waste in a manner which may detrimentally impact on a water resource • Section 21 i: Altering the bed, banks, course or characteristics of a watercourse • Section 21 j; Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people.	Water Use Activities to be assessed during the onset of the WUL application	Subject to Water Use License Application (WULA)	National Water Act, 1998 (Act No. 36 of 1998)	DHSWS – Applicant needs to apply for a WUL

3.2 DESCRIPTION OF THE ACTIVITIES TO BE UNDERTAKEN

(Describe Methodology or technology to be employed, and for a linear activity, a description of the route of the activity)

3.2.1 Background and Project information

The applicants intend to apply for three separate Mining Permit Authorisations adjacent to each other on portion 2 of the farm Rietfontein 314 JS.

3.2.1.1 Mining Permit 1

The mining permit application area lies on the farm Rietfontein 314 JS portion 2, previously covered by the Prospecting Right MP 30/5/2/1/1/12285PR as indicated on the locality maps (Figure 3).

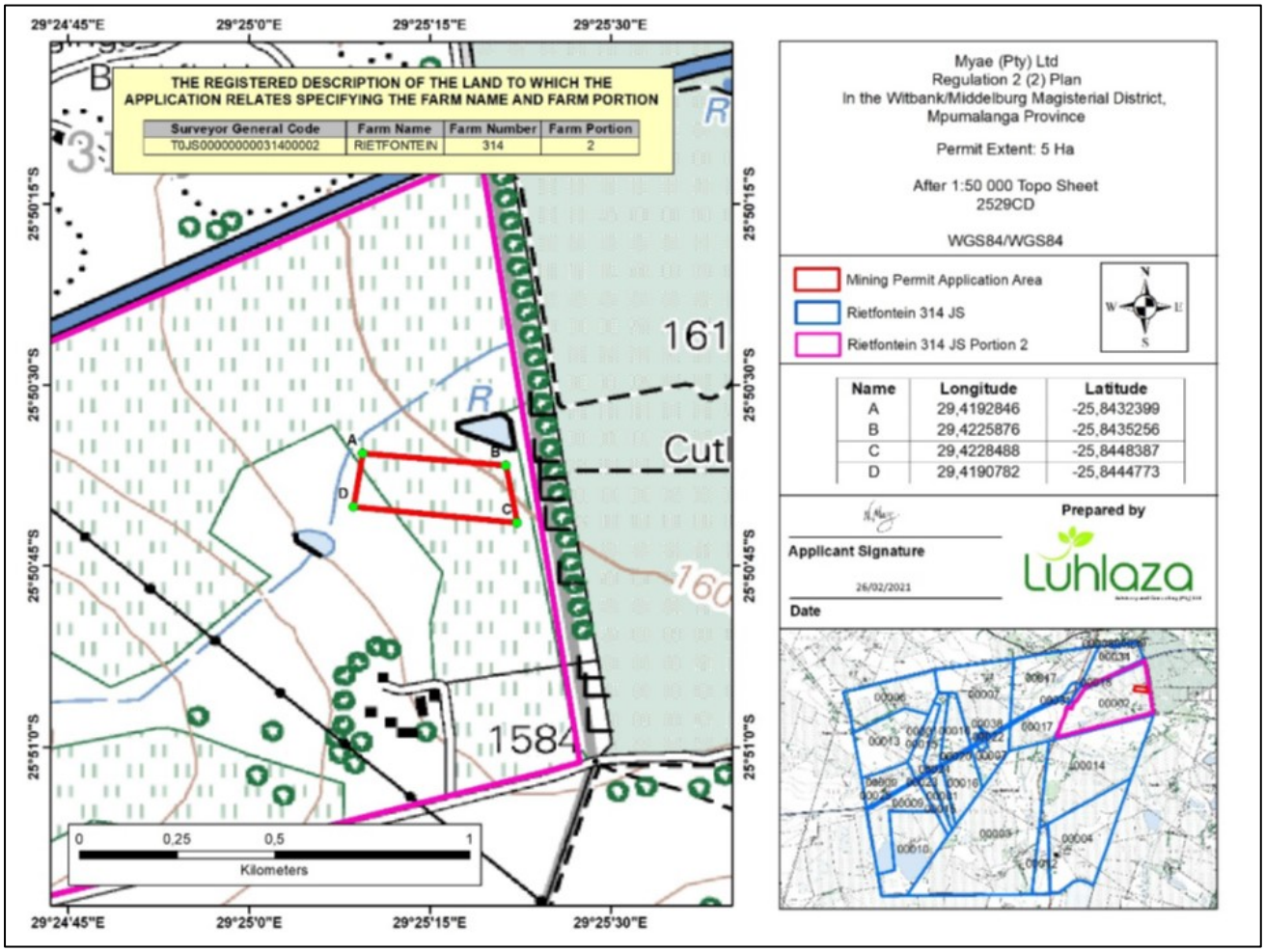


Figure 3: Regulation 2(2) Map for Mining Permit 1

The total mineable in-situ tonnes for No. 1 seam (0.15 MT) and No.2 seam (0.06 MT) are 0.21 MT. Coal production: ± 250 000 tons per annum for the export and inland washed and unwashed coal market.

Coal will be crushed and destoned on site and washed to improve qualities off site. No washing will occur at the project site.

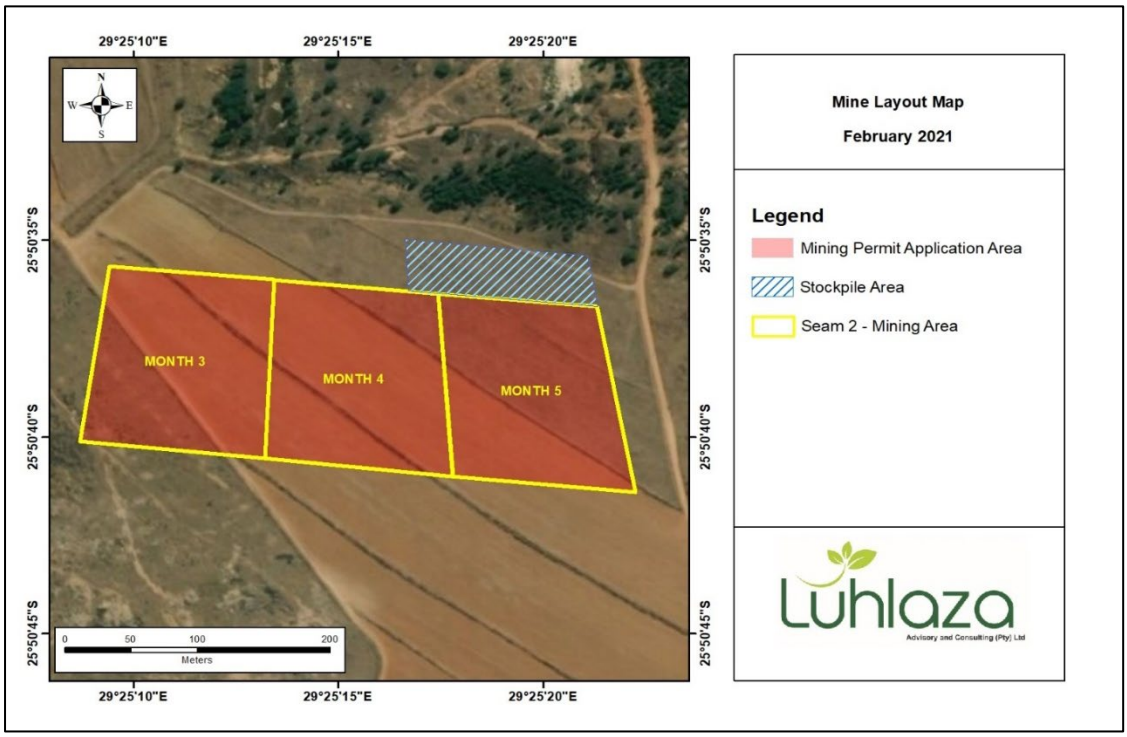


Figure 4: Schematic Mine schedule for Seam 2 – MP1

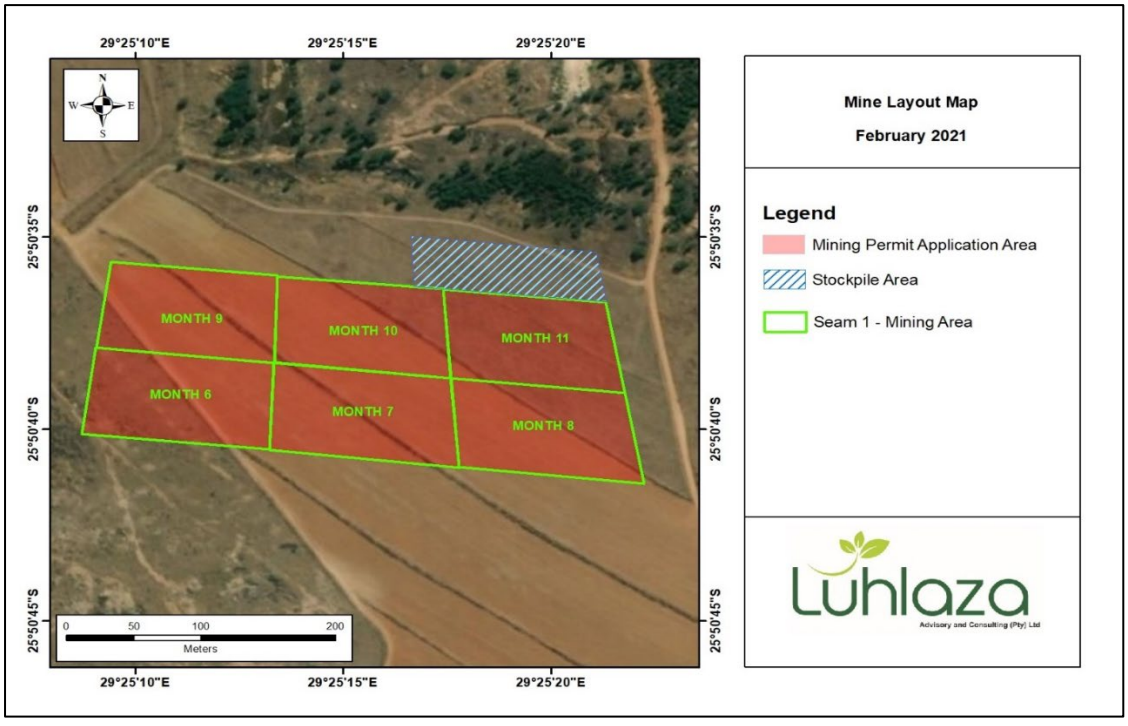


Figure 5: Schematic Mine schedule for Seam 1 – MP1

3.2.1.2 Mining Permit 2

The mining permit application area lies on the farm Rietfontein314 JS portion 2, previously covered by the Prospecting Right MP 30/5/2/1/1/12285PR as indicated on the locality maps (Figure 6).

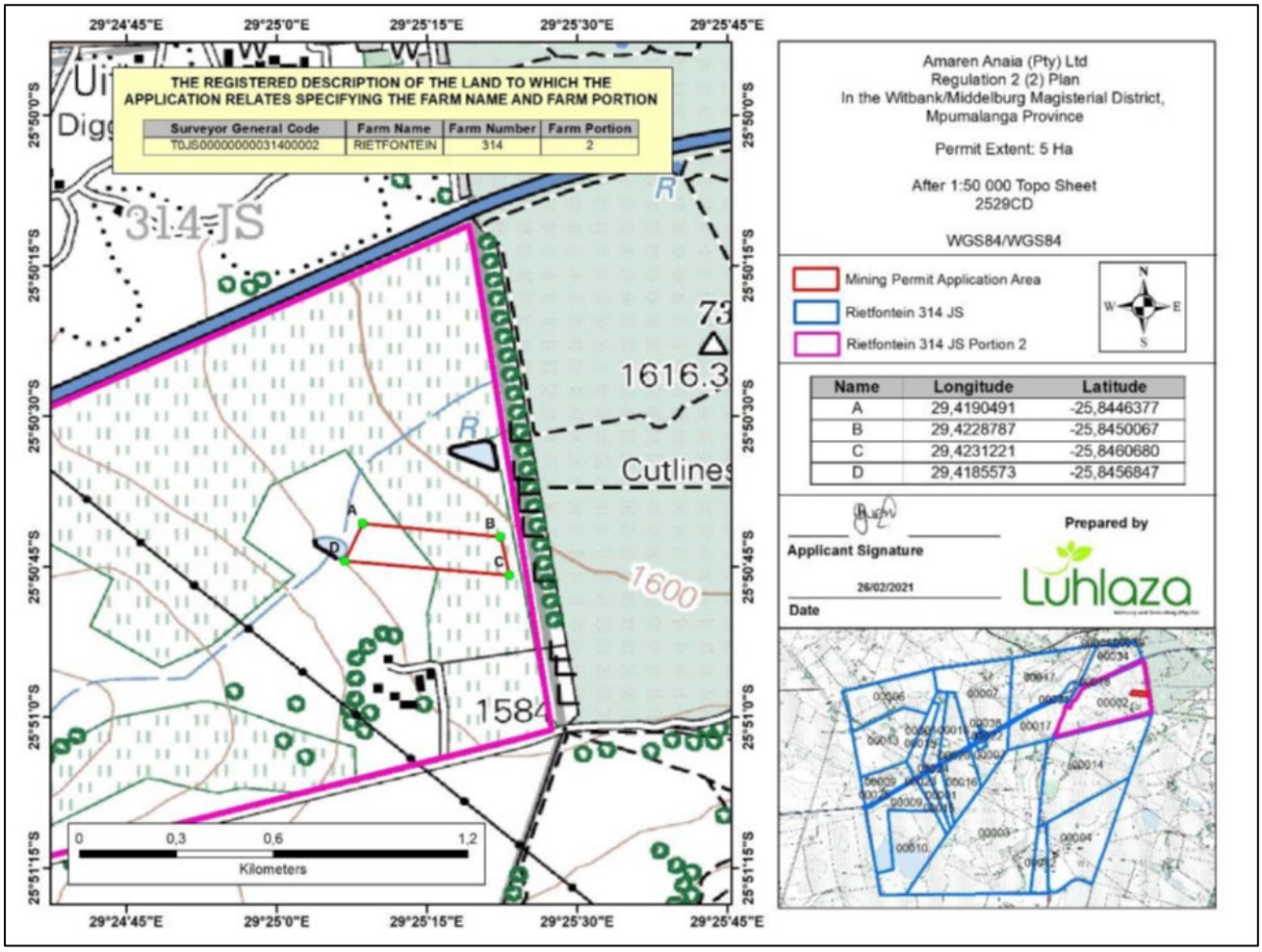


Figure 6: Regulation 2(2) Map for Mining Permit 2

The total mineable in-situ tonnes for No. 1 seam (0.146 MT) and No.2 seam (0.067 MT) are 0.21 MT. Coal production: ± 250 000 tons per annum for the export and inland washed and unwashed coal market.

Coal will be crushed and destoned on site and washed to improve qualities off site. No washing will occur at the project site.

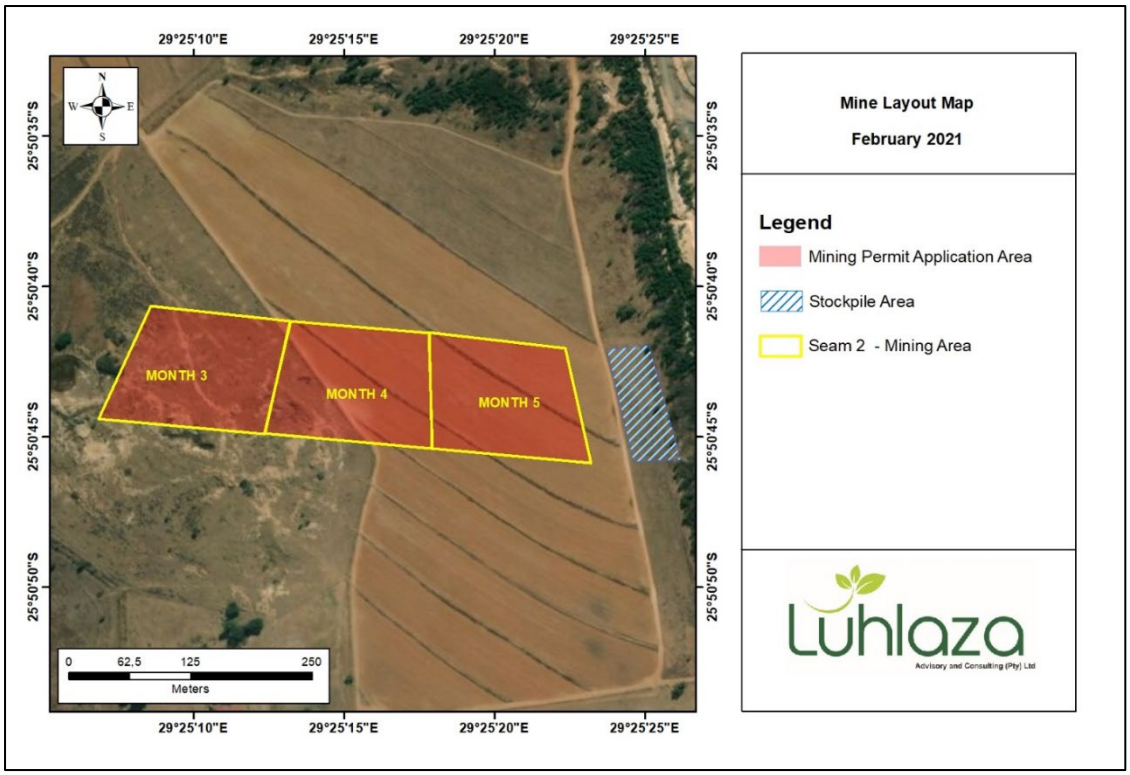


Figure 7: Schematic Mine schedule for Seam 2 – MP2

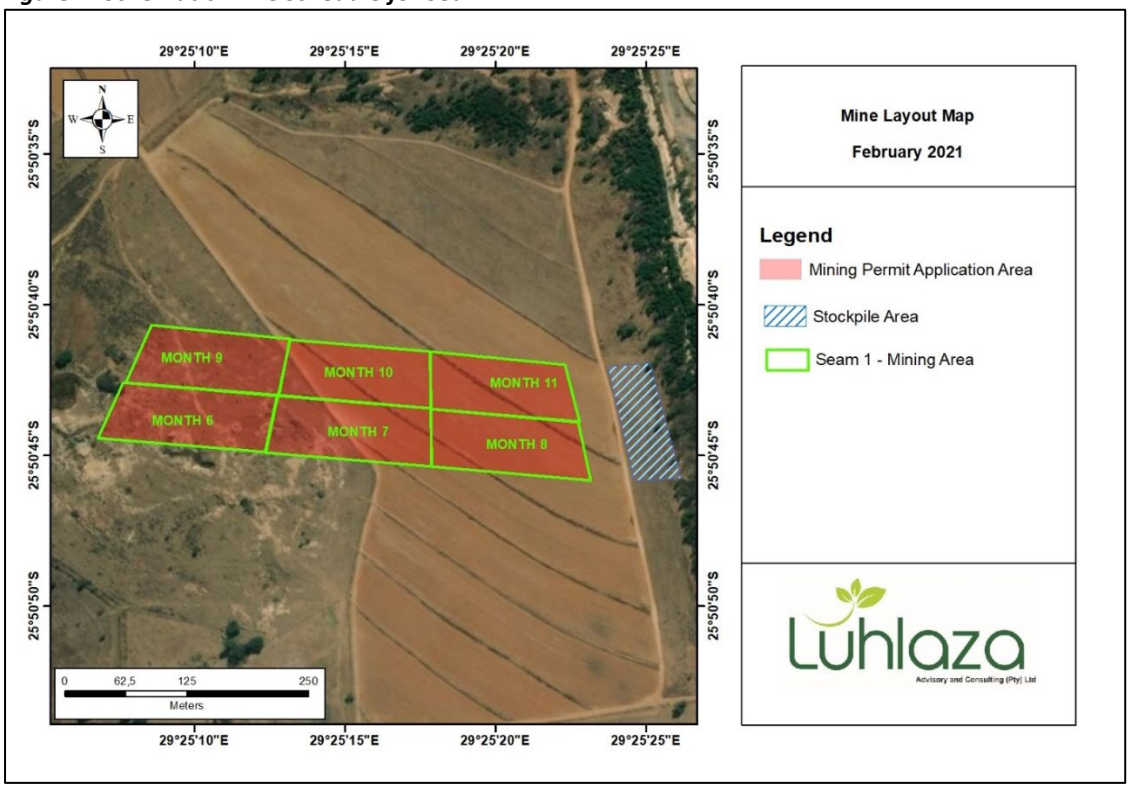


Figure 8: Schematic Mine schedule for Seam 1 – MP2

3.2.1.1 Mining Permit 3

The mining permit application area lies on the farm Rietfontein314 JS portion 2, previously covered by the Prospecting Right MP 30/5/2/1/1/12285PR as indicated on the locality maps (Figure 9).

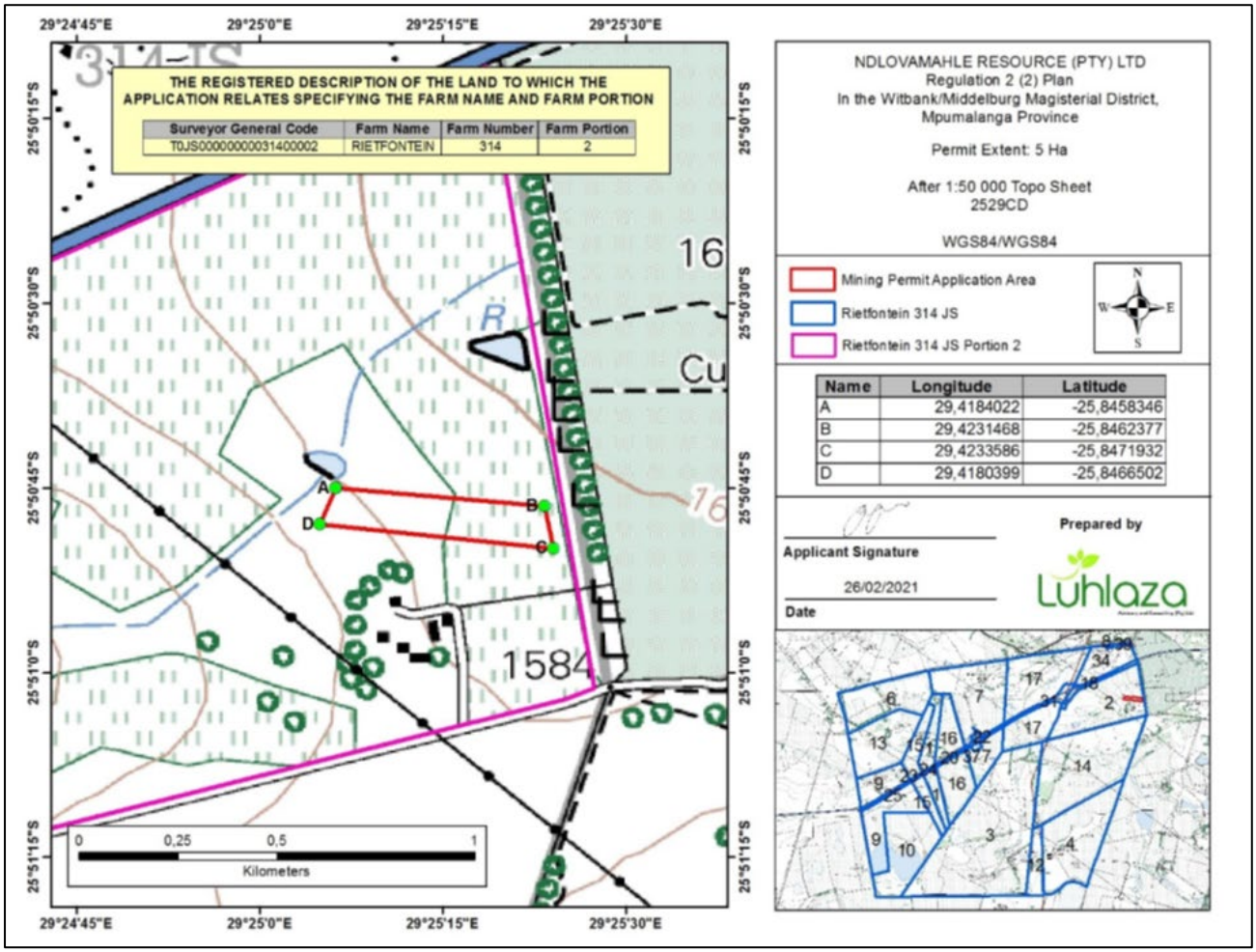


Figure 9: Regulation 2(2) Map for Mining Permit 3

The total mineable in-situ tonnes for No. 1 seam (0.146 MT) and No.2 seam (0.067 MT) are 0.21 MT. Coal production: ± 250 000 tons per annum for the export and inland washed and unwashed coal market.

Coal will be crushed and destoned on site and washed to improve qualities off site. No washing will occur at the project site.

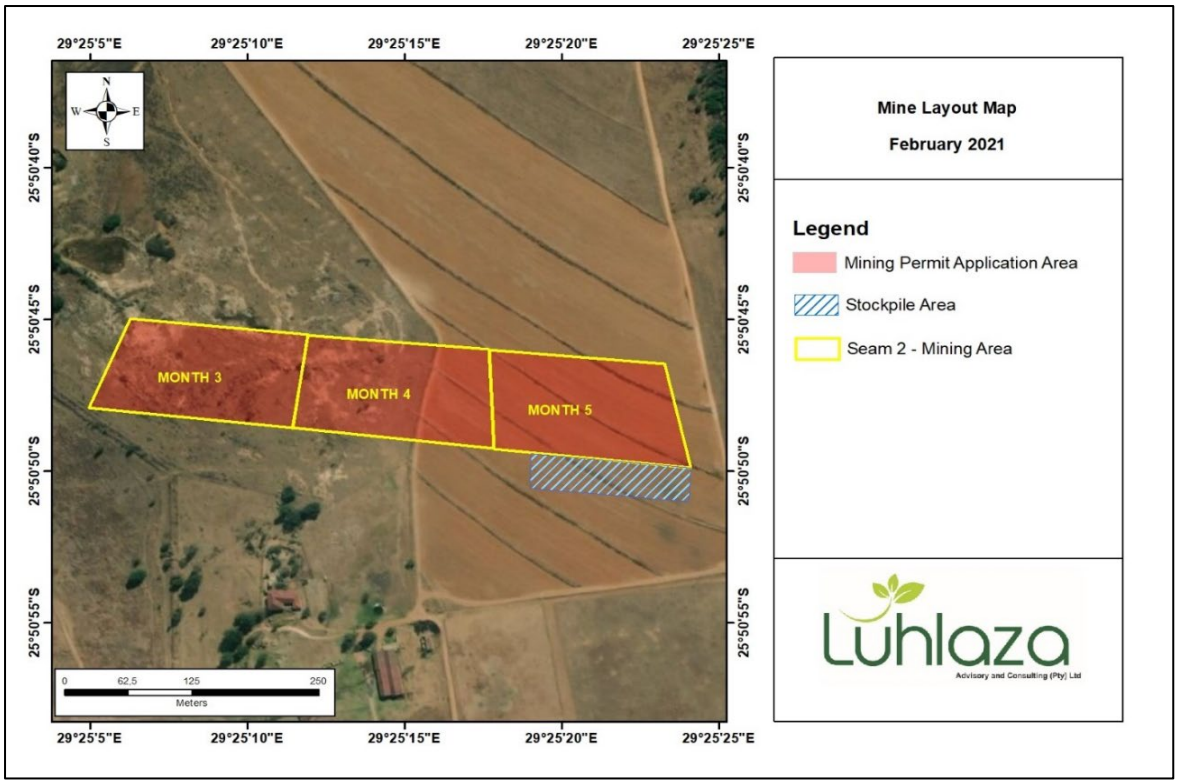


Figure 10: Schematic Mine schedule for Seam 2 – MP3

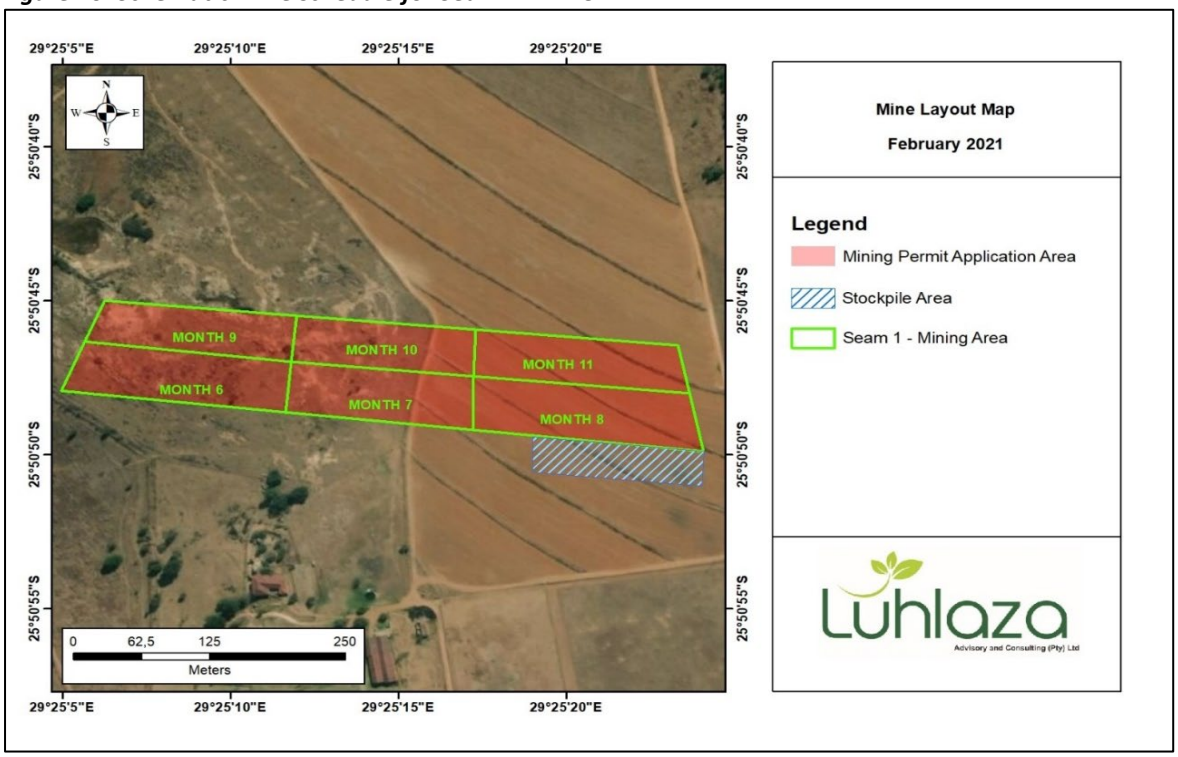


Figure 11: Schematic Mine schedule for Seam 1 – MP3

3.2.2 Mining Operations and Mining Methods

3.2.2.1 Mining Method

The permit area will be mined by opencast mining method using excavators.

Table 4: Specifications of the mineral and resource intended to be mined per Mining Permit

Type of mineral	Coal
Locality (Direction and distance from nearest town)	9.5km southwest of the town Middelburg in Mpumalanga Province, South Africa.
Extent of the area required for mining	5 ha per Mining Permit, 15 ha combined for all three permit areas
Extent of the area required for infrastructure, roads, servitudes etc.	0,5 ha per Mining Permit area
Depth of the mineral below surface	No. 1 seam below surface depth ranges between 20m – 30m within the permit area. No. 2 seam below surface depth ranges between 10m – 20m within the permit area.
Geological formation	The proposed mining permit area surface geology is dominated by the coal-bearing Vryheid Formation (Pv). The main coal seams locally identified are named the No. 1 seam and No. 2 seam which are developed over the entire proposed mining permit area. The No. 2 seam attains an average thickness of approximately 0.76m and the No. 1 seam has an average seam thickness of 1.86.

3.2.2.2 Mining Sequence

The volumes in the 1-year LOM production schedule are expected to include:

- Topsoil - Thickness of the topsoil is assumed to be 1.0m. Loading and hauling to topsoil stockpile by truck and shovel.
- Sou overburden - Loading and hauling to waste stockpile or in-pit backfill by truck and shovel.
- Hard Overburden - This material lies just below the weathered material and above the coal seam - Loading and hauling to waste stockpile or in-pit backfill by truck and shovel.
- The coal seams are expected to be mined by a free dig method using excavators.
- Loading and hauling by truck.

Summary of infrastructure requirements such as roads, rail, electricity and water:

- Access Road
- Electrical Supply
- Electrical supply – (Eskom)
- Mining pit and access ramp through box cut
- Water management facilities
- Workshop

- Mobile office
- Weighbridge
- Material stockpiles
- Crushing and screening facilities (in-pit)

3.2.2.3 Construction/Site Establishment Phase (2 months)

The construction phase will commence immediately upon granting of a mining permit and will include the following items and expected timeframes:

- Preparation of Access Roads (1 Week)

Currently there is an existing gravel road on the western boundary of the permit area, linking up with the provincial road. This road will be upgraded. The upgrade will include excavating the road base to a depth of 0.5m and to backfill with sandstone to create a permeable base. A 0.30m ferricrete layer will be placed on the sandstone base to create the road surface. The road will be shaped to ensure adequate drainage.

- Fencing and trenching of Mining Area (1 Week)

A fence (5 Strand Barbed wire) will be established around the perimeter of the mining area. A 2m deep trench will be dug along the boundaries.

- Construction of Security, Ablutions (Boom Gates, Security house) (1 Week)

A permanent security house and boom gates will be constructed at the entrance. The structures will comprise of brick and mortar and will be supplied with electricity from a diesel driven generator. An area has been identified adjacent to the security house for ablution facilities. The ablutions will be constructed from brick and mortar and will comply with the requirements of the EMPR.

- Construction of Mine haul roads (1 Week) Permanent haul roads are to be constructed.

The roads will be constructed of suitable material e.g., laterite and will conform to minimum safety requirements in terms of slopes and widths etc.

- Box cut 1 development (6 Weeks)

A double boxcut has been planned. Mining operations will commence in boxcut 1 and the overburden will be loaded and hauled to the northern pit extremity for dozing into final void once the area has been depleted. Based on the overburden volume and production capacity of the contractor, it is envisaged that the boxcut development will be completed in 4 weeks.

3.2.3 Operational/Mining Phase (9 months)

The operational phase will commence after the completion of the boxcut. A conventional strip mining (roll-over) method will be employed. Material from the boxcut phase will be stored per overburden classification, with the bulk of the material placed in a position alongside the final strip, to facilitate filling of the final void.

- Topsoil Removal - Topsoil will be removed and will be either stockpiled separately. Topsoil will be removed using excavators and hauled with articulated dump trucks (ADT's).
- Soft Removal - Soft subsoil will be removed and will be stockpiled. Sous will be removed using excavators and hauled with articulated dump trucks (ADT's).
- Overburden Excavation - Overburden will be done using excavators.
- Overburden Load and Haul - The remaining overburden, after dozing, will be load and hauled and dumped on the spoil side of the current strip. The load and haul will be conducted using excavators and ADT's.
- Coal Excavation - Free Dig using excavators
- Coal Load and Haul - The coal be load and hauled and dumped on a stockpile area (in-pit). The load and haul will be conducted using excavators and ADT's. No washing will occur on site.

For the first 3 months of mining of the No. 2 seam, production will be approximately 22 500 tonnes per month to produce a total of 67 500 tonnes.

During month 4 commencement of mining of the No. 1 seam will begin. Production will be approximately 25 000 tonnes per month for 6 months.

3.2.3.1 Rehabilitation Phase (2 months)

The decommissioning phase is taken to begin once all economically exploitable coal reserves have been extracted. This phase of the mine is expected to commence once phase II has been completed.

- Removal of all mine infrastructure
- Filling of all remaining voids and final shaping of the rehabilitated opencast pit
- Removal of the carbonaceous layer from the product stockpiling area and haul roads
- Ripping of all infrastructure areas
- Seeding of ripped and rehabilitated surfaces

The mine closure phase will be dedicated to the maintenance of rehabilitated areas, water monitoring as well as compiling a closure plan.

3.2.3.2 Post closure phase

Monitoring of aspects such as surface and ground water quality and the management of decant water if expected.

3.3 DESCRIPTION OF MINERAL PROCESSING OPERATIONS

The Rietfontein Mining Permits will employ Primary processing, which will consist of mobile Crushing and Screening (in-pit), and this will be located within the pit before material is transported off site to other facilities for additional processing (contained as a dirty footprint).

3.3.1 Establishment of a residue stockpile area

Residue stockpile material will be temporarily stored in an area (that needs to be approved during a WUL process) before the material is utilised as backfill material in the open pit during rehabilitation. The overburden and waste rock will be placed back into the carboniferous layer of the open pit if authorised to do so.

3.4 GENERAL AND HAZARDOUS WASTE

General and hazardous wastes would be generated during construction and operation phases. The types of waste could include: hazardous industrial waste (such as packaging for hazardous materials, used oils and lubricants, used liquid fuels, hydrocarbon contaminated soils) and general industrial waste (such as scrap metal, building rubble and demolition waste).

Any hydrocarbon contaminated soils would be removed and dealt with as hazardous waste. These wastes would be handled, sorted and temporarily stored on site in a waste/salvage yard. Where wastes can be re-used or recycled this would be undertaken, or alternatively the wastes would be removed by waste handling companies for recycling, re-use or final disposal at permitted waste disposal facilities.

The nearest permitted waste disposal site is likely in Welgedacht. The site is licenced (12/9/11/L441/3) as a H:H facility. The facility is located on Plot 80 and 81 Dahlia Street, Welgedacht Agricultural Holdings, Ekurhuleni Metropolitan Municipality, Gauteng Province.

3.4.1 Sewage

Portable toilets and temporary ablution facilities would be utilised and provided. All of the facilities will be self-containing facilities and a contractor will remove the waste generated by the facilities.

3.5 MINE ACCESS ROAD

The mine access road is envisaged as an 8m wide gravel road with a design speed of 30km/h. Existing access road will be utilised as the area had already been mined historically. The existing road will be widened to 8 meters and profiled to accommodate the needs associated with heavy vehicles travelling to and from the site.

3.5.1 Security and Access Control

Perimeter fencing is planned around the mining areas These fences would be maintained for the duration of the project. Access control and a security office would be established at the entrance to mining area. Safety barriers will be placed around the perimeter of the open pit mining areas. Further details will be provided in the EIA report.

3.6 WATER AND SERVICES

Water will be trucked in for dust suppression and in the workshop/office/ablution.

The following table provides a summary of the daily potable water requirement:

Equipment	Activity
Water Bowser	Dust Suppression
Workshop/Office	Cleaning of mobile machinery and drinking

3.7 OPERATING HOURS

The construction and operational phase for the opencast mining activities would comprise a 5.5-day working week with a one shift system per day between 06:00 to 18:00 Monday to Friday and between 06:00 to 14:00 on Saturday.

3.8 EXISTING AND PROPOSED ACTIVITIES

The three mining permit areas fall on a historic Prospecting Right (MP 30/5/2/1/1/12285PR) over the same area where they are currently applying for three separate Mining Permits (this application).

4 POLICY AND LEGISLATIVE CONTEXT

Table 5: Policy and Legislative Context

Applicable Legislation and Guidelines Used to Compile the Report	Reference Where Applied
Constitution of South Africa, 1996 (Act No. 108 of 1996) [as amended] • *Section 24* *Environment: Everyone has the right-* *(a) to an environment that is not harmful to their health or well-being; and* *(b) to have the environment protected, for the benefit of present and future generations through reasonable legislative and other measures that-* *i) prevent pollution and ecological degradation;* *ii) promote conservation; and* *Secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*	The proposed mining development has the potential to harm the environment and poses a risk to the health and wellbeing of people. The mining also has the potential to secure sustainable development through reusing process products and thereby limiting the use of natural resources. The Applicant has the overall responsibility to ensure that the rights of people in terms of Section 24 of the Constitution is protected in terms of the proposed development activity.
National Environmental Management Act (No. 107 of 1998) [as amended] • *Section 28 (1)* *Duty of Care and responsibilities to minimise and remediate environmental degradation.*	The Applicants are the developers and overall responsibility of the mine rests with them, especially in terms of liabilities associated with the operational phase. Three different applicants are involved in the applications, each applicant will own a different mining permit and DMRE confirmed that they will issue three separate mining permits.

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
EIA Regulations, 2014 (Government Notices 982 -984) [as amended] *The proposed construction, operational and closure activities of the proposed development triggers listed activities that are listed in the EIA regulations for which a Scoping and Environmental Impact Assessment (EIA) process have to be conducted:* Listing Notice 1 & 3 have been triggered as well as GN633 for waste activities requiring a Waste License as well.	The proposed development requires an application for three mining permits. An integrated NEMA and NEM:WA application has been launched with the DMRE (This application).
EIA Regulations, 2017 (Government Notices 982 -984) *Chapter 6: Regulation 39 to 44: Public Participation;* *Chapter 4: Application for Environmental Authorisation:* *Part 3 Scoping and Environmental Impact Report (S&EIR)* *Appendix 2: Scoping Report* *Appendix 3: Environmental Impact Assessment Report* *Appendix 4: Environmental Management Programme* *Appendix 5: Closure Plan* *Appendix 6: Specialist Reports*	The EIA Regulations, 2014 [as amended] prescribes inter alia: the manner in which public participation needs to be conducted as well as the requirements of a scoping and environmental impact assessment process and the content of a scoping report, environmental impact assessment report and environmental management programme. The content of specialist reports, closure plans and environmental audit reports are also provided.
Mineral and Petroleum Resources Development Act, 2002 (Act. 28 of 2002) [as amended]:	Three Mining Permit applications have been launched as Basic Assessment Processes, but based on correspondence from the DMRE, a different approach is to be followed and this requires the full EIA/EMPr process for Environmental Authorisation to be issued to obtain the Mining Permits.
National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) [as amended] • *Section 16* *General duty in respect of waste management;* • *Section 17;* *Reduction, re-use, recycling and recovery of waste;* • *Section 18; and* *Extended producer responsibility; and* • *Section 21* *General requirements for storage of hazardous and general waste.*	The new mining areas will produce general and hazardous waste which need to be managed and disposed of according to best practices such as recycling, safe storage, etc. An integrated NEMA and NEM:WA application has been launched with the DMRE (this application).

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
National Water Act, 1998 (Act No. 36 of 1998) [as amended] • *Section 3* *Regulation of flow and control of all water* • *Section 19* *Prevention of pollution to watercourses* • *Section 21* *The water use activities associated with the proposed development requires compliance with the requirements of the NWA as listed under GN No. 19182. An application for an integrated water use license is lodged in terms of Section 21 of the National Water Act, 1998 (Act 36 of 1998) [as amended] to undertake the following activity:* *Section 21: (g) disposing of waste in a manner which may detrimentally impact on a water resource.* *Section 21(j); Removing, discharge or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people*	The applicants will have to apply for a Water Use License and assess the following possible triggered Section 21 water uses: - Section 21(g): Disposing of water in a manner which may detrimentally impact on a water resource. Water management on the mine to be in line with the requirements of the site specific WUL (needs to apply for) and GN R704 National Water Act, 1998 (Act No. 36 of 1998).
Regulations Regarding the Procedural Requirements for Water Use Licence Applications and Appeals published in terms of NWA in Government Notice 267 of March 2017 Several General Authorisations have been published in terms of Section 39 of the NWA (various dates)	The Regulations will be taken into consideration during the Water Use Licence Application process. No wetlands occur within 500m based on the preliminary findings of the specialists. A drainage line is located 100 away from the Mining Permit areas and it will be ensured that this distance is kept intact. The drainage line had been previously mined and fragmented.
Mine Health and Safety Act, 1996 (Act No. 29 of 1996) [as amended] and associated regulations • *Chapter 2, Sections 2 – 4* *Responsibilities of owner* • *Chapter 2, Sections 5 – 13* *Responsibilities of manager;* • *Chapter 2, Sections 14 – 18;* *Documentation requirements;* • *Chapter 2, Section 19 – 20 and 22 to 24* *Employee's rights and duties; and* • *Chapter 2, Section 21*	The mining development activities may create an environment that is not safe and healthy for workers on and visitors to the site (if not managed correctly). The act provides for measures to prevent threats to the health and safety of humans in the development area.

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
Manufacturer's and supplier's duty for health and safety.	
National Heritage Resources Act, 1999 (Act No. 25 of 1999) • *Section 44 (1);* *Preservation and protection of heritage resources;* • *Section 3 Types and ranges of heritage resources (i) (i);* *Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens*.	Protection of indigenous heritage resources on the property. A Heritage assessment was conducted for the project and the documents will be distributed to SAHRA for comments during the onset of the PPP Phase. The majority of the demarcated study areas is associated with cultivated crops and pastures, while the remaining section has been disturbed by past diggings. The 1974 topographical map indicates one building in the south-eastern corner of Area 3, but the building has subsequently completely been demolished and currently falls within the cultivated section. No material culture is associated with this site and no additional potential heritage sites were observed during the pedestrian survey or on historical topographical maps. From a heritage perspective, the demarcated study areas are not considered to be sensitive.
National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) [as amended] • *Section 32* *Control of dust* • *Section 34* *Control of noise*	Impacts on surrounding landowners need to be managed through dust and noise mitigation measures. An Air Quality Baseline assessment & Noise Impact Assessment will be completed, and the details will be provided within the EIA Phase of the project. Cumulative impacts will be assessed for the three mining permits as requested by the DMRE.
List of Activities which Result in Atmospheric Emissions, published in terms of NEM:AQA in Government Notice 893 of 2013 (as amended)	The proposed mining activities will not trigger any of the activities.
National Dust Control Regulations, 2013 (Government Notice 827 of 2013) • *Section 3* *Dust fall standard* • *Section 4* *Dust fall monitoring program* • *Section 6* *Measures for control of dust* • *Section 7*	Dust fallout need to be monitored in accordance to the standards set out in the monitoring programme with the specified measures due to the Applicant being liable to offences and penalties associated with non-conformance to dust which may influence employees and surrounding landowners.

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
Ambient air quality monitoring (PM10) • *Section 8* *Offences* • *Section 9* *Penalties*	
National Greenhouse Gas Emission Reporting Regulations, published in terms of NEM:AQA in Government Notice of July 2017	During operational phase the applicants will be required to report in the prescribed format.
Veld and Forest Fire Act, 1998 (Act No. 101 of 1998) [as amended] • *Section 12 (1)* *Duty of the landowner to prevent fire from spreading to neighbouring properties.*	Cautionary steps in avoiding the spread of fires to and from neighbouring properties.
National Environmental Management: Biodiversity Act, 2004 (Act No. 10 of 2004) [as amended] • *Section 9* *Norms and standards* • *Section 27* *Delegation of power and duties* • *Section 30* *Financial accountability* • *Section 43* *Biodiversity management plans.*	Indigenous vegetation needs to be protected and managed in accordance with management measures set out in the management plans developed for the mining permit areas and the Applicants need to ensure they are aware of and covers all of their liabilities. An activity for removing and clearance of vegetation has been applied for within this application and no other vegetation clearance will be permitted other than that approved in terms of the EA when/if the Competent Authority makes its decision.
Alien and Invasive Species Regulations (Government Notice 598 of 2014) and Alien and Invasive Species List, 2014 in terms of NEMBA (Government Notice 599 of 2014) • *Notice 2* *Exempted Alien Species in terms of Section 66 (1)* • *Notice 3* *National Lists of Invasive Species in terms of Section 70(1) – List 1, 3-9 & 11* • *Notice 4*	It is the responsibility of the Applicant to ensure that all prohibited plant and animal species are eradicated as far as possible.

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
Prohibited Alien Species in terms of Section 67 (1) – List 1, 3-7, 9-10 & 12	
Conservation of Agricultural Resources Act (no. 43 of 1983) • *Section 5* *Prohibition of spreading of weeds* • *Section 12* *Maintenance of soil conservation works and maintenance of certain states of affairs* • *Section 16* *Regional Conservation Committees*	Listed invader/alien plants occurring on site which requires management measures to be implemented to strive to maintain the status quo environment, especially through the guidelines provided by the Regional Conservation Committee.
Mining and Biodiversity Guideline (2013)	The Act, regulation and guideline have informed project planning and will be taken into account in the assessment and mitigation of impacts.
Draft National Biodiversity Offset Policy, 2017	Not applicable for the area in question
Hazardous Substances Act, 1973 (Act 15 of 1973) [as amended] • *Section 2* *Declaration of grouped hazardous substances;* • *Section 4* *Licensing;* • *Section 16* *Liability of employer or principle* • *Section 9 (1)* *Storage and handling of hazardous chemical substances* • *Section 18* *Offences*	The Applicant must ensure the safety of people working with hazardous chemicals (specifically fuels), as well as safe storage, use and disposal of containers during the on-site operational phase together with the associated liability should non-compliance be at the order of the day.
Hazardous Chemical Substances Regulations, 1995 (Government Notice 1179 of 1995) • *Section 4* *Duties of persons who may be exposed to hazardous chemical substances* • *Section 9A (1)*	Hazardous substances will be stored and utilised on the site and non-compliance to management measures will result in prosecution of the Applicant in terms of his liabilities to the socio-economic environment.

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
Penalties	
Waste Classification and Management Regulations and Norms and Standards for the assessment of for landfill disposal and for disposal of waste to landfill, 2013 (Government Notice 634 – 635 of 2013) promulgated in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) [as amended]; and Regulations regarding the planning and management of residue stockpiles and residue deposits from a prospecting, mining, exploration or production operation (GN R. 632 of 2015)	The new mining areas (three mining permits) will produce general and hazardous waste which need to be managed and disposed of according to best practices such as recycling, safe storage, etc. Disposal will take place on an existing approved waste disposal facility. A Waste License is required for the mine for the establishment of Waste/ Residue Stockpiles (albeit temporary). An integrated NEMA and NEM:WA application has been launched with the DMRE (this application).
National Norms and Standards for the Storage of Waste, published in terms of NEM:WA in Government Notice 926 of 2013	The purpose of the norms and standards is to – a. Provide a uniform national approach relating to the management of waste storage facilities. b. Ensure best practice in the management of waste storage facilities; and c. Provide minimum standards for the design and operation of the waste storage facilities. Management of the any waste storage facility will be in line with the requirements and no waste will be treated on-site. Waste will be removed by licensed contractors to a licensed facility on a regular basis.
National Norms and Standards for the Sorting, Shredding, Grinding, Crushing, Screening or Baling of General Waste, published in terms of NEM:WA in Government Notice 1093 of 2017.	The purpose of this Norms and Standards is to provide a uniform national approach relating to the management of waste facilities that sort, shred, grind, crush, screen, chip or bale general waste. The waste rock dump is not regulated under this Norms and Standards. No general waste will be processed in terms of these norms and standards on the mining area.
Guideline on the Need and Desirability, Department of Environmental Affairs, 2017	This guideline has been taken into account as part of project planning. The 2017 Guideline has been used within this process.
NEMA: Government Notice. 805 Companion Guideline on the Implantation of the Environmental Impact Assessment Regulations, 2010, October 2012.	The application for Environmental Authorisation is submitted in terms of the EIA Regulations.
NEMA: GN. 807 Public Participation Guideline, October 2012.	Consultation with Interested and Affected Parties and Communities.
Public Participation guideline in terms of NEMA EIA Regulations, Department of Environmental Affairs, 2017	This guideline has informed the public participation process for the project.

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
Regulations Pertaining to the Financial Provision for Prospecting, Exploration, Mining or Production Operations, 2015 (Notice 1147 of 2015) • *Regulation 5: Scope of financial provision* • *Regulation 6: Method for determining financial provision* • *Regulation 12: Preparation and submission of plans and reports*	An applicant must determine the financial provision through a detailed itemisation of all activities and cost, calculated based on the actual cost of implementation of the measures required.
Regulations on use of Water for Mining and Related Activities Aimed at the Protection of Water Resources, 1999 (Notice 704 of 1999). • *Regulation 4: Restrictions on location of mining activities* • *Regulation 7: Protection of water resources* • *Regulation 12: Technical investigation and monitoring.*	Every person in control of a mining permit areas or activity must take measures to manage water in an effective manner as prescribe by the regulation.
Noise Control Regulations (The Republic of South Africa, 1992) published in terms of Section 25 of the Environment Conservation Act (Act no. 73 of 1989)	The regulations define the following • Controlled areas; and • Disturbing noise Limits are provided for rating levels for outdoor noise. To be utilised by the Noise specialist to determine the impact and mitigation measures.
NEM:AQA: GNR 283. National Atmospheric Emissions Reporting Regulations, 2015. *For purposes of these Regulations, emission sources and data providers are classified according to groups A to D listed in Annexure 1 to these Regulations.* Section 5(3): *For purposes of these Regulations, emission sources and data providers are classified according to groups A to D listed in Annexure 1 to these Regulations.*	Any person, that holds a right or permit in terms of the MPRDA. Emissions report must be made in the format required for NAEIS to the relevant air quality officer.
National Guideline on minimum information requirements for preparing Environmental Impact Assessments for mining activities that require environmental authorisation, published in terms of NEMA in Government Notice 86 of 2018	This guideline has been taken into account as part of project planning.
Restitution of Land Rights Amendment Act, 2014 (Act 15 of 2014). The act deals with Land claims.	The validity of the amendment Act was challenged in the Constitutional Court. The Constitutional Court found the Amendment Act to be invalid because of the failure of Parliament to facilitate public involvement as required by the Constitution. The Amendment Act ceased to be law on 28 July 2018. The Constitutional Court ordered that the claims that were lodged between 1 July 2014 and 27 July 2016 are validly lodge, but it interdicted the Commission from processing those claims until the Commission has finalised the claims lodged by 31 December 1998 or until Parliament passes a new law providing for the re-opening of lodgement of land claims. It is important to note that the provisions of section 11(7) of the Restitution of land Rights Amendment Act, 1994 do not apply until after the Commission has accepted the claim for

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
	investigation and published its details in the Government Gazette. Where section 11(7) of Restitution of land Rights Amendment Act, 1994 applies, the land claim commission will be informed a month before any activity is undertake on the property.
Deeds Registries, 1937 (Act No. 47 of 1937) [as amended]	Registration of servitudes and deed titles.
South African Mining Charter	Focus on sustainable transformation of the mining industry. The applicants as indicated in the introduction is compliant with the BEE requirements. Social management and mitigation measures, developed as part of the SIA, will be aligned to the Mining Charter.
National Strategy for Sustainable Development and Action Plan 2011 – 2014 (NSSD 1) (2011)	The Strategy for Sustainable Development and Action Plan (NSSD1) is a proactive strategy that regards sustainable development as a long-term commitment, which combines environmental protection, social equity and economic efficiency with the vision and values of the country. It is a milestone in an ongoing process of developing support, and initiating and up-scaling actions to achieve sustainable development in South Africa (DEA, 2011) and has outlined the following strategic objectives: • enhance systems for integrated planning and implementation; • sustain ecosystems and use natural resources efficiently; • move towards a green economy; • build sustainable communities; and • respond effectively to climate change. The Act, development plans, development frameworks and bylaws have informed project planning and the need and desirability of the project and will be taken into account in the assessment and mitigation of impacts during the EIA phase.
National Spatial Development Perspectives (NSDP)	The NSDP (2006) provides a framework for a focused intervention by the State in equitable and sustainable development. It represents a key instrument in the State's drive towards ensuring greater economic growth, buoyant and sustained job creation and the eradication of poverty. It provides:

Applicable Legislation and Guidelines Used to Compile the Report	Reference Where Applied
	• a set of principles and mechanisms for guiding infrastructure investment and development decisions; • a description of the spatial manifestations of the main social, economic and environmental trends that should form the basis for a shared understanding of the national space economy; and • an interpretation of the spatial realities and the implications for government intervention. The Act, development plans, development frameworks and bylaws have informed project planning and the need and desirability of the project, and will be taken into account in the assessment and mitigation of impacts during the EIA phase.
National Development Plan 2030 (2010)	The National Development Plan aims to ensure that all South Africans attain a decent standard of living through the elimination of poverty and reduction of inequality by 2030. The core elements of a decent standard of living identified in the plan are: • housing, water, electricity and sanitation; • safe and reliable public transport; • quality education and skills development; • safety and security; • quality health care; • social protection; • employment; • recreation and leisure; • clean environment; and • adequate nutrition The Act, development plans, development frameworks and bylaws have informed project planning and the need and desirability of the project, and will be taken into account in the assessment and mitigation of impacts during the EIA phase.
New Growth Path (2010)	South Africa has embarked on a new economic growth path in a bid to create 5million jobs and reduce unemployment from 25% to 15% over the next ten (10) years. The plan aims to address unemployment, inequality and poverty by unlocking employment

Applicable Legislation and Guidelines Used to Compile the Report	Reference Where Applied
	opportunities in South Africa's private sector and identifies seven job drivers. These job drivers have the responsibility to create jobs on a large scale. The seven key economic sectors or "job drivers" for job creation are listed below: • infrastructure development and extension: Public works and housing projects; • agricultural development with a focus on rural development and specifically • "Agro-Processing"; • mining value chains; • manufacturing and industrial development (IPAP); • knowledge and green economy; • tourism and services; and • informal sector of economy The Act, development plans, development frameworks and bylaws have informed project planning and the need and desirability of the project and will be taken into account in the assessment and mitigation of impacts during the EIA phase.
National Framework for Sustainable Development (2008)	The purpose of the National Framework on Sustainable Development is to enunciate South Africa's national vision for sustainable development and indicate strategic interventions to re-orientate South Africa's development path in a more sustainable direction. It proposes a national vision, principles and areas for strategic intervention that will enable and guide the development of the national strategy and action plan.
National Spatial Development Perspective (2006)	The NSDP 2006 provides a framework for a focused intervention by the State in equitable and sustainable development. It represents a key instrument in the State's drive towards ensuring greater economic growth, buoyant and sustained job creation and the eradication of poverty. Employment opportunities, direct and in-direct will be provide by the proposed mine.
Mpumalanga Economic Growth & Development Path, October 2011	The frameworks have informed project planning and the need and desirability of the project and will be taken into account in the assessment and mitigation of impacts during the EIA phase.

Applicable Legislation and Guidelines Used to Compile the Report	Reference Where Applied
Mpumalanga Spatial Development framework, January 2019.	Mining, especially coal mining remains one of the provinces key economic sectors, realising the contestation of resources through mining the negative impacts require management and positive mitigation interventions – environment, water, air pollution and agricultural land. The development frameworks have informed project planning and the need and desirability of the project and will be taken into account in the assessment and mitigation of impacts during the EIA phase.
Steve Tshwete Local Municipality Final IDP (22021-2022)	The largest employing industries in Steve Tshwete trade (including tourism), community services, finance and mining. One of the "threats" mentioned in the IDP is the following: "The economy's strong reliance on the mining sector whilst mines are closing down without replacement sectors filling in at the same pace". In Rural Areas, the NDP advocates the following: • Spatial consolidation of rural settlements to increase densities and enhance sustainability; Innovative (green), targeted and coordinated infrastructure delivery; • Prioritise rural development along mobility corridors and at strategic intersections; • Rural nodal development and revitalisation of small towns; • Diversification of rural economy towards mining, tourism and local business. The development frameworks have informed project planning and the need and desirability of the project and will be taken into account in the assessment and mitigation of impacts during the EIA phase. The male population in Steve Tshwete is higher than female population in Steve Tshwete. Such an age structure is observed in population that attracts migrants due to lucrative employment opportunities. There are manufacturing, industrial and mining companies in Steve Tshwete that attract people from

Applicable Legislation and Guidelines Used to Compile the Report	Reference Where Applied
	across the country and other African countries. Mining, trade and manufacturing are the major leading employment drivers in Steve Tshwete LM. The following are important directives applicable to Steve Tshwete Local Municipality (Page 88): • To achieve a sustainable equilibrium between urbanisation, biodiversity conservation, industry, mining, agriculture, forestry, and tourism related activities within the municipality, by way of effective management of land uses and environmental resources. • To optimally utilise the mining potential in the municipal area without compromising the long-term sustainability of the natural environment. The spatial vision statement for the Steve Tshwete Local Municipality evolves around the following key elements (Page 89): • Consolidating of the spatial structure of existing towns and settlements in order to achieve physical, social and economic integration of communities and to enhance cost-efficient and sustainable service delivery; • Making sufficient provision for upgrading of informal settlements and development of sustainable human settlements on strategically located vacant land areas; • Promoting investment along the N4 development corridor with specific focus on enhancing the stainless steel cluster in the town; • Continuing to focus on the sustainable extraction and beneficiation of local minerals with comprehensive mining rehabilitation programmes; • Encouraging the beneficiation of local agricultural produce in rural focus areas before exporting to surrounding markets; • Promoting the STLM as eco-tourism destination; • Continuously manage and maintain the public space and ensure that engineering services and community facilities are well maintained and

Applicable Legislation and Guidelines Used to Compile the Report	Reference Where Applied
	upgraded in line with increased demand in various parts of the municipal area.
National Development Plan (NDP)	In Urban Areas, the NDP advocates the following: • Upgrading of informal settlements; • Urban densification within existing urban fabric and along development corridors; • Extensive provision and prioritisation of public transport; • Job creation and urban renewal in former township areas; • Diverse range of subsidised housing typologies and densities, and focusing on filling the housing "gap market" in terms of bonded housing. In Rural Areas, the NDP advocates the following: • Spatial consolidation of rural settlements to increase densities and enhance sustainability; Innovative (green), targeted and coordinated infrastructure delivery; • Prioritise rural development along mobility corridors and at strategic intersections; • Rural nodal development and revitalisation of small towns; • • Diversification of rural economy towards mining, tourism and local business.
Regional Industrial Development Strategy (RIDS)	• Confirms the District status as one of the more successful economic regions in South Africa; • Municipal-wide focus on energy generation, mining, agriculture and tourism development.
• Mpumalanga Vision 2030	• Spatial Rationale for future development of Mpumalanga centres around eight key drivers: nodal development, business, commercial and industrial development, tourism, forestry, agriculture and mining; • The Number One African City in Service Delivery, Innovation and Good Governance; • Urban Development should focus on two main interventions: Urban Restructuring and Urban Renewal and Revitalisation; • In terms of Rural Development the focus should be on three main interventions: Rural Nodal Development by way of public infrastructure

Applicable Legislation and Guidelines Used to Compile the Report	**Reference Where Applied**
	provision, Rural Settlement Consolidation and Agrarian Transformation from subsistence farming to commercial farming.
All other relevant national, provincial, district and local municipality legislation and guidelines that may be applicable to the application. Some of these are discussed in the next section but will be discussed in detail within the EIA / EMPR report.	

5 NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

(Motivate the need and desirability of the proposed development including the need and desirability of the activity in the context of the preferred location).

The main benefits of the proposed Coal mining project are:

- Direct economic benefits will be derived from wages, taxes and profits;
- Indirect economic benefits will be derived from the procurement of goods and services and the spending power of employees;
- Increased job security to employees already skilled in coal mining within the area;
- Implementation of the proposed project will result in skills development associated with and mining;
- It contributes to the economic welfare of the surrounding community by creating working opportunities;
- It contributes to the upliftment of living standards and the health and safety of the local community;
- The project will result in economic mining of a known resource;
- The net benefit to South Africa is a product produced specifically the local commodity market, specifically for electricity generation (Eskom); and
- Reduction in illegal mining and unregulated mining.

The project is aligned with the objectives of the MPRDA (Act 28 of 2002)

- To promote economic growth and mineral development in the Republic;
- To promote employment and advance the social and economic welfare of all South Africans;
- To ensure that the nation's mineral resources are developed in an orderly and ecologically sustainable manner while promoting justifiable social and economic development; and
- To ensure that mining developments contribute towards the social-economic development of the area in which they are operating.

The Department of Environmental Affairs (DEA) published a Guideline on Need and Desirability (2017) in terms of the Environmental Impact Assessment (EIA) Regulations, 2014 (as amended). The key components are listed and discussed below:

- Securing ecological sustainable development and use of natural resources; and
- Promoting justifiable economic and social development.

According to DEA (2017), Guideline on Need and Desirability, Department of Environmental Affairs, to describe the need for a development, it must be determined whether it is the right time for locating the type of land use and/or activity being proposed. To describe the desirability for a development, it must be determined, whether it is the right place for locating the type of land use and/or activity being proposed. Need and desirability can be equated to the concept of wise use of land which can be determined through asking the question: "what is the most sustainable use of land?" Considering the above, the need and desirability of an application must be addressed separately and in detail answering *inter alia* the following questions:

Table 6: Need and desirability considerations

Securing ecological sustainable development and use of natural resources		
1. 1.1	How will this development (and its separate elements/aspects) impact on the ecological integrity of the area? How were the following ecological integrity considerations taken into account? 1.1.1 Threatened Ecosystems, 1.1.2 Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure, 1.1.3 Critical Biodiversity Areas ("CBAs") and Ecological Support Areas ("ESAs"), 1.1.4 Conservation targets, 1.1.5 Ecological drivers of the ecosystem, 1.1.6 Environmental Management Framework, 1.1.7 Spatial Development Framework, and 1.1.8 Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).	Within the National Threatened Ecosystems (2011 & 2018), the area falls within the Rand Highveld Grassland, which has a status of Vulnerable and is known to be Poorly Protected and the footprint falls exclusively within this Vegetation Group. The Mining Permit areas range between Heavily Modified and Other Natural Areas within the Mpumalanga Conservation Plan. *It is stated for "Other Natural Areas": No management objectives, land management recommendations or land-use guidelines are provided as these areas are outside the ambit of the Bioregional Plan. These areas are nevertheless subject to all applicable town and regional planning guidelines and policy. Where possible existing transformed areas should be favoured for development before "Other natural areas" as before "Other natural areas" may later be required either due to the identification of previously unknown important biodiversity features on these sites, or alternatively where the loss of "Critical Biodiversity Areas" has resulted in the need to identify alternative sites."* As mentioned, mining and prospecting is already a known land use on the property and in the area. Mpumalanga is also known for its coal resources and coal mines. The continuing of this land use in the vicinity will bring additional socio-economic benefits such as increased work opportunities for this specific skill-type. It will also aid by mining the known resource within a beneficent timeframe, specifically since it is known that Eskom is dependent on reliable coal resources. The area falls within sections listed as Threatened Ecosystems in terms of the National Biodiversity Assessment, 2011. This has been included as a listed activity – Activity 30

		(Listing Notice 1). The following specialist studies shall be conducted in support of this application • Ecological Assessment (Fauna, Flora); • Heritage Assessment; • Soil, Land Capability and Agriculture Impact Assessment; • Air Quality Assessment; • Waste Classification; • Geohydrological Assessment; • Geotechnical Assessment; • Wetland Assessments; • Hydropedology Assessment – need to be assessed is subject to wetland assessment outcome; • Noise Impacts Assessments; • Waste Classification Report; • Closure and Financial provision.
1.2	How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Impacts predicted for the development are Medium. The depressions identified have been assessed and is categorised as artificial fragmented pooling associated with the drainage of the site and not as wetlands (preliminary findings of the wetland specialist). General impacts, such as dust, noise, etc. have been covered within the Environmental management programme (EMP) proposed for the Mine activities. Several mitigation measures and monitoring features will be included in the EMP to ensure minimal and managed operation of the footprint area designed for the Mining area.
1.3	How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored	Mitigation and Management measures prescribed will aid to avoid and lower any possible impacts that may result from the development. Final rehabilitation will restore Land capability and Land use to a pre-mining state where possible and in accordance with the

	to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	final approved Land use. The Life of Mine is only proposed for the period of 1.5 years and therefore, a period of 2 years is proposed for in this document. This will include active mining, as well as the post-closure monitoring and rehabilitation required to obtain a Closure certificate. As mentioned above, no Offset agreement will be applicable since the depressions found within 500m are artificial depressions with pooling of water during run-off and will not be impacted, nor constitute as wetlands. However, details regarding these are be finalised and formalised during the EIA Process and WULA.
1.4	What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?	General waste, Hazardous waste and litter will be generated during the life of the mining permits, and these should be kept in designated areas and disposed of to a licensed landfill facility. Other wastes that may cause soil contamination are from the use of vehicles and loaders during the mining process, which may lead to hydrocarbon spills. Regulations for soil clean-up and management will been prescribed in the EMPr. Portable toilets are recommended for the construction and operation and a contractor will be required for the maintenance and service of these systems. The residue stockpiles, such as the Waste Rock Dump and Overburden Stockpiles will be licensed in accordance with the National Waste Act and a Waste license for these activities will be obtained. Backfill with overburden will also be licensed and all of these also needs to be included as Section 21(g) water uses in terms of the National Water Act, 1998 (Act 36 of 1998). These will all be kept in-pit during the process.
1.5	How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether,	A specialist heritage study was conducted for the project and these findings have been included in the application. All other relevant specialist investigations have been incorporated. It is stated that the majority of the demarcated study areas is associated with

	what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	cultivated crops and pastures, while the remaining section has been disturbed by past diggings. The 1974 topographical map indicates one building in the south-eastern corner of Area 3, but the building has subsequently completely been demolished and currently falls within the cultivated section. No material culture is associated with this site and no additional potential heritage sites were observed during the pedestrian survey or on historical topographical maps. From a heritage perspective, the demarcated study areas are not considered to be sensitive.
1.6	How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	The operation will remove a known resource (coal resource – limited resource) within the designated area. This cannot be reversed. The study area has been transformed as noted in the specialist investigations and the coal mining already in the vicinity and the area subjected to other mining in the past. Through implementing good practice environmental management measures and mitigation measures, it will ensure that both human and environment are not negatively affected by the development. Since coal seams are usually associated with wetland related / waterlogged terrain since most coal seams are the result of peat and other organic carbon accumulations over the year, this will always be the areas where coal is found and may be characterised by sensitive features such as wetlands, pans and grasslands. This is why Mpumalanga is so rich in both as one is usually not found without the other.
1.7	How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources?	Crushing and screening (Primary processing) is proposed, but no washing is required on-site. Washing to improve quality will be conducted off-site at other designated points or clients. Water requirements have been described above and all water uses will need to be licensed in terms of the National Water Act. Stormwater management will be captured in pit and re-used and recycled and may be used

	What measures were taken to ensure responsible and equitable use of the resources? What measures were explored to enhance positive impacts? 1.7.1. Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life). 1.7.2. Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?) 1.7.3. Do the proposed location, type and scale of development promote a reduced dependency on resources?	as dust suppression around the dirty footprint areas within the area. This will alleviate the requirement for clean make-up water which will be sourced from outside sources brought to site (according to the MWP). Water may also be needed to be removed from the opencast section during the project and this will also be re-utilised where possible. No discharges into the environment will be applied for or proposed for the project.
1.8	How were a risk-averse and cautious approach applied in terms of ecological impacts? 1.8.1 What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? 1.8.2 What is the level of risk associated with the limits of current knowledge? 1.8.3 Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	The Environmental risk assessment for all environmental features has been included within Section 10 and Section 11. Ecological, Wetland and Heritage specialist study was completed for the project to ensure the impacts of these aspects have been properly assessed and will be catered for within the Environmental Management Programme (EMP). Other specialist investigations were also conducted (in process), and these are relevant for the specific project (Groundwater, Geotechnical, Waste Classification etc. – refer to Table 18) and adherence to these management measures will be mitigate and manage impacts predicted. A section regarding limitations of the studies have been included in the EIA/EMP format and will be available for the competent authorities to consider as well.

1.9	How will the ecological impacts resulting from this development impact on people's environmental right in terms following. 1.9.1 Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? 1.9.2 Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	Noise, dust and visual pollution can slightly increase if managed incorrectly. Possibly water pollution, if impacts are not managed effectively, but with the proper mitigation and good practice environmental management measures, it will result in minimal impacts. These impacts will be assessed, and detailed prevention and mitigation measures will be recommended.
1.10	Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?	Ecological aspects and specialist impact assessments have been included in the document and risk assessments utilised to guide the Environmental Management Program.
1.11	Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?	The Environmental risk assessment for all environmental features will be assessed and included in the EIA/EMPr phase of the project.
1.12	Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?	Ecological, Wetland and Heritage specialist study will be completed for the project to ensure the impacts of these aspects have been properly assessed and will be catered for within the Environmental Management Programme (EMP).
1.13	Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?	Cumulative impacts may be the accumulation of all the existing, historic and proposed mining activities which may result in negative impacts, however, if the Rietfontein project(s) implement mitigation measures and management correctly, cumulative negative impacts as a result of the combined coal mining of the area, will be low-medium since all three will be managed optimally and preferable not mined at the same time.
"Promoting justifiable economic and social development"		

2.1	What is the socio-economic context of the area, based on, amongst other considerations, the following considerations? 2.1.1 The IDP (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area, 2.1.2 Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.), 2.1.3 Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and 2.1.4 Municipal Economic Development Strategy ("LED Strategy").	The project is aligned with the objectives as coal mining is already an ongoing and historic activity within the area and within Mpumalanga and therefore may not compromise the integrity of the surrounding land uses and neighbouring properties. Also, most of the site in question has almost no natural remaining habitat left, as also shown within the Conservation plan, while other smaller sections show "Other natural areas". According to the Steve Tshwete IDP (2020/2021), the largest employing industries in Steve Tshwete trade (including tourism), community services, finance and mining. One of the "threats" mentioned in the IDP is the following: "The economy's strong reliance on the mining sector whilst mines are closing down without replacement sectors filling in at the same pace". The male population in Steve Tshwete is higher than female population in Steve Tshwete. Such an age structure is observed in population that attracts migrants due to lucrative employment opportunities. There are manufacturing, industrial and mining companies in Steve Tshwete that attract people from across the country and other African countries. Mining, trade and manufacturing are the major leading employment drivers in Steve Tshwete LM. This indicates that coal mining within the local area is prevalent and aligned with current developments found within the local vicinity.
2.2	Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area? 2.2.1. Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?	Also refer to the comments made above regarding the IDP for the specific local municipality. The proposed project will benefit society and the surrounding communities both directly and indirectly by providing job security at the proposed operation and through the extraction of coal reserves within the Mpumalanga Province. Direct economic benefits will

		be derived from wages, taxes, and profits. Indirect economic benefits will be derived from the procurement of goods and services and the spending power of employees. The project will make use of local workers and service providers, and this must be kept record of to ensure the local economic development (as prescribed in the EMPR).
2.3	How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	Refer to comments made above. All aspects and comments received from I&APs during the process will be reasonably addressed and incorporated into the final EIA/EMPr submitted to the DMRE. Local economic growth and work opportunities will be main benefits from the project if approved and may address some of the physical, psychological, development, cultural and social needs. Main benefits from the mining, which may possibly address community needs are mentioned below (also refer next comment) and is in-line with the local municipality and national goals of development and transformation. One of the "threats" mentioned in the IDP is the following: "The economy's strong reliance on the mining sector whilst mines are closing down without replacement sectors filling in at the same pace". In Rural Areas, the NDP advocates the following: • Spatial consolidation of rural settlements to increase densities and enhance sustainability; Innovative (green), targeted and coordinated infrastructure delivery; • Prioritise rural development along mobility corridors and at strategic intersections; • Rural nodal development and revitalisation of small towns; • Diversification of rural economy towards mining, tourism and local business.
2.4	Will the development result in equitable (intra- and inter-generational) impact	The main benefits of the proposed mining operation are:

	distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term?	• Direct economic benefits will be derived from wages, taxes and profits. Indirect economic benefits will be derived from the procurement of goods and services and the spending power of employees; • Implementation of the proposed project will result in skills development associated with coal mining; • It contributes to the economic welfare of the surrounding community by creating working opportunities; • It contributes to the upliftment of living standards and the health and safety of the local community; • The project will result in economic mining of a known resource; • The net benefit to South Africa is a product produced for the world and specifically the local commodity market, as it is noted in background information that the coal will be utilised by Eskom Holdings Limited, Private power generators, hospitals, paper producers, sugar producers, multiple engineering boiler users, cement factories, brick manufacturers, export companies and traders. <u>No agreement is in place at the time of the drafting of this document, information is noted from the Mining Works Programme.</u> The project is aligned with the objectives of the MPRDA (Act 28 of 2002) • To promote economic growth and mineral development in the Republic • To promote employment and advance the social and economic welfare of all South Africans.
2.5	In terms of location, describe how the placement of the proposed development will; 2.5.1. result in the creation of residential and employment opportunities in close proximity to or integrated with each other, 2.5.2. reduce the need for transport of people and goods,	Alternatives have been assessed during the process and the best suited alternative will be described within this application and depicted in the EIA Phase. Refer to sections below for all aspects taken into account at this stage of the process. At the moment, the proposed layout is the best suited and feasible alternative, taking into account the already transformed footprint, sensitive features within the project area and the known resource

	2.5.3. result in access to public transport or enable non-motorised and pedestrian transport (e.g. will the development result in densification and the achievement of thresholds in terms public transport), 2.5.4. compliment other uses in the area, 2.5.5. be in line with the planning for the area, 2.5.6. for urban related development, make use of underutilised land available with the urban edge, 2.5.7. optimise the use of existing resources and infrastructure, 2.5.8. opportunity costs in terms of bulk infrastructure expansions in non-priority areas (e.g. not aligned with the bulk infrastructure planning for the settlement that reflects the spatial reconstruction priorities of the settlement), 2.5.9. discourage "urban sprawl" and contribute to compaction/densification, 2.5.10. contribute to the correction of the historically distorted spatial patterns of settlements and to the optimum use of existing infrastructure in excess of current needs, 2.5.11. encourage environmentally sustainable land development practices and processes 2.5.12. take into account special locational factors that might favour the specific location (e.g. the location of a strategic mineral resource, access to the port, access to rail, etc.), 2.5.13. the investment in the settlement or area in question will generate the highest socio-economic returns (i.e. an area with high economic potential), 2.5.14. impact on the sense of history, sense of place and heritage of the area and the socio-cultural and cultural-historic characteristics and sensitivities of the area, and 2.5.15. in terms of the nature, scale and location of the development promote or act as a catalyst to create a more integrated settlement?	occurring within that area. Alternatives will be assessed during the EIA phase, the findings of the specialist studies, comments from I&AP's and resources studies will be taking into consideration to determine alternatives for the proposed project.

2.6	How were a risk-averse and cautious approach applied in terms of socio-economic impacts? 2.6.1. What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)? 2.6.2. What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge? 2.6.3. Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	Gaps and limits in knowledge will have been given within the EIA/EMPR document and where appropriate a cautionary approach has been applied. Gaps and limitations will be properly assessed and addressed during the EIA phase. The permit applications were supposed to be separate Basic Assessment applications, and therefore, no formal civil engineer has been appointed for all designs and the infrastructures, such as the stormwater, the waste management facilities and this is to form part of the Water Use License Application. It should be noted that all waste and stormwater will be managed in-pit, and this will ensure low risk for these aspects included in the application. Only primary processing will form part of the application, and this will also lessen the negative impacts on the environment in certain ways. Applying effective stormwater systems and applying to GN 704 (and a WUL application) will prevent any dirt water entering the environment. The gaps in knowledge related to fine tuning of water requirements and balancing will be filled by the WUL process and therefore the risk may be argued as Medium – Low (with implementation of mitigation measures).
2.7	How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following: 2.7.1. Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts? 2.7.2. Positive impacts. What measures were taken to enhance positive impacts?	Refer to all other aspects regarding the Socio-Economic environment, benefits and disadvantages. All of the relevant aspects have also been addressed within the EIA/EMPR and may be viewed within the Impact Assessment, Management and Mitigation tables as contained within this document.
2.8	Considering the linkages and dependencies between human wellbeing,	The area where the mining permits are proposed, is currently utilised for agriculture and

	livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socio-economic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	grazing/wilderness. A section has already been historically mined and not rehabilitated from the information received. The Land use and Capability has been described within this document. Refer to the baseline environment and Figure 20.
2.9	What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	Health and Safety considerations, such as implementation of the mitigation measures such as dust, noise and visual management and mitigation. No other socio-economic considerations are relevant, except for work creation of local communities within the area, but these will be same for any footprint chosen on the farms. The environmental, known resource and financial restraints associated with mining (specific resource) were the deciding factors concerning the best suited option. Unfortunately, as stated, coal mining and sensitive environmental features such as wetlands/waterlogged environments rarely exist apart, since the formation of coal is dependent on these environmental features.
2.10	What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	Refer to comments made above. To extract the known resource optimally within a short/medium timeframe (2 years x 3 mining permits) will benefit the local economy, which is dependent on coal as a provision for electricity. All alternative scenarios have been discussed below.
2.11	What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	The main benefits of the proposed mining operation are: • Direct economic benefits will be derived from wages, taxes and profits; • Indirect economic benefits will be derived from the procurement of goods and services and the spending power of employees; • Implementation of the proposed project will result in skills development associated with coal mining;

		• It contributes to the economic welfare of the surrounding community by creating working opportunities; • It contributes to the upliftment of living standards and the health and safety of the local community; • The project will result in economic mining of a known resource; • The net benefit to South Africa is a product produced for the world and specifically the local commodity market, as it is noted in background information that the coal will be utilised by consumers. The project is aligned with the objectives of the MPRDA (Act 28 of 2002) • To promote economic growth and mineral development in the Republic; and • To promote employment and advance the social and economic welfare of all South Africans.
2.12	What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	Disturbances in terms of Noise, Dust, Waste and Health and Safety have been assessed according to a Risk Matrix and included within this report. Mitigation and Management measures are prescribed for every possible impact which may result from the Mining permits being granted, including their cumulative impacts.
2.13	What measures were taken to: 2.13.1. ensure the participation of all interested and affected parties, 2.13.2. provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation, 2.13.3. ensure participation by vulnerable and disadvantaged persons, 2.13.4. promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means, 2.13.5. ensure openness and transparency, and access to information in terms of the process,	Public Participation will be conducted in accordance with the guidelines and regulations, starting on the 16th of September 2021 – 18th of October 2021. All comments received during this round will be included in the Final Scoping, EIA/EMPR of the project to be submitted to the CA after the completion of the Public Participation Process (PPP). Another round of Public Participation will be done for the Draft EIA/EMPr and the Final EIA/EMPR will contain all the comments received during the entire project. This will inform the Competent Authority of all aspects and concerns from the public and other commenting authorities.

	2.13.6. ensure that the interests, needs and values of all interested and affected parties were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and 2.13.7. ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted?	
2.14	Considering the interests, needs and values of all the interested and affected parties, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	Refer to comments made above.
2.15	What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	The Mining Permit holders will need to draft an Environmental Policy and a Health and Safety Policy, which will regulate activities on the coal mining area. All workers and contractors will need to abide to the policies and framework as specified.
2.16	Describe how the development will impact on job creation in terms of, amongst other aspects: 2.16.1. the number of temporary versus permanent jobs that will be created, 2.16.2. whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area), 2.16.3. the distance from where labourers will have to travel, 2.16.4. the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and 2.16.5. the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).	Refer to comments made above. Since the application is for three Mining Permits, it is a long-term project and the appropriate areas will be rehabilitated afterwards to match the pre-mining land use (or alternatively the approved land use). The land is currently used for agriculture in certain areas, and the land in question will be subject to a financial agreement with the landowner, which is aware of the application.

2.17	What measures were taken to ensure: 2.17.1. that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and 2.17.2. that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	The applicants are in application for the following aspects across different legislation requirements: • Mining Permit x 3 (this application); • WUL (Department of Water and Sanitation –DWS – To be initiated by applicant). • All legislation which has been incorporated within these processed were discussed within Section regarding Policy and Legislative Content above.
2.18	What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	Refer to comment above as these aspects have already been addressed within previous discussions.
2.19	Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	Yes, for a sensitive environment (which is almost always associated with coal mining) all impacts have been addressed optimally as best possible with a possible offset strategy for the pan (which is to be discussed with DWS).
2.20	What measures were taken to ensure that he costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	Mitigation and management measures have been described for all environmental aspects identified and is incorporated into the EMPr.
2.21	Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	Alternatives and analysis have already been addressed above, refer to comments made.
2.22	Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and other planned developments in the area?	Refer to comments made above regarding positive and negative socio-economic impacts. Other projects in relation/adjacent to the application footprint also include coal mining and historic prospecting right on the properties which is also held by the applicant. Cumulative impacts have been discussed where relevant and are not easily accurately quantifiable.

6 PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION IS REQUIRED

The authorisation for a Mining Permit is usually 2 years, which can be renewed for a period up to 5 years.

The construction phase will commence immediately upon granting of a mining permit and will include the following items and expected timeframes:

1. Construction/Site Establishment Phase (2 months)
    - Preparation of Access Roads (1 Week)
    - Fencing and trenching of Mining Area (1 Week)
    - Construction of Security, Ablutions (Boom Gates, Security house) (1 Week)
    - Construction of Mine haul roads (1 Week) Permanent haul roads are to be constructed.
    - Box cut 1 development (6 Weeks)

2. Operational/Mining Phase (9 months)
    - The operational phase will commence after the completion of the boxcut. A conventional strip mining [roll-over] method will be employed. Material from the boxcut phase will be stored per overburden classification, with the bulk of the material placed in a position alongside the final strip, to facilitate filling of the final void.
    - Topsoil Removal - Topsoil will be removed and will be either stockpiled separately. Topsoil will be removed using excavators and hauled with articulated dump trucks (ADT's).
    - Soft Removal - Soft subsoil will be removed and will be stockpiled. Sous will be removed using excavators and hauled with articulated dump trucks (ADT's).
    - Overburden Excavation - Overburden will be done using excavators.
    - Overburden Load and Haul - The remaining overburden, after dozing, will be load and hauled and dumped on the spoil side of the current strip. The load and haul will be conducted using excavators and ADT's.
    - Coal Excavation Free Dig using excavators.
    - Coal Load and Haul The coal be load and hauled and dumped on the designated Stockpile. The load and haul will be conducted using excavators and ADT's.

3. Rehabilitation Phase (2 months)
    - The decommissioning phase is taken to begin once all economically exploitable coal reserves have been extracted. This phase of the mine is expected to commence once phase II has been completed.
    - Removal of all mine infrastructure
    - Filling of all remaining voids and final shaping of the rehabilitated opencast pit
    - Removal of the carbonaceous layer from the product stockpiling area and haul roads
    - Ripping of all infrastructure areas
    - Seeding of ripped and rehabilitated surfaces

The mine closure phase will be dedicated to the maintenance of rehabilitated areas, water monitoring as well as compiling a closure plan.

7 DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED SITE

(NB!! – This section is not about the impact assessment itself; It is about the determination of the specific site layout having taken into consideration (1) the comparison of the originally proposed site plan, the comparison of that plan with the plan of environmental features and current land uses, the issues raised by interested and affected parties, and the consideration of alternatives to the initially proposed site layout as a result)

i) Details of all alternatives considered

(With reference to the site plan provided as Appendix D).

(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity)

7.1 SITE ALTERNATIVES

7.1.1 Suitable Mining Areas

The sites for the opencast were determined based on the prospecting results and those described within the Mining Works Programme (MWP). Minerals can only be mined where identified and verified, therefore it was not practical to select any other sites.

The areas used for aboveground infrastructure can be altered to a greater extent in relation to receiving environment sensitivities and as such, there are areas which have been determined to be the “preferred alternatives” and those areas which can be considered “secondary alternatives”. These areas have been determined from a preliminary evaluation of how they are most optimally configured between the opencast pits and sensitivities, outside of the 1:100 floodlines where possible and away from potentially sensitive areas, in favour of proposed positioning on previously disturbed areas which have already been mined.

During the alternative analysis in the EIA phase, a detailed assessment will be done of all these areas, to determine which of the areas would be most suitable for infrastructure, taking into consideration environmental conditions, topography, financial feasibility, the linkage between opencast pits and surface infrastructure and access to various parts of the site. The current available layout seems to be ideal at this stage as the footprints are proposed where the historic un-rehabilitated mining took place.

7.1.2 Activity Alternatives

No feasible activity alternatives exist, unless stating that farming and agriculture could be an activity alternative. This will not benefit many parties and the area has already been subjected to sandstone mining and coal mining (and prospecting), thereby decreasing the carrying capacity and agricultural return. Additionally, the section is not currently used as such. This could be assessed during the EIA Phase to determine and expand on this matter.

The proposed coal mining will be by box-cut to open cast mining. Underground mining was not considered as an alternative as the coal seams are located closer to the surface. Underground mining will be much more expensive, unnecessary and will have an effect on the financial feasibility of the project.

7.1.3 Designs and Layout Alternatives

Please refer to Section 7.1.1 and above where the site alternatives for the mining infrastructure in relation to the reserves were discussed.

7.1.4 Process Alternatives

Options pertaining to the alternatives with regards to the processes to be used on site will be evaluated in more details and the options will be taken into consideration to ensure the most efficient ore extraction methods are used.

7.1.5 No Go Option

The no-go option refers to the alternative of the proposed development not going ahead at all. This alternative will avoid potentially positive and negative impacts on the environment and the status quo of the area would remain which is the conditions of the current baseline environment without any deviations or expansions.

The implications of the no-go option will be evaluated as part of the EIA, focusing on comparing potential impacts from the proposed project with the status quo and will be particularly relevant should it be found, that detrimental impacts cannot be managed to an acceptable level.

8 DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

(Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land).

8.1 PUBLIC PARTICIPATION

This section describes the public participation process (PPP) undertaken to date in line with Chapter 6 of the EIA Regulations (2014) (as amended). The process is undertaken to ensure compliance with the requirements in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) [as amended] (MPRDA) and the Environmental Impact Assessment Regulations (2014) [as amended]. The intention of the PPP was to inform I&APs, in sufficient detail, of the proposed project in order that I&APs may contribute meaningfully to the EIA process.

The PPP to date has included notification of I&APs through distribution of a Background Information Document (BID), placement of newspaper advertisement and placement of site. A key aspect of public consultation is the notification of landowners, occupier and users within and adjacent to the application area. More detail in this regard to the process followed is provided below.

All proof of public participation undertaken during the scoping phase is included in Appendix F (i to viii).

8.1.1 Interested and affected party (I&AP) database

"The following policy applies to the processing of personal information required and acquired during the Public Participation Processes required by the Specific Environmental management Acts (SEMA's) defined in the National Environmental Management Act (act 107 of 1998, as amended- NEMA).
The Consultant respects the privacy of your information and is committed to the protection of personal information in compliance with the laws of South Africa.
In fulfilling our obligations under the relevant SEMA's and other legal duties and rights, the Consultant collects personal information from registered interested and affected parties as well as making such information publicly available and submission to the relevant competent authorities.
By registering as an interested and affected party you consent to the collection and processing of your personal information (as defined below). Personal information collected from registered interested and affected parties includes names; contact details; views, opinions, comments, responses and/or objections; and any submissions, communications or correspondence submitted to or received from the Consultant. A registered interested and affected party is defined in Regulation 42 of the NEMA EIA Regulations and includes: all persons who, as a consequence of the public participation process conducted in respect of that application, have submitted written comments or attended meetings with the proponent, applicant or EAP; and all persons who have requested the proponent or applicant, in writing, for their names to be placed on the register.
By accepting this notice you also confirm that the information contained on this BID / email / website will only be used for the purposes of fulfilling your obligations and rights defined in the NEMA or other specific law.
Personal information collected is stored and disposed of in accordance with the requirements of the POPIA."

As part of the PPP an I&AP database has and will be developed for the project. Lists of I&APs and contact details will not be released into the public domain.

I&APs identified for the project include:

I&APs

- Surrounding landowners, land users, adjacent landowners and communities;
- Non-governmental organisations and associations; and
- Parastatals

COMMENTING AUTHORITIES

- South Africa Heritage Resource Agency (SAHRA);
- Department of Roads and Transport;
- Mpumalanga Economic Development & Tourism which provides oversight role on the work of three agencies which are: Mpumalanga Economic Growth Agency (MEGA), Mpumalanga Economic Regulator (MER) and Mpumalanga Tourism and Parks Agency (MTPA).
- Mpumalanga Department: Agriculture, Rural Development, Land and Environmental Affairs.
- Department of Agriculture, Forestry and Fisheries - now Department of Forestry, Fisheries and Environment (DFFE);
- Department of Rural Development and Land Reform (DRDLR): Land Claims Commissioner.

DECISION MAKING AUTHORITIES

- Department of Mineral Resources and Energy (DMRE); and
- Department of Water and Sanitation (DWS) – when a WUL is initiated.

LOCAL AUTHORITIES / PARTIES

- Steve Tshwete Local Municipality (MP313);
- Nkangala District Municipality (DC31); and
- Ward Councillors.

I&APs who submitted contact details will be registered on the I&AP database. The latest copy of the database is included in Appendix F-i. The database will be updated on an on-going basis throughout the process. The database is presented in Appendix F-i.

As stated above, lists of I&APs and contact details will not be released into the public domain and is in line with the POPIA requirements for EIA Regulations.

8.1.2 Mining Permit Applications x 3

- A copy of the scoping report (one report) for the Mining Permits will be made available for a 30-day review and comment period, as from 16 September 2021 – 18th of October 2021.
- An electronic copy of the scoping can be downloaded during the commenting period. This is distributed to all I&APs as preliminary identified by the EAP and those included in the first round of PPP.

- Please send all comments or your requirement to be registered as an Interested and Affected Party (I&AP) to dutoit@elemental-s.co.za or corlien@elemental-s.co.za
- The acceptance of the Mining Permit Applications/Acknowledgement of the Environmental Application are presented in Appendix F-viii.

Registration of any I&AP's can take place by registering on the I&AP's database, by sending details of the I&AP to the Consultant. Please feel welcome to contact us should you have further queries or would need additional clarification.

8.1.3 Advertisements and site notices

During the initiation of the PPP, an advertisement was placed in the following newspaper(s) on the 10th of September 2021:

- Middleburg Observer (proof included in Appendix F-ii).

A copy of the advertisement placed is included in Appendix F-ii. Site notices (8) in English, were placed at key positions in and adjacent to the mining permit areas on the 13th to 15th of September 2021. A copy of the site notices is presented in Appendix F-iii with the location of the notices presented in Appendix F-iv.

8.1.4 Background Information Document (BID)

A BID document was compiled for the proposed project. The purpose of the BID was to inform I&APs about the proposed project, the EIA process, environmental attributes, possible impacts and means of providing input into the EIA process. The BID was made available in English and included details of the project. The BID will also be distributed at any public scoping meetings (if applicable). The BID and distribution of the BID's are presented in Appendix F-v.

8.1.5 Public Meetings

The purpose of holding any scoping meetings/open day (that could be requested) is to:

- to provide an overview of the project and related EIA process
- to provide I&APs with an opportunity to:
    - raise any issues and concerns (both positive or negative)
    - provide input on any environmental sensitivities and potential impacts
    - to record issues within the formal assessment process so that they can be addressed during the course of the EIA
- to outline the way forward.

Copies of the BID and Maps will be made available to attendees at the meetings. Attendance Registers of the meetings (if any) will be included in Appendix F-vi.

All PPP information gathered during both periods will be included within the documentation for consideration by the DMRE to ensure a transparent process and to ensure all comments on the matter could be considered by the Competent Authority.

The need for a meeting will be assessed pending the interest received during the onset of the PPP and TEAMS, SKYPE or other electronic based meetings will be preferably initiated where possible to accommodate the safety of the public and consultants during the COVID-19 pandemic.

8.1.6 Review of the Draft Scoping

I&AP review of Scoping Report

The Scoping Report will be released for a period of 30 days from the 16th of September 2021. Hard copies of the Scoping Report are herewith submitted to all organs of state and relevant authorities. In addition, a copy will be placed at the following location as presented below:

Table 7: Scoping Report for Public Review

Venue	Location
On-site	On-site: Portion 2 of Rietfontein 314 JS – viewing can be arranged with current land custodian/representative.
	S 25°50'55.02" **E** 29°25'15.06"

In addition, registered I&APs will be notified of the availability of the Scoping Report for review via SMS and E-mail notifications. Electronic copies of the Scoping Report will be made available on request. Where meetings take place during the review period, hard copies of the executive summary will be provided or presented.

Proof of submission to State Departments and other Departments will be included in Appendix F-vii (Final Scoping).

8.1.7 Next Phase - Way forward

All comments received from I&AP's and organs of state; responses sent is included in this final Scoping Report to be submitted to the Competent Authority (CA).

Comments as received from the PPP for the three Mining Permit Applications will be provided in the follow-up documentation.

Specialist studies

As part of the Environmental Impact Assessment (EIA) phase for the proposed Rietfontein Mining Permits (x 3) the following specialist studies will be completed:

- Ecological/Biodiversity Assessment (Fauna, Flora);
- Heritage Assessment;
- Soil and Land Capability;
- Baseline Air Quality Assessment;
- Geohydrological Assessment;
- Geotechnical Assessment
- Wetland Assessments
- Noise Impacts Assessments;
- Closure and Financial provision;
- Waste Classification; and

- Hydro-pedological Assessment – need to be assessed is subject to wetland assessment outcome.

DMRE review of scoping report

On completion of the 30-day review period, a Final Scoping Report will be compiled which included comments received during the I&AP review period. The report is to be submitted to the DMRE for its review (this is the Draft report and does not yet contain any comments to be received during the initial PPP).

8.1.8 Summary of Issues raised

- This section was updated as soon as information became available during the commenting period and will continue to be updated during the Draft Environmental Impact Assessment Phase.

Comments as received from the PPP session during the initiation of the three Mining Permit Applications will be provided within the table (refer below).

ii) Summary of issues raised by I&APs – To be completed based on comments received during 16 September 2021 – 18 October 2021

(Complete the table summarising comments and issues raised, and reaction to those responses)

Comments received during the public review period will be discussed in this section when the scoping report is submitted to the Competent Authority. See Appendix F-vi

Table 8: Summary of issues raised

Name and Surname	Date/Time	Issues raised	Response provided by project team	Section and paragraph reference in this report where the issues and or response were incorporated
OTHER COMMENTING STAKEHOLDERS				
Mpumalanga Tourism and Parks Agency				
DEPARTMENTS				
DWS				
DMRE				

DRDLR				
DFFE				
MDARDLEA				

9 THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE SITES: BASELINE ENVIRONMENT

Type of environment affected by the proposed activity

(Its current geographical, physical, biological, socio- economic, and cultural character)

9.1 GRADIENT AND LANDSCAPE CONTEXT

The average elevation for Rand Highveld Grassland varies between 1300 and 1635 MASL (Metres Above Sea Level) while the average elevation of the study area is 1600 MASL and is associated with a relatively flat area.

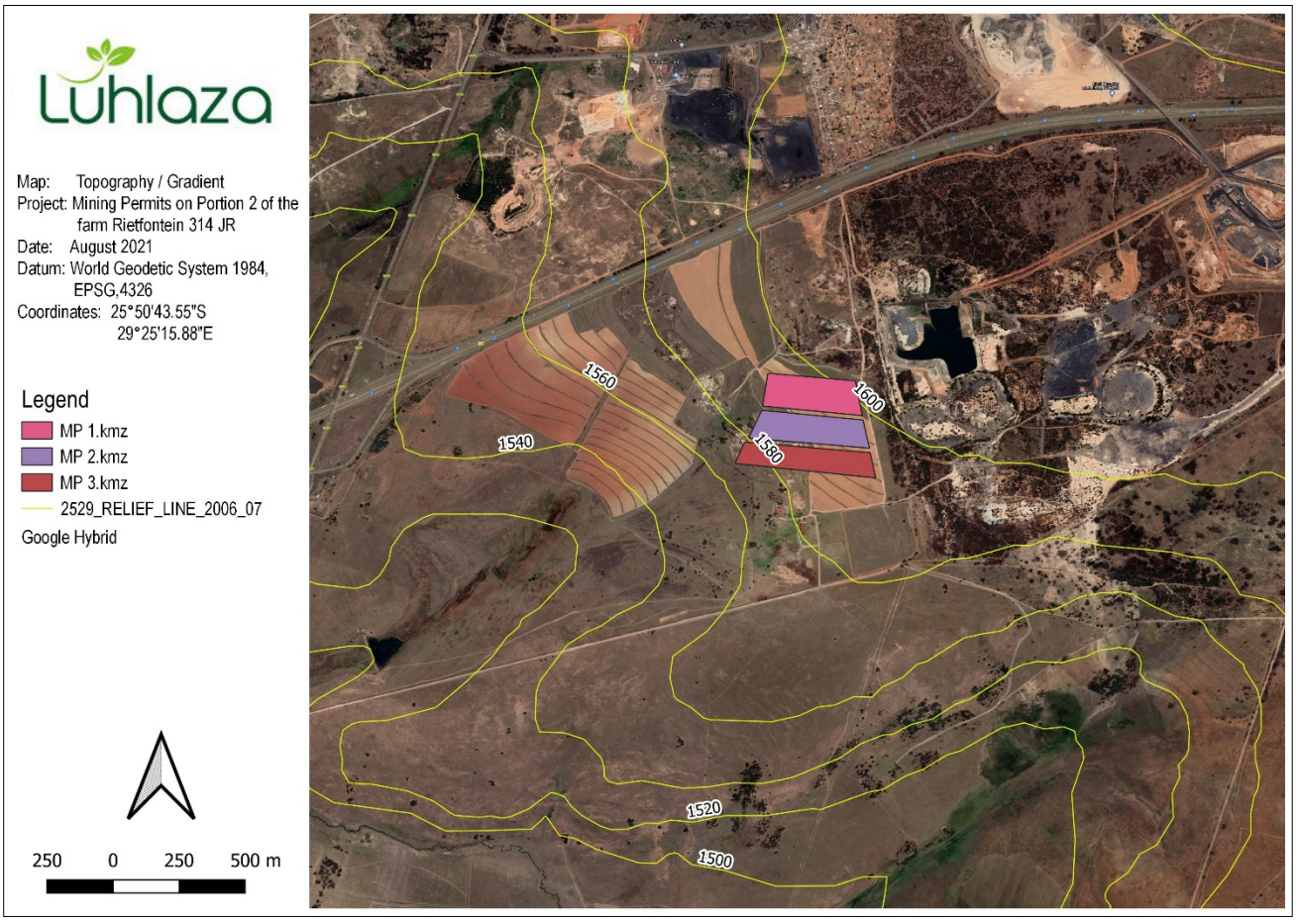


Figure 12: Site Topography

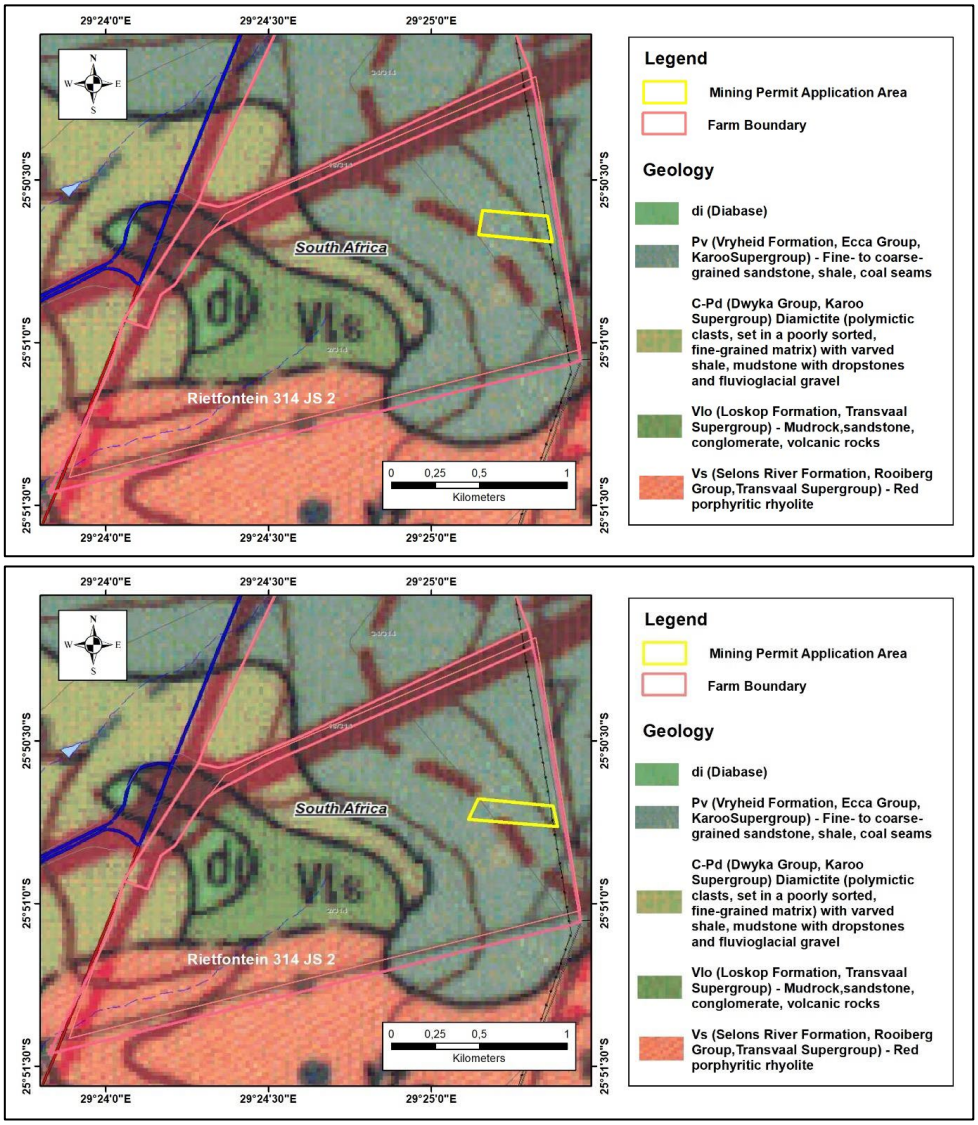
9.2 REGIONAL GEOLOGY

The main coal mining areas are presently in the Witbank-Middelburg, Ermelo and Standerton-Secunda areas of Mpumalanga, around Sasolburg-Vereeniging in the Free State/Gauteng and in northwestern KwaZuluNatal where smaller operations are found.

The proposed mining permit areas falls within the Witbank Coalfield. Karoo Supergroup. The proposed mining area is mainly underlain by sandstone, shale and coal beds of the Vryheid and Selons River Formation and is underlain by the Madzaringwe Formation of the Karoo Supergroup.

The generally horizontally disposed sediments of the Karoo Supergroup are typically undulating with a gentle regional dip to the south. The extent of the coal is largely controlled by the pre-Karoo topography. Steep dips can be experienced where the coal buts against pre-Karoo hills.

Displacements, resulting from intrusions of dolerite sills, are common. Abundant dolerite intrusions are present in the Ecca sediments. These intrusions comprise sills, which vary from being concordant to transgressive in structure, and feeder dykes. Although these structures serve as aquitards and tend to compartmentalise the groundwater regime, the contact zones with the pre-existing geological formations also serve as groundwater conduits.



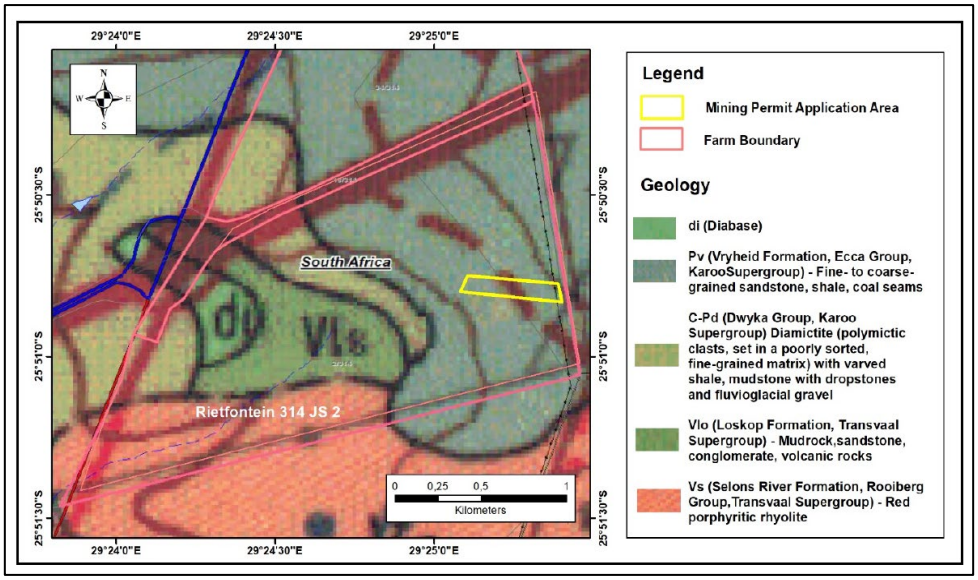


Figure 13: Geology applicable to three Mining Permit project areas (all three permits shown)

Both a Geohydrological and Geotechnical Specialist assessment is in process and this section will be refined and updated accordingly once that information becomes available.

9.3 CLIMATE

The study area falls within the summer rainfall region and the average annual rainfall is roughly 714 mm. The average annual temperature is 16.5 ºC. The average summer temperature is 20.1 ºC, while the winter temperature averages 10.4 ºC (Climate-data.org accessed 06/08/2021).

9.4 GROUNDWATER (HYDROGEOLOGY)

Information on the groundwater will be provided during the EIA Phase. Specialist work is in process to determine the Geohydrological character of the site.

9.5 SURFACE WATER (HYDROLOGY)

The study area falls within the B11H Quaternary Catchment that forms part of the Olifants Water Management Area (WMA). The closest perennial rivers to the study area are the Olifants 13 km to the west and the Klein-Olifants 20 km to the east. The Doringpoort Dam is located 12 km to the west and the Middelburg Dam 15 km to the east-northeast.

Locally, a non-perennial stream is located 50-100 m to the west of the study area.

9.6 WETLANDS

The Wetland Impact Assessment had been conducted by Elemental Sustainability (Pty) Ltd (Elemental Sustainability (Pty) Ltd, 2021)

This data was used as a guideline to inform the assessment and to focus on areas and aspects of increased conservation importance.

Table 9: Desktop data relating to the freshwater resources and the receiving environment

General Description			
GPS Coordinates	25°50'43.53" S; 29°25'14.73" E		
Topography	Highly variable landscape with extensive sloping plains and a series of ridges slightly elevated over undulating surrounding plains.		
Geology and Soils	Quartzite ridges of the Witwatersrand Supergroup and the Pretoria Group as well as the Selons River Formation of the Rooiberg Group (last two are of the Transvaal Supergroup), supporting soils of various quality (shallow Glenrosa and Mispah forms especially on rocky ridges), typical of Ba, Bc, Bb and Ib land types.		
Land Use and Land Cover (Figure 14)	The site is dominated by cultivated commercial fields, with sections of grassland scattered throughout the area. Historical mining is visible towards the north and east of the proposed permit application areas. Cultivated commercial fields and cattle e farming, are the main land uses of the area.		
Broad Vegetation Units (Figure 15)	**Biome(s)**	**Bioregion(s)**	**Vegetation Type(s)**
	Grassland	Mesic Highveld Grassland	Rand Highveld Grassland, Gm11
Threatened Ecosystems	Rand Highveld Grassland		
Protected Areas	None.		
Important Bird and Biodiversity Areas (IBA)	None.		
Ecoregion (Figure 17)	Highveld (11)		
Quaternary Catchment (Figure 18)	B11H		
WMA (Figure 8)	Olifants Water Management Area		
Ecoregion Characteristics (Kleynhans *et al.* 2007)			
Dominant primary terrain morphology	Plains; Low Relief; Plains; Moderate Relief		
Dominant primary vegetation types	Dry Sandy Highveld Grassland; Moist Cool Highveld Grassland;		
Altitude (m a.m.s.l)	1100-2100, 2100-2300 (very limited)		
MAP (mm)	400 to 1000		
Coefficient of Variation (% of MAP)	<20 to 35		
Rainfall concentration index	45 to 65		
Rainfall seasonality	Early to Late summer		
Mean annual temp. (°C)	12 to 20		
Winter temperature (July)	14 to 22		
Summer temperature (Feb)	20 to 32		
Median annual simulated runoff	5 to >250		
National Freshwater Ecosystem Priority Area (NFEPA) (2011) Database			

NFEPA Rivers:	According to the NFEPA database the **Spookspruit** is situated approximately 2km south-west of the proposed permit application areas.
FEPA Code:	0
Wetlands	
NFEPA Wetlands:	According to the NFEPA Database a wetland Flat occurs close to the study site. According to the National Wetland Map (NWM) database (2018) the study area is situated within 500 m of a natural Channelled Valley-Bottom wetland - Figure 18.
Ecological Status of the Sub-Quaternary Reach (SQR) (DWS, 2014)	
Sub-Quaternary Reach (SQR):	B11H-01161 Spookspruit
Length (km):	36.00
PES Category	C – Moderately Modified
Mean Ecological Importance (EI) Class:	High
Mean Ecological Sensitivity (ES) Class:	High
Stream Order:	1
Default Ecological Class:	B
National Biodiversity Assessment (2018) Data for the Sub-Quaternary Reach (SQR)	
ORDER (River Order):	1
MAINSTEM: Mainstem = 1 is a quaternary mainstem; the rest of the 1:500,000 rivers are tributaries that are nested within quaternary catchments	1
FLOW: Flow variability where "P" = permanent or seasonal; "E" = ephemeral	Ephemeral
RIVTYPE: River type used by NFEPA which comprises the level 1 ecoregion number followed by the flow (N= NOT Permanent/Flashy; P = Permanent or Seasonal), followed by the geomorphological zone (M = Mountain Stream; U = Upper Foothills; L= Lower Foothills; F = Lowland River)	Highveld Not Permanent Upper Foothills River (11_N_U)
PES1999: Present ecological state 1999 with desktop modification A = Unmodified, Natural B = Largely Natural with few Modifications C = Moderately Modified D = Largely Modified E = Seriously Modified F = Critically/Extremely Modified	Class C: Moderately Modified
RIVCON:	Class C – No contribution to River ecosystem biodiversity targets.

River condition used by NFEPA A or B is considered intact and able to contribute towards river ecosystem biodiversity targets. A = Unmodified, Natural B = Largely Natural with few Modifications AB = A or B Above C = Moderately Modified D = Largely Modified E = Seriously Modified F = Critically/Extremely Modified EF = E or F Above Z = Tributary condition modelled as not intact, according to natural land cover	
FFRFLAGSHP:	0 – Not a Flagship River
PES_2018:	Class C: Moderately Modified
NBA2018ETS:	CR - Critically endangered
NBA2018EPL:	NP – Not Protected
Mpumalanga Biodiversity Spatial Plan (2015) (Figure 16**)**	
Heavily Modified	The study site is classed as Heavily Modified, which includes areas that are significantly modified from the natural state, and in which biodiversity pattern and ecological function has been lost to the point that it is not worth considering these areas for any kind of conservation action due to their poor ecological state. It is often recommended that biodiversity-incompatible land uses be located within these areas to avoid negative impacts in other areas that are of greater biodiversity value.
Mining and Biodiversity Guidelines (2013) (Figure 19**)**	
B. Highest Biodiversity Importance	Highest Risk for Mining: The area surrounding the wetland and the drainage area, along with the south-western section of the study area, fall within an area considered to be of Highest Biodiversity Importance. Highest Biodiversity Importance areas include areas where mining is not legally prohibited, but where there is a very high risk that due to their potential biodiversity significance and importance to ecosystem services (e.g. water flow regulation and water provisioning) that mining projects will be significantly constrained or may not receive necessary authorisations.

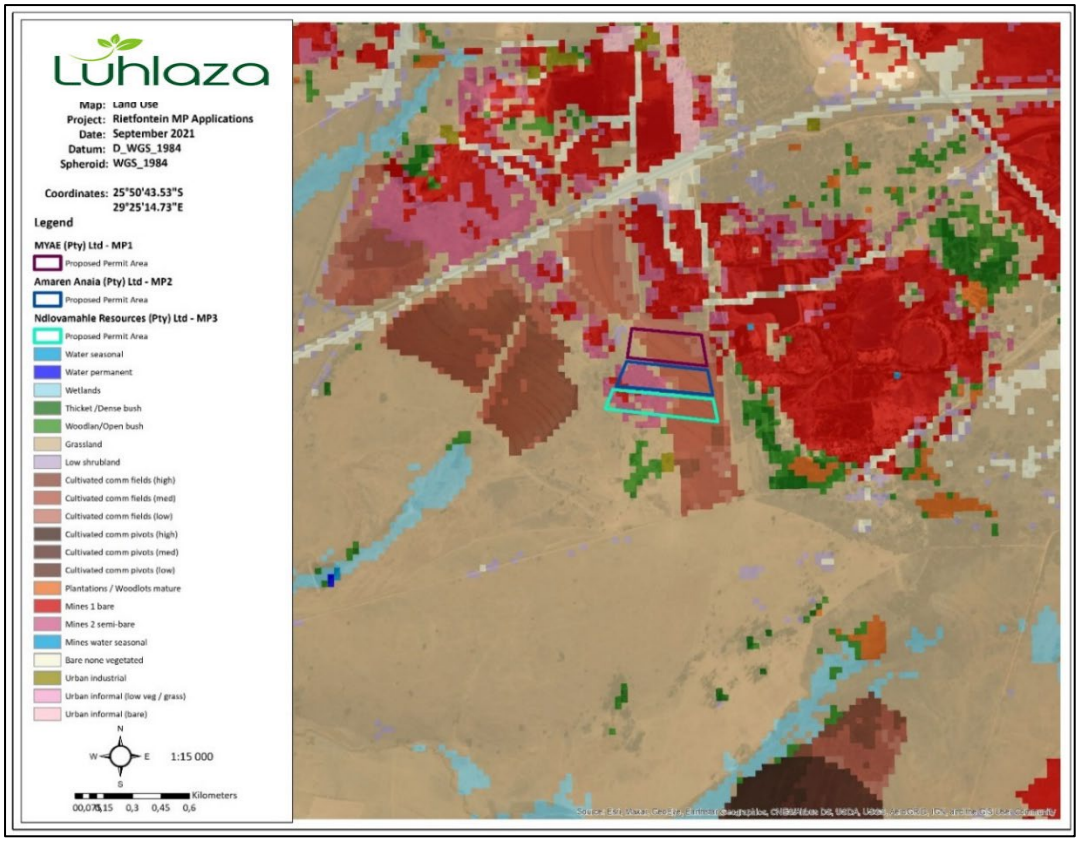


Figure 14: Current Land Use associated with the study area and surrounding environment

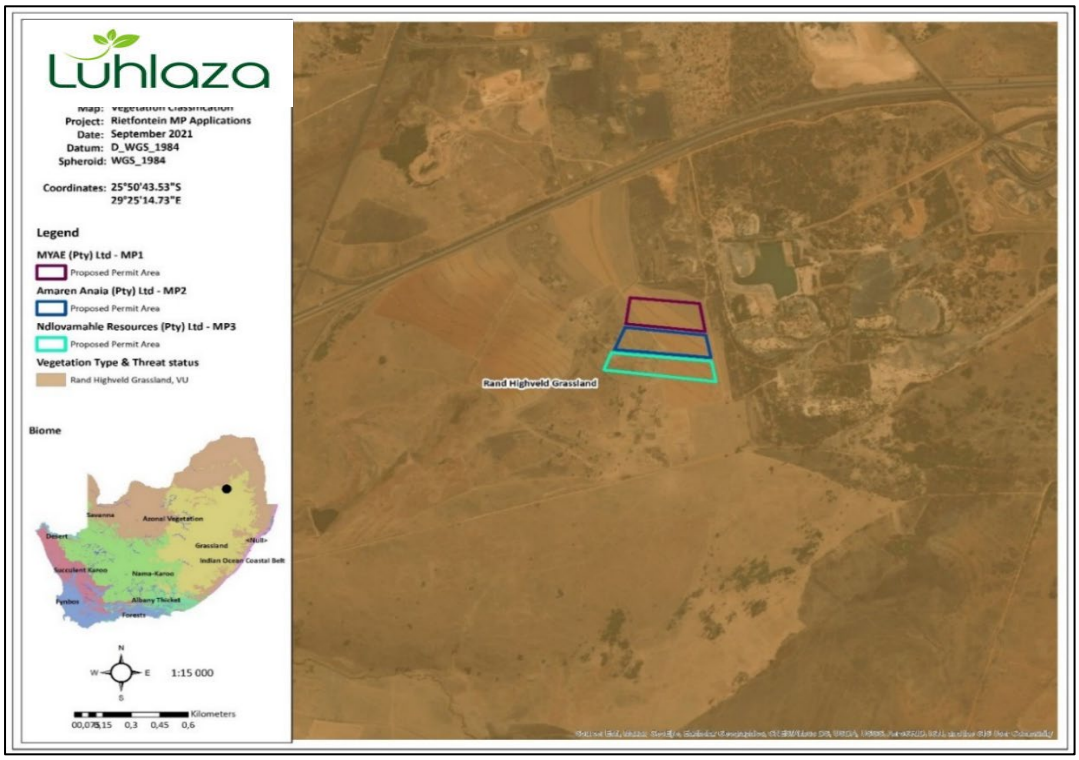


Figure 15: Vegetation Types associated with the study site situated within the Grassland Biome

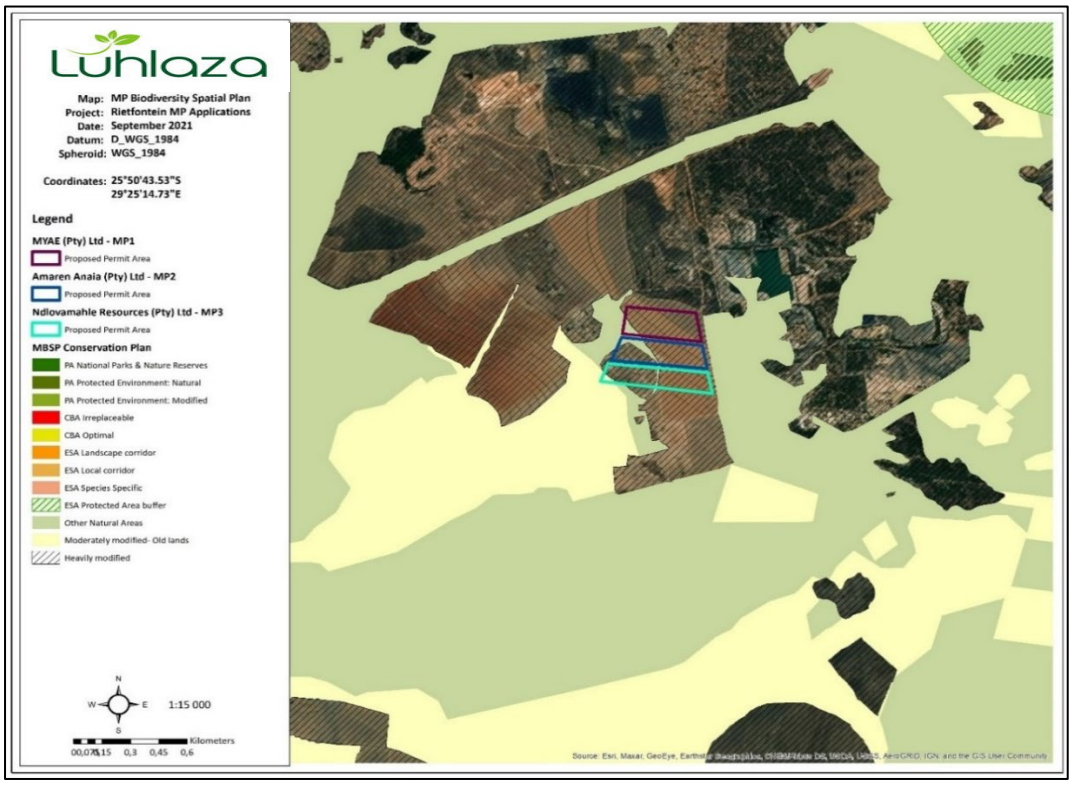


Figure 16: The Critical Biodiversity Areas associated with the study site according to the Mpumalanga Biodiversity Spatial Plan (2015)

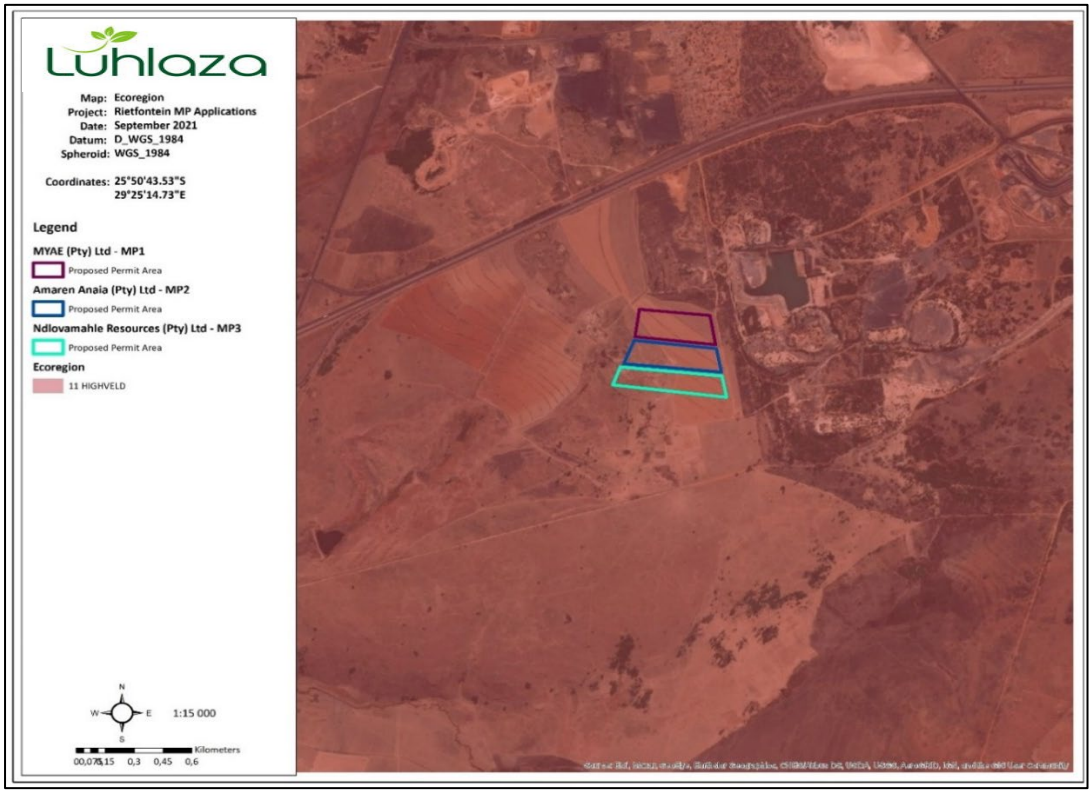


Figure 17: Ecoregions associated with the study area

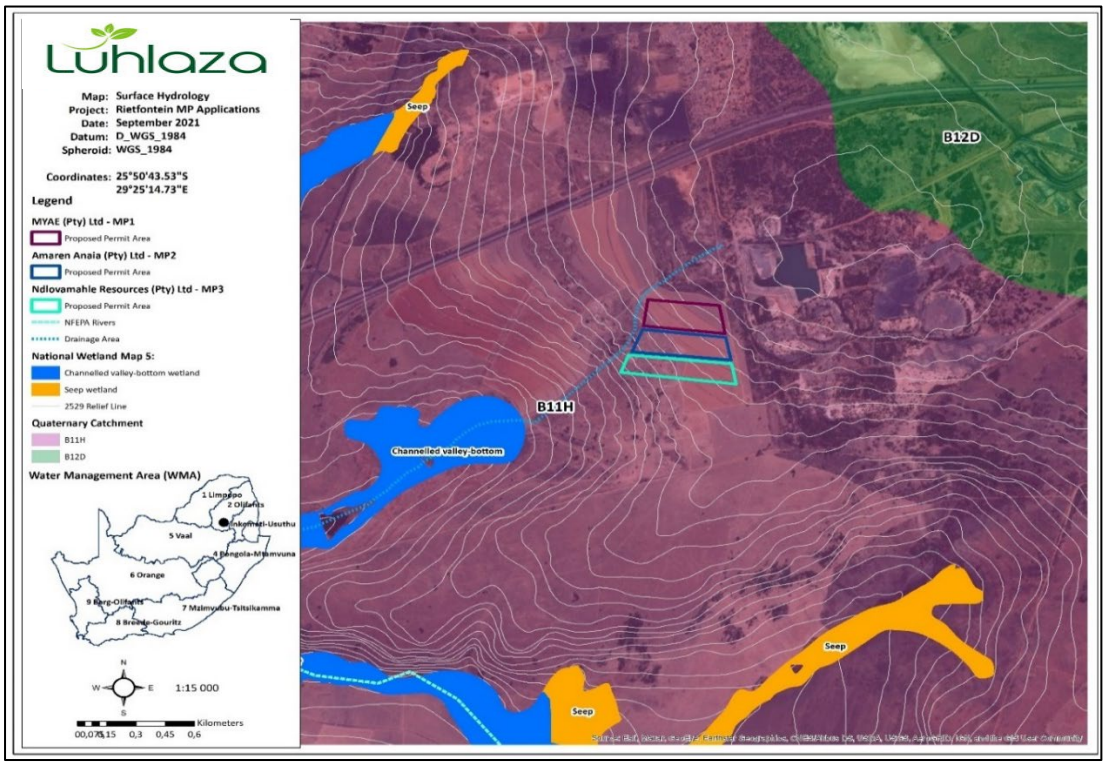


Figure 18: The study area is situated in Quaternary Catchment B11H and forms part of the Olifants Water Management Area

Figure 19: The study area overlaps with sections of Category B: Highest Biodiversity Importance according to the Mining and Biodiversity Guidelines (2015)

9.6.1 Water Authority

The Department of Water Affairs with the regional office based in Bronkhorstspruit is the commenting authority for this area.

9.7 FLORA (PLANT LIFE) AND FAUNA (ANIMAL LIFE)

The Terrestrial Biodiversity and Ecological Assessment had been conducted by Red Kite Environmental Solutions (Red Kite Environmental Solutions (Pty) Ltd, 2021).

The project area is located in the Grassland Biome. The Grassland Biome is found chiefly on the high central plateau of South Africa, and the inland areas of KwaZulu-Natal and the Eastern Cape. Grasslands are dominated by a single layer of grasses. The amount of cover depends on rainfall and the degree of grazing. Trees are absent, except in a few localized habitats. Geophytes (bulbs) are often abundant. The Grassland Biome is considered to have an extremely high biodiversity, second only to the Fynbos Biome. Rare plants are often found in the grasslands, especially in the escarpment area. These rare species are often endangered, comprising mainly endemic geophytes or dicotyledonous herbaceous plants. Very few grasses are rare or endangered.

The project area is located in the Grassland Biome and within the Rand Highveld Grassland (Gm 11) vegetation type. The National List of Ecosystems that are Threatened and need of protection (GN1002 of 2011), published under NEMBA (Section 3.1.1), lists national vegetation types that are afforded protection on the basis of rates of transformation. The Rand Highveld Grassland is listed as Vulnerable in the "National List of Ecosystems that are Threatened and need of protection", as well as the 2018 National Biodiversity Assessment.

Information on plant species previously recorded for the project area was extracted from the POSA online database hosted by SANBI. The results indicate that 489 plant species have been recorded in the area queried, consisting of 101 families. The following summary of the POSA plant species previously recorded on the area queried can be made:

- Thirty-three (33) endemic flora species
- Twenty-three (23) flora species that have medicinal uses:
- Twenty-one (21) exotic flora species
- Four flora Species of Conservation Concern in terms of their Red List status, i.e.: *Anacampseros subnuda* (VU), *Habenaria bicolor* (NT), *Khadia carolinensis* (VU) and *Pachycarpus suaveolens* (VU)
- No sensitive floral species were listed for the project area in the Environmental Screening Tool Report.
- Thirty-three (33) flora species listed as protected in the MNCA:

A desktop study was conducted to establish whether any potentially sensitive faunal species or species of conservation concern may possibly occur on site. The following faunal baseline findings are provided:

- Mammals: a total of forty-seven (47) species of which a total of six (6) species has a red listed status.
- Avifaunal: combined 180 species have been recorded for the specific pentad from the data collected within the Southern African Bird Atlas Project 2 (SABAP2). Six species of conservation concern are listed for the relevant Pentad.
- Butterflies: Hundred and thirty-two (132) recordings for butterflies within this region, of which none of the species have a SCC status.

- Other Invertebrates: Sixty-eight (68) Odonata, 11 lacewing, two scorpions and five spider species have been recorded within the area, but none of these species are known to have a red listed status.
- Reptiles: A total of 44 species have been historically recorded within the QDS, with one species listed as SCC:
- Amphibians: A total of 11 species are shown on ADU, with one listed as SCC.

A site survey was undertaken on the 6th of July 2021.The surface topography of the project footprint is flat with a slight slope decreasing to the south-west, varying between approximately 1 600 mamsl at the north-eastern border to 1 580 mamsl at the south-western border of the project footprint. The footprint of the proposed project is 16.6 ha in extent.

The majority of the proposed project footprint is located on cropland, with the remainder of the project footprint located on natural grassland, disturbed in the past by sand mining activities.

Land uses, on and adjacent to the project area, currently consist of grassland, cropland, agriculture / farming related infrastructure and residences, mining activities, and livestock grazing.

Vegetation units were identified according to plant species composition, previous land use and topography. The state of the vegetation of the proposed project area varies from being natural to completely degraded. The following broad classification of Vegetation Units (VU) were found to occur on the proposed project footprint:

1. Disturbed grassland (VU1); and
2. Transformed areas (cropland) (VU2).

The majority of VU2 is located on areas previously used for mining activities and thus a number of shallow excavations are present in the VU. The mining activities appear to have been undertaken sometime prior to 2010. The areas previously disturbed by mining activities have naturally rehabilitated and the vegetation cover and composition is considered to be in the process of approaching the character of natural grasslands in the area.

Fourty-one (41) plant species were identified as occurring in the study area during the site survey. Of this number two have medicinal uses and ten are exotic, seven of which are categorised as AIP in terms NEMBA.

No protected plant species or SCC identified in the study area.

Twenty-three (23) fauna species were encountered during the field assessment of which two species have a provincial conservation status. No species that have been found to occur has a national SCC status.

The Rand Highveld Grassland vegetation type is listed as Vulnerable in the “National List of Ecosystems that are Threatened and need of protection”, as well as the 2018 National Biodiversity Assessment.

The study area contains the following classes from the MBSP:

- Modified (‘Transformed’): The majority of the project footprint (15 ha) is situated on areas categorised as Modified. These areas were most likely denoted as CBAs due to current use of the land for crop farming (VU2) and past disturbance due to mining activities (sections of VU1). The specialist concurs with this designation for areas currently used as cropland. However, areas previously disturbed due to mining activities have largely returned to a more natural state and may now be more accurately considered as “Other Natural Areas”.
- Other Natural Areas (ONA): Areas of the project footprint that appear undisturbed by current cop farming and previous mining activities have been categorised as ONA. 1.6 ha of the project footprint has been categorised as

ONA and falls within Vegetation Unit 1, as delineated in this report. The findings of this report concur with the designation of these areas ONA.

Based on the findings of both the desktop assessment and the site survey, the project footprint has been assigned the following sensitivity ratings in terms of terrestrial ecology aspects:

- VU1 (modified grassland) is classified as having a moderate sensitivity due to the grass consisting of indigenous species. However, due to the past mining activities in VU1, the VU is no longer representative of the Rand Highveld Grassland vegetation type, which has been classified as a Vulnerable ecosystem (GN1002 of 2011).
- VU2 (transformed / cropland) is classified as having a low sensitivity due to the absence of indigenous vegetation.

Three protected areas are located within 10 km of the project footprint, according to the South African Protected Areas Database:

- Vaalbank Private Nature Reserve – located 4.6 km east of the project footprint
- Burnside Private Nature Reserve – 4.1 km south of the project footprint
- Heyns Private Nature Reserve – 5.7 km south of the project footprint

No NPAES areas are situated within 10 km of the project footprint.

9.8 AGRICULTURAL AND LAND CAPABILITY

9.8.1 Soil and Agricultural Land Capability

The proposed mining permit areas had historically (and currently) been subjected to agricultural activities and mining. A Soil and Land capability assessment is in process and this section will be updated once the information is received.

9.9 AIR QUALITY

No Blasting or Blasting Impact Assessment will be conducted as no blasting will occur. However, an Air quality impact assessment had been requested for the project and this section will be updated to reflect information as received within the Final Scoping Report and Draft EIA/EMPR.

9.10 VISUAL

The visual character of the area is not expected to be altered to a significant extent, since the mining permits fall on areas historically mined, prospected and next to the significant existing coal mining operation. Therefore, the landscape character will not be significantly altered, specifically also due to the fact that the expected LOM for mining permits is only 2 years and the specified LOM for the Rietfontein is no more than a year based on the timeframes described in the Mining Works Programmes.

9.11 ARCHAEOLOGY AND HERITAGE

Preliminary findings show the following: The majority of the demarcated study areas is associated with cultivated crops and pastures, while the remaining section has been disturbed by past diggings. The 1974 topographical map indicates one building in the southeastern corner of Area 3, but the building has subsequently completely been demolished and

currently falls within the cultivated section. No material culture is associated with this site and no additional potential heritage sites were observed during the pedestrian survey or on historical topographical maps. From a heritage perspective, the demarcated study areas are not considered to be sensitive.

9.12 SOCIAL-ECONOMIC ENVIRONMENT

The following information is sourced from the Steve Tshwete Local Municipality (MP313) Integrated Development Plan.

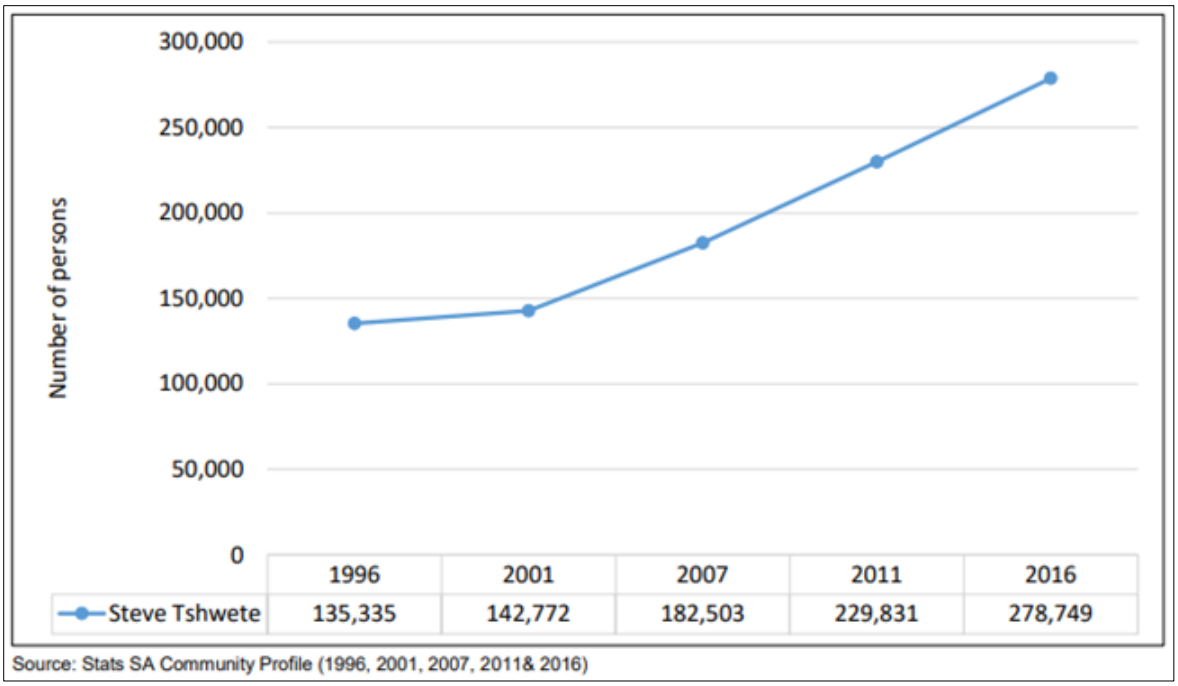


Figure 20: Population size: 1996, 2001, 2007, 2011 and 2016

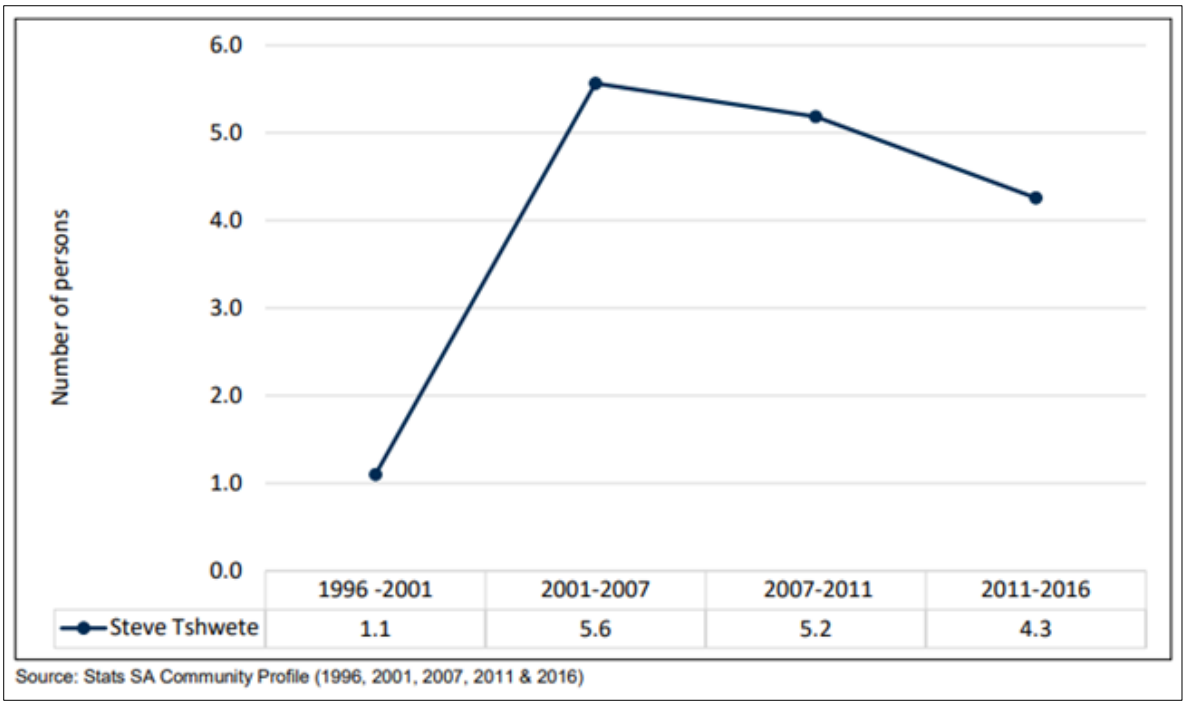


Figure 21: Population Growth Rate (%)

The Figure 13 and Figure 14 indicate that Steve Tshwete Local Municipality (STLM) is increasingly under pressure due to population growth. In 2016, the total population in Steve Tshwete was 278 749. Population grew by 4.4 %. Over the nine-year period from 2007 to 2016, STLM's population increased by 9.7%. In 2016, the municipality ranked the 7th largest population in the province and 19.3% of total population of Nkangala as per the 2016 community survey. This could be attributed to the number of industries that were opened within the 10 years (2001-2011) that attracted workers into Middelburg. It is estimated that the population number for 2030 will be at more or less 509 000 people given the historic population growth per annum which will put pressure on the infrastructure and basic service delivery and eventually also sustainable job creation in the long run.

9.12.1 Population distribution

Population distribution is the arrangement or spread of people living in a given area according to variables such as age, race, or sex.

9.12.2 Race

African/ black population continues to constitute the highest group followed by the white population since 1996 to date. Asian and coloured population constitute the minor population group.

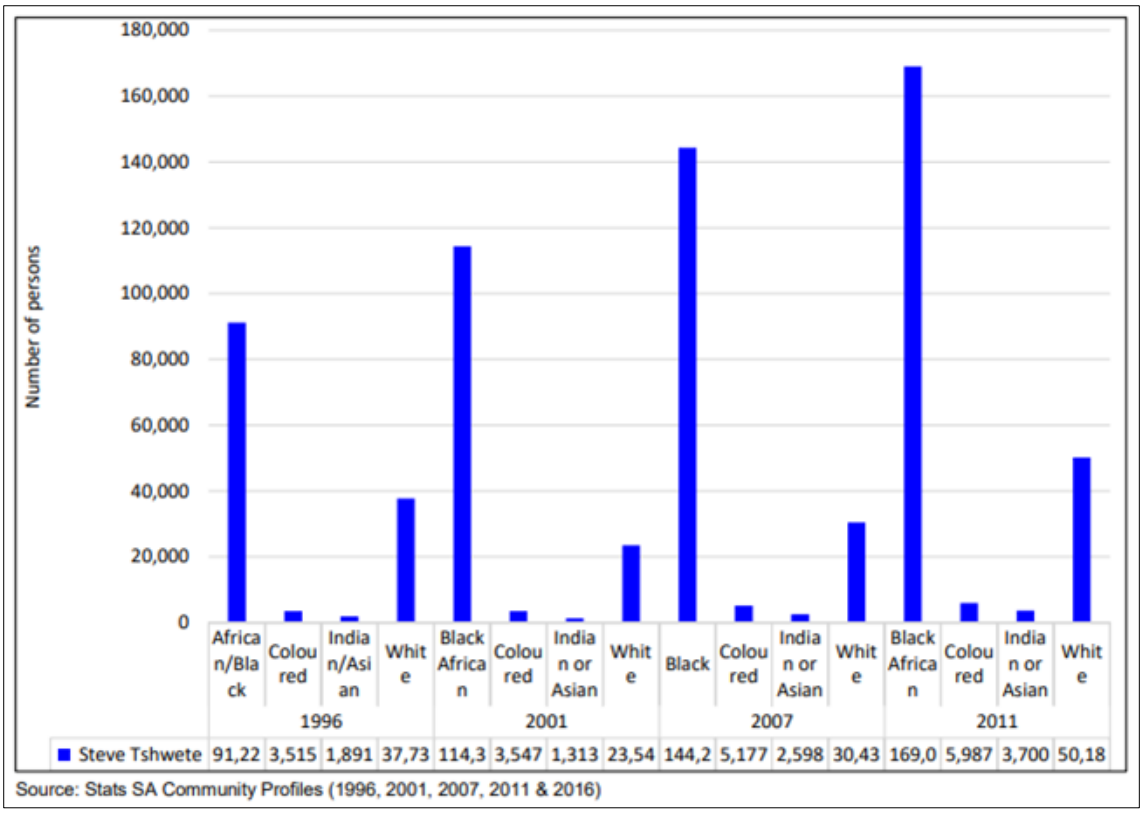
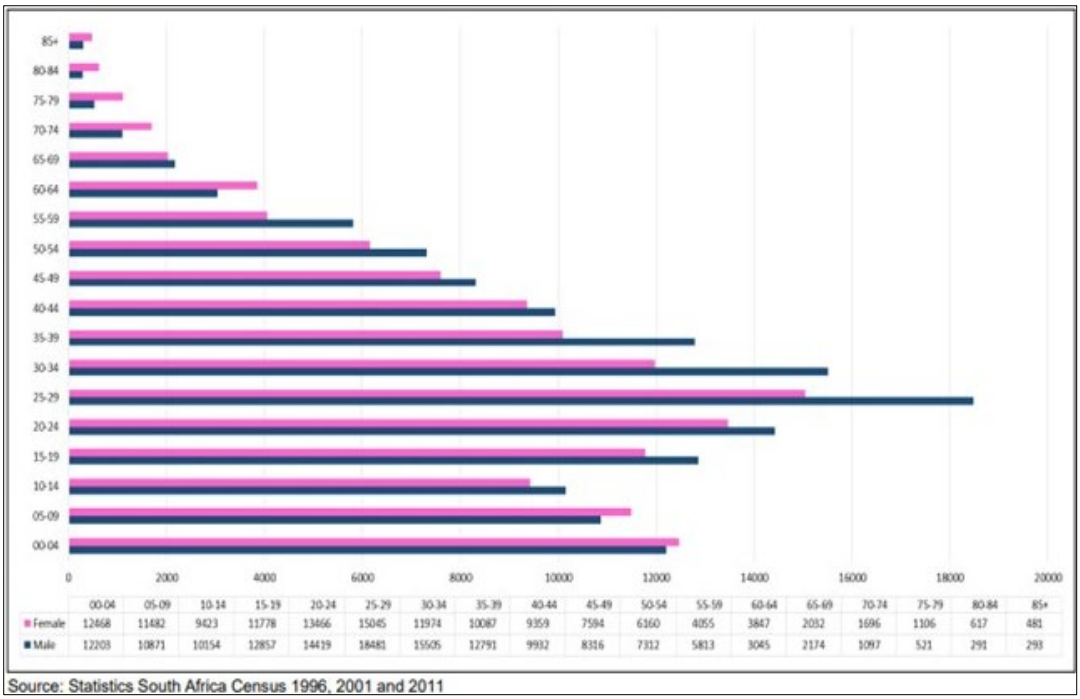


Figure 22: Population Group 1996, 2001 and 2011

9.12.3 Sex Ratio

The male population in Steve Tshwete is higher than female population in Steve Tshwete. Such an age structure is observed in population that attracts migrants due to lucrative employment opportunities. There are manufacturing, industrial and mining companies in Steve Tshwete that attract people from across the country and other African countries.

According to the Census 2011 migration data, STLM attract people, particularly from Limpopo (8%), Gauteng (7%), KwaZulu Natal (4%) and regionally (4%).



	00-04	05-09	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85+
Female	12468	11482	9423	11778	13466	15045	11974	10087	9359	7594	6160	4055	3847	2032	1696	1106	617	481
Male	12203	10871	10154	12857	14419	18481	15505	12791	9932	8316	7312	5813	3045	2174	1097	521	291	293

Source: Statistics South Africa Census 1996, 2001 and 2011

Figure 23: Sex ratio 1996, 2001 and 2011

Age It is highlighted in the pyramid that a significant portion of the population growth is between 20 and 34 cohort as well as the infants (0-4 cohort). In reference to Figure 17 below, the most populous age group in 2016 were between ages 25 to 29. This could be the result of people migrating to the municipality seeking job opportunities as Steve Tshwete is considered to be one of the economic hub of Mpumalanga and is often the preferable choice of destination by job seekers across Mpumalanga Province.

Figure 17 indicates that the Youth population (15-34 years) constitute about 40.7% of the total population and the share of the male population in 2016 according to the CS was 52.4% and females 47.6%.

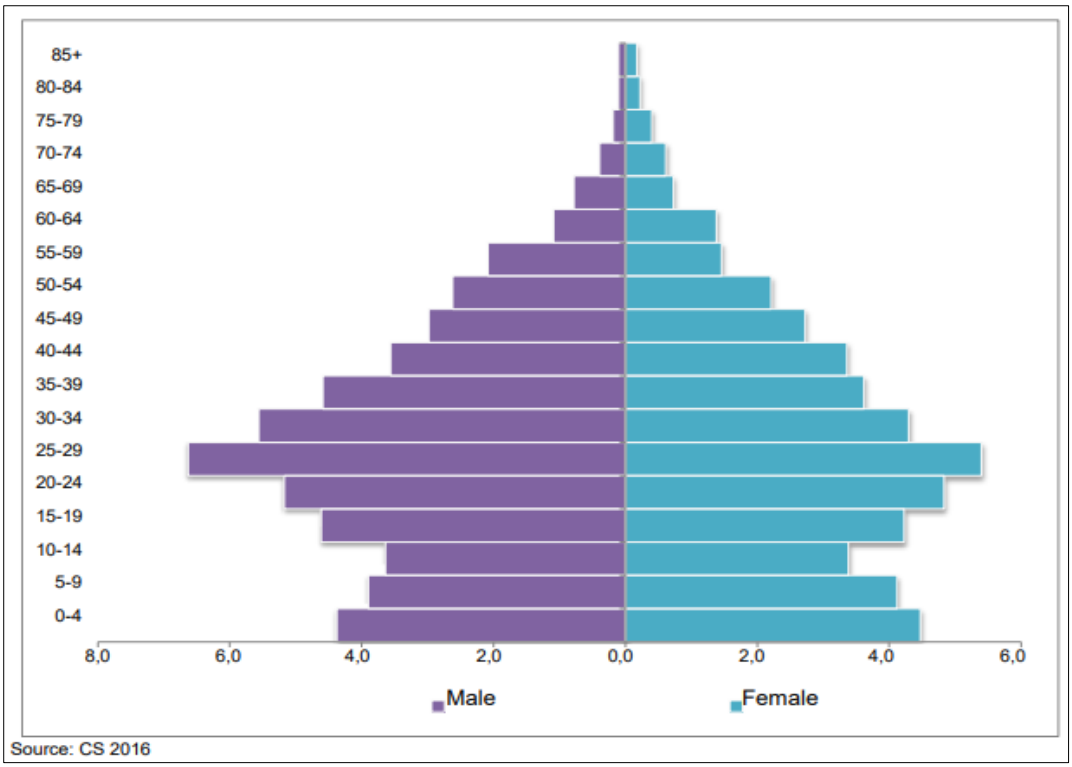


Figure 24: Distribution of Population by Age and Sex in 2016

9.12.4 Educational attainment

In terms of education, the majority of the population of the municipality have some form of education with only 14.4. % of the population having no schooling as depicted in the diagram below (Census 2011). According to the 2016 Community Survey, the population in Steve Tshwete aged 20+ completed grade 12, increased from 73 793 in 2011 to 97 943 (increase of 24 150) in 2016 which translate to an increase of 32.7% in the relevant period. Steve Tshwete's grade 12 pass rate improved from 74.4% in 2011 to 86.3% in 2015 and became the 2nd highest of the municipal areas of the Province.The area achieved an admission rate to university/degree studies of 30.5% in 2015.

In 2016, 22.9% grade 12s obtained admission to university/degree studies. Over the years, there has been great improvement of about 4.7% for grade 12 pass rate improved in STLM from 85.6% in 2014 to 89.0% in 2019 – ranked no 1 again in the province. The municipality, department of education and private sector to ensure that the 11% learners who did not qualify for university admission get accommodated in other institutions such as TVET colleges and technikons.

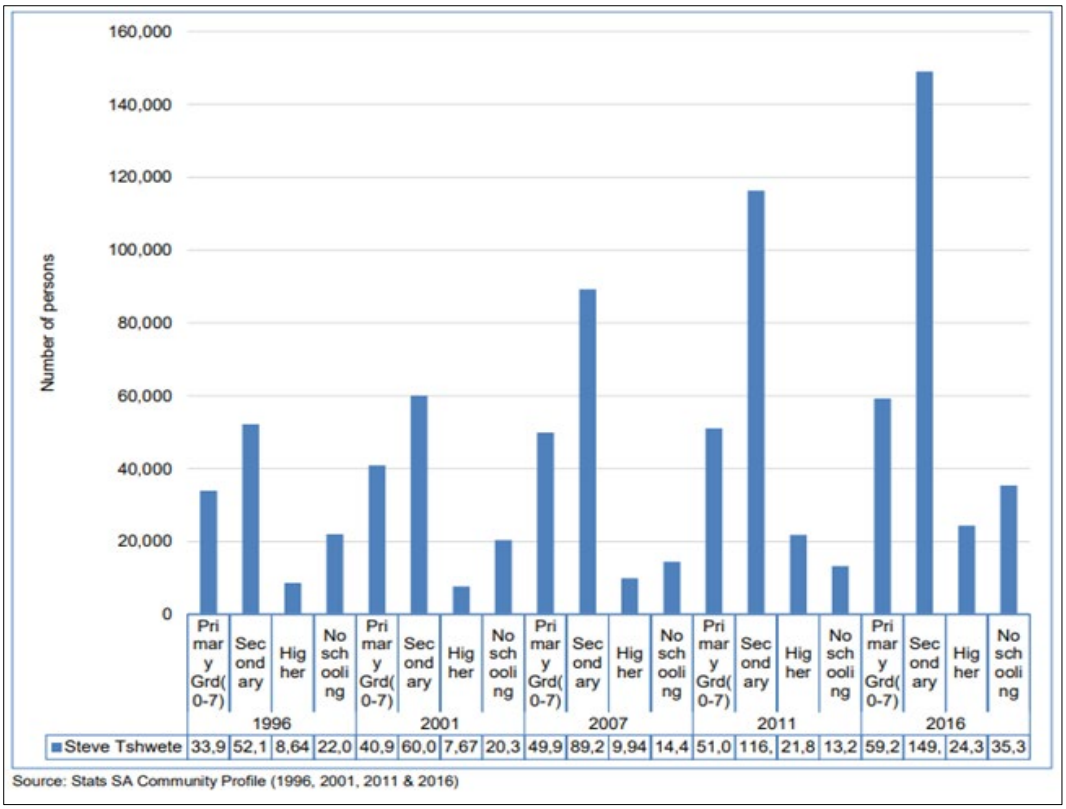


Figure 25: Highest Educational attainment (20+ years)

9.12.5 Socio Economic Analysis

The socio-economic analysis is specifically aimed at spatial related matters, i.e. employment, income and economic profile. This analysis is based on a municipal level to give a broader overview of the Municipality.

9.12.6 Poverty and Inequality

In the last ten years the municipality has made huge investments in infrastructure and housing development as a result of that, poverty and inequality has been decreasing steadily. However, the current rate of unemployment and poverty are key factors contributing to high inequality levels.

Table 10: Poverty in Steve Tshwete 2001, 2011 and 2016

INDICATORS	2001	2011	2015
Poverty rate	31.6%	25.9%	21%
Number of people in poverty	48 865	59 929	53 567
Poverty gap (R million)	R54	R110	R575

Source: Statistics South Africa Census 2001, 2011, 2016

9.12.7 Human Development Index

Human Development Index (HDI) is defined as a standard measure of determining whether an area is developed, developing and developed. According to SERO 2018 report, the average trend on the HDI seems to be stable between 2011 and 2014 at 0.69 whilst between 2015 and 2018 sitting at 0.69. Improved Human Development Index (HDI) from

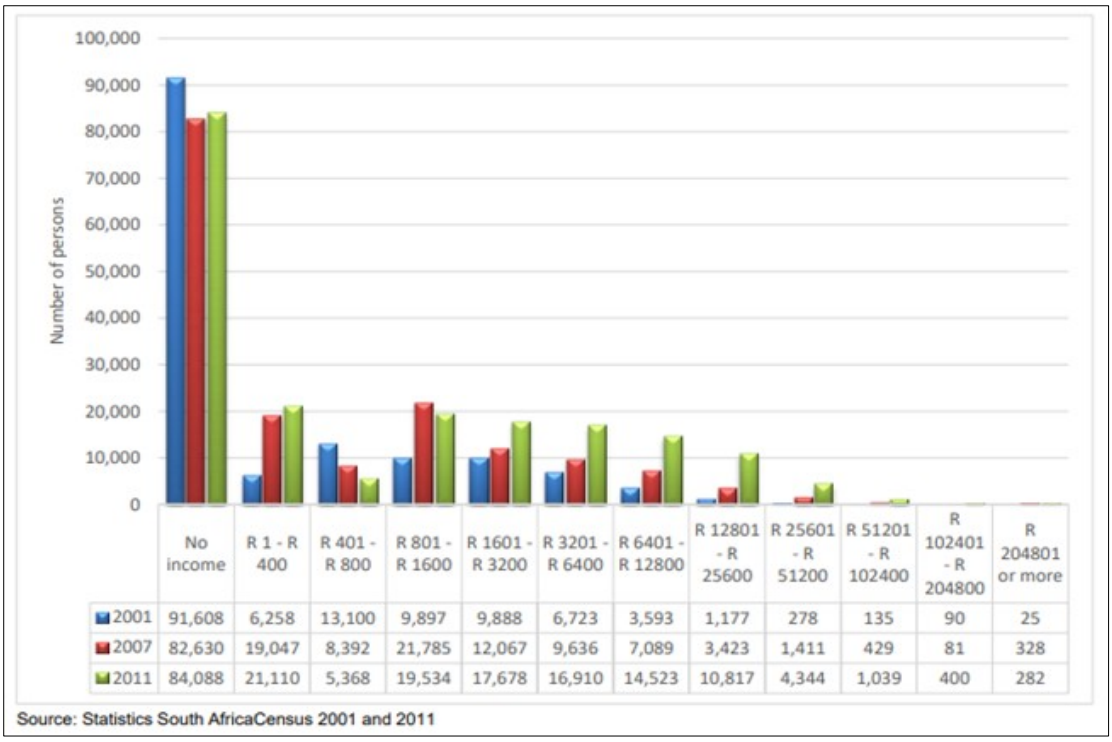
0.67 in 2015 to 0.69 in 2018 – the highest in the province. The predetermined life expectancy in South Africa is 65 and as a result that confirms the decline of the population group between the ages 65 and 85+ as depicted in the pyramid (figure 1). On the other hand, the high death rate within these population groups could be attributed to the top ten leading causes of death as listed by the STATS SA 2011, namely, influenza and pneumonia, other external causes of accidental injury, Tuberculosis, Intestinal infectious diseases, other forms of heart disease, Cerebrovascular diseases, Ischaemic heart diseases, Chronic lower respiratory diseases, Human immunodeficiency virus [HIV] disease, Diabetes mellitus.

9.12.8 Employment

Steve Tshwete economy is one of the biggest economic areas and it is therefore expected that a significant number of employment opportunities are being provided in the area. Mining, trade and manufacturing are the major leading employment drivers in Steve Tshwete LM. The unemployment rate of Steve Tshwete decreased slightly from 19.7% in 2011 to 16.4% in 2015 and was the lowest among all the municipal areas of Mpumalanga. In 2018, the municipality has recorded a slight increase yet again from 2015 figures to just 17,9%. Unemployment rate for females has increased from 21.8% in 2015 to 23.1% in 2018 and that of males from 12.9% in 2015 to 14.5% in 2018. Though there is a high growth rate of unemployement, Steve Tshwete still has the lowest percentage in the province. Youth unemployment rate according to the 2011 Census figures 27.1% - challenge with especially very high youth unemployment rate of females. The largest employing industries in Steve Tshwete are trade (including industries such as tourism), community/government services and mining. High labour intensity in industries such as agriculture, trade and construction.

9.12.9 Individual Income

According to the census, the number of people without an income has decreased from 91608 to 84088 between 2001 and 2011. The majority (63690) of Steve Tshwete individual earn within the R1-R 3200 followed by about 47 633 individuals who earn from R3200-R102 400 in 2011, there has been an increase this could be attributed to the number of mines and manufacturing industries located in STLM. The share of population in Steve Tshwete below the so-called lower-bound poverty line (of Stats SA) deteriorated from 23.4% in 2015 to 26.9% in 2018. In 2018, Steve Tshwete's share of population below the lower-bound poverty line was however, the lowest (favourable) among the municipal areas. The number of people below the lower bound poverty line was high at more than 70 000 people in 2018. The very same year, Steve Tshwete's share of population below the lower-bound poverty line was however, the lowest (favourable) among the municipal areas.



	No income	R 1 - R 400	R 401 - R 800	R 801 - R 1600	R 1601 - R 3200	R 3201 - R 6400	R 6401 - R 12800	R 12801 - R 25600	R 25601 - R 51200	R 51201 - R 102400	R 102401 - R 204800	R 204801 or more
2001	91,608	6,258	13,100	9,897	9,888	6,723	3,593	1,177	278	135	90	25
2007	82,630	19,047	8,392	21,785	12,067	9,636	7,089	3,423	1,411	429	81	328
2011	84,088	21,110	5,368	19,534	17,678	16,910	14,523	10,817	4,344	1,039	400	282

Source: Statistics South AfricaCensus 2001 and 2011

Figure 26: Individual income distribution in Steve Tshwete 2001 and 2011

9.12.10 Household income

According to Census 2011, the average annual household income increased from R 55 369 per annum in 2001 to R134 026 per annum in 2011. This represents an absolute increase in nominal terms over the 10-year period, which was the highest among the eighteen local municipalities in the province. This is closely related to its higher education levels and employment rates.

9.12.11 Water and sanitation

Even though Access to water and sanitation remains fairly high in STLM, due to households increase between 2011 and 2016, the percentage of households with water and sanitation has decreased. The 2016 Community survey reveals that, 81.9 of households had access to potable water (household connections and communal stands) and 85.4% had flush and chemical toilets. In 2014, the Blue Drop Certified Systems awarded STLM a blue drop score of 97.1% (ranked 1st in the province, noting that the municipality continues to manage drinking water within their area of jurisdiction with distinction. STLM was ranked second in terms of waste water services in the Green Drop Report which was at 61.9%.

9.12.12 Electricity

STLM is licensed to supply the following areas with electricity: Middelburg, Hendrina, Kwaza, Doornkop, Komati, Blinkpan and Koornfontein and comprises of the following divisions: Small consumer, Distribution and Planning and bulk connection. The provision of electricity within the municipality continues to decrease to 0.7 between 2011 and 2016.

9.12.13 Refuse Removal

Census 2016 shows that the municipality continues to improve expanding the access to refuse removal. About 85% households had access to refuse removal at least once a day. The municipal service extends to all the municipal towns but exclude the mining towns and rural areas which are self-serviced. Bulk containers and provided for places like Kranspoort. Somaphepha, Mafube and Doorenkop have a transfer station and big containers that are serviced by the municipality.

9.12.14 Roads and stormwater

In 2011, the municipality had about 826 km of total road network. Out of the 828 km about 660 km were tarred and about 162.4km were gravel roads. The 162.4km includes roads within farm areas which are privately owned, and the municipality is unable to provide tarred roads.

10 DESCRIPTION OF SPECIFIC ENVIRONMENTAL FEATURES AND INFRASTRUCTURE ON THE SITE

10.1 ENVIRONMENTAL FEATURES

Most of the study site consists of cultivated lands and remaining opencast mining areas or diggings from historic mining. Other areas within close proximity include grazing areas, roads and homesteads.

10.2 EXISTING INFRASTRUCTURE ON THE STUDY AREA AND IN CLOSE PROXIMITY

This is a new application, and no current infrastructure has been developed which is related to the Mining Permit Applications. Prospecting rights are held on the property (which is understood to expire soon) and historic mining of the section had also occurred, and depressions are left over within the footprint based on these activities.

10.2.1 Roads

The N4 and the R575 Road is found in close vicinity to the project and the R575 will be the main access road. A secondary road is adjacent to the proposed areas. Other roads, such as haul roads already exist on the project site and is used by heavy vehicles associated with the neighbouring mining and agricultural activities.

10.2.2 Railway line

No railway lines occur in close proximity to the study area.

10.2.3 Powerlines

No visible servitudes are associated with the Mining permit footprints. However, Eskom had been included in the I&AP list and servitudes*. If any risk assessments are required based on the outcome or comments received from Eskom, this will be catered for and addressed during the EIA/EMPR Phase of the project in the appropriate manner required by Eskom.*

10.2.4 Water

Water will be supplied to the site as mentioned above. All other water uses will be licensed in terms of the National Water Act, 1998 (Act 36 of 1998) where applicable, and includes dust suppression and other possible Section 21(g) water uses.

10.2.5 Sewage

Chemical and Portable toilets will be provided and utilised.

10.2.6 Historical Mining

Historical mining took place within the proposed mining permit areas. Smaller voids are located within the un-rehabilitated sections, and these will be mined, rehabilitated and sloped.

10.3 ENVIRONMENTAL AND CURRENT LAND USE MAP

(Show all environmental, and current land use features)

Land uses, on and adjacent to the project area, currently consist of grassland, cropland, agriculture / farming related infrastructure and residences, mining activities, and livestock grazing. The drainage line reflected within the figure below, is a non-perennial drainage line which had been impacted by historic mining and agriculture and no longer has channelled flow or visible discernible features besides water present in the most south western depressions adjacent to the mining footprints.

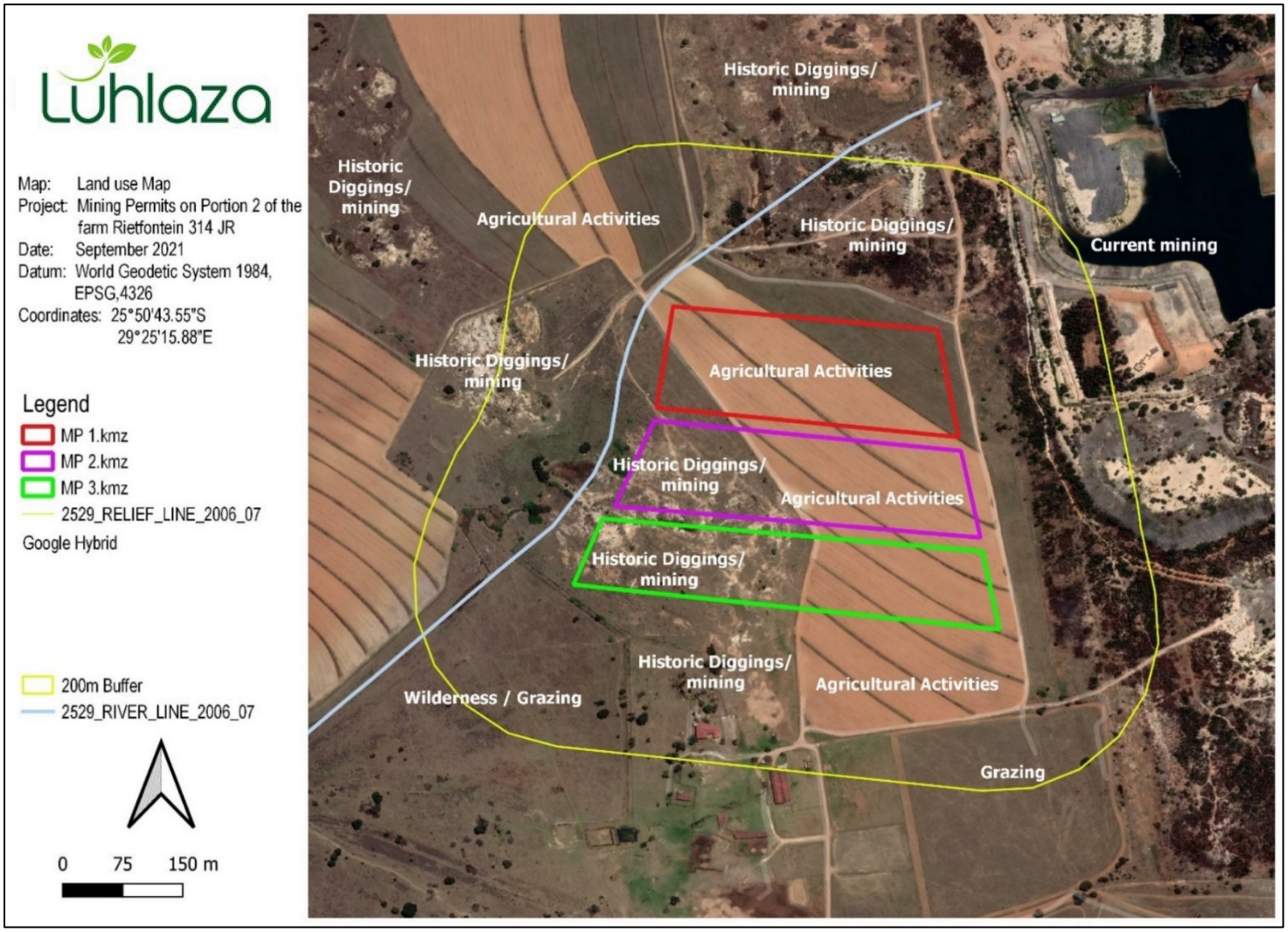

Luhlaza
Map: Land use Map
Project: Mining Permits on Portion 2 of the farm Rietfontein 314 JR
Date: September 2021
Datum: World Geodetic System 1984, EPSG,4326
Coordinates: 25°50'43.55"S 29°25'15.88"E
Legend
MP 1.kmz
MP 2.kmz
MP 3.kmz
2529_RELIEF_LINE_2006_07
Google Hybrid
200m Buffer
2529_RIVER_LINE_2006_07
0 75 150 m
Historic Diggings/ mining
Historic Diggings/ mining
Agricultural Activities
Historic Diggings/ mining
Current mining
Historic Diggings/ mining
Agricultural Activities
Historic Diggings/ mining
Agricultural Activities
Historic Diggings/ mining
Historic Diggings/ mining
Agricultural Activities
Wilderness / Grazing
Grazing

Figure 27: Land-use within 200m of the site

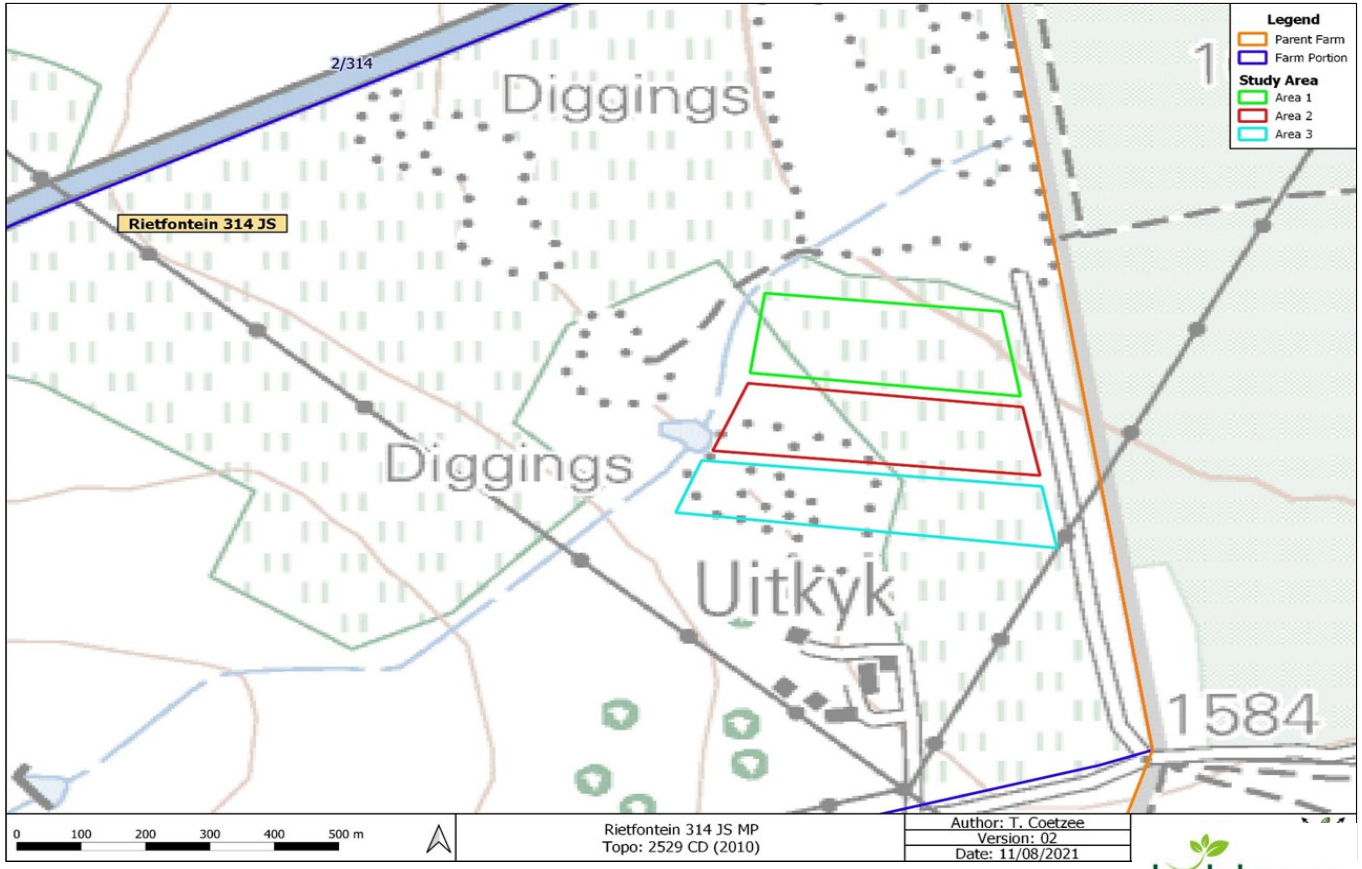


Figure 28: 2010 Topographical Map showing historic land uses for the specific area in question (Coetze

Also refer to Appendix E.

11 IMPACTS IDENTIFIED

(Provide a list of the potential impacts identified of the activities described in the initial site layout that will be undertaken, as informed by both the typical known impacts of such activities, and as informed by the consultations with affected parties together with the significance, probability and duration of the impacts)

Potential impacts that may be caused by the proposed development will be identified using input from the following:

- Views of I&APs;
- Existing information;
- Specialist investigations;
- Site visit with the project team; and
- Legislation.

The following potential major direct, indirect and cumulative impacts were identified:

- Land degradation
- Potential to alter the topography
- Loss of soil characteristics - erosion and compaction
- Potential for alien invasive establishment
- Reduced flow to downstream water catchment
- Potential pollution to water resources (surface, wetlands and groundwater)
- Drawdown cone from dewatering activities (groundwater quantity)
- Increased dust and emissions
- Increased noise levels
- Damage to property/infrastructure from blast events
- Potential damage to heritage sites (grave and/or archaeological artefacts)
- Influx of job seekers to the area
- Potential increased traffic – haulage
- Health and safety impacts;
- Potential injury and loss of health and life of humans; and
- Altered Socio-Economic Environment (Positive or negative).

Table 11: Impacts during the Construction phase activity specific impacts

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CONSTRUCTION PHASE					
GENERAL IMPACTS					
Activities during the Construction Phase	GEOLOGICAL AND SOILS	Soil erosion and soil compaction by heavy duty vehicles on site.	Medium (-)	Possible	Short term
		Contamination of soils through: - Indiscriminate disposal of waste; and - Accidental spillage of chemicals such as hydrocarbon-based fuels and oils or lubricants spilled from vehicles and other chemicals from operational and maintenance activities e.g. paints.	Medium (-)	Possible	Short term
	HYDROLOGICAL SURFACE WATER AND GROUNDWATER	Stormwater, erosion and siltation impacts due to a lack of implementing measures to manage stormwater run-off quantity and quality during the operational phase.	Medium (-)	Possible	Long term
		Contamination of stormwater runoff and ground water, caused by: - Sediment release; - Chemicals such as hydrocarbon-based fuels and oils or lubricants spilled from construction vehicles; - Other chemicals from maintenance activities e.g. paints; - Effluent discharges, due to a lack of stormwater management and system maintenance; and - Surface mining with ADTs	Medium (-)	Possible	Long term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CONSTRUCTION PHASE					
GENERAL IMPACTS					
		Impacts of dewatering on the groundwater aquifer should water be abstracted from the mining pits during the operational phase.	Medium (-)	Probable	Short term
		Impacts on depressions containing water as identified by the specialist investigations.	High (-)	Definite	Short/Medium term
	BIOLOGICAL, FAUNA, AVIFAUNA AND FLORA	Disturbance and loss of fauna through noise, light and dust pollution and hunting, trapping and killing of fauna.	Low (-)	Unlikely	Short Term
		Spreading of alien invasive species and bush encroachment of indigenous species.	Medium (-)	Possible	Long term
		Loss of biodiversity as a result of vegetation clearing and development of mining area.	Medium (-)	Possible	Medium term
	EXISTING LAND USE	Possibility of mining activities and workers causing veld fires destroying veld and animals on the study area and on adjacent land, impacting on the livelihood of surrounding land owners and users.	Low (-)	Possible	Medium term
		Change in land use as a result of mining activities.	High (-)	Definite	Medium term
	VISUAL	Visibility from sensitive receptors / visual scarring of the landscape and impact on 'Sense of Place' as a result of the visibility of the mining site including the waste management facilities and mining activities.	Medium (-)	Definite	Medium term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CONSTRUCTION PHASE					
GENERAL IMPACTS					
		Visibility of solid domestic and operational waste.	Low (-)	Possible	Medium term
	NOISE, VIBRATION AND LIGHTING	Nuisance and health risks caused by an increase in the ambient noise level as a result of noise impacts associated with the operation of the mining activities and processing.	Low (-)	Definite	Medium term
		Disturbance due to vibrations caused by vehicles.	Low (-)	Definite	Medium term
		Impact of security lighting on surrounding landowners and animals.	Low (-)	Definite	Medium term
		According to information received, no blasting will be done	-	-	-
	AIR QUALITY	Increased dust pollution (soil and ore fines), vehicles on gravel roads and waste rock, as well as other mining and combined activities.	Medium (-)	Definite	Short/Medium term
		Increased windborne dust (soil and ore fines), vehicle fumes and particulate matter PM10, altering air quality.	Medium (-)	Definite	Short/Medium term
	WASTE (INCLUDING HAZARDOUS WASTE)	Generation and disposal of general waste, litter and hazardous material during the operational phase and operational waste i.e. waste rock, etc.	Medium (-)	Definite	Short/Medium term
	SERVICES	Need for services e.g. water, electricity and sewerage systems, causing additional strain on natural resources and service infrastructure.	Low (-)	Unlikely	Short/Medium term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CONSTRUCTION PHASE					
GENERAL IMPACTS					
	TRAFFIC	The change in the traffic patterns as a result of increased traffic entering and exiting the operations on the surrounding road infrastructure and existing traffic.	Medium (-)	Definite	Long term
		Nuisance, health and safety risks caused by increased traffic on an adjacent to the study area including cars and heavy vehicles.	Medium (-)	Possible	Long term
	HEALTH AND SAFETY	Possibility of mining activities and workers causing veld fires, which can potentially cause injury and or loss of life to mine workers and surrounding landowners, visitors and workers.	Medium (-)	Possible	Long term
		Increased risk to public health and safety: Dangerous areas including the waste management activities and waste poses health risks and possible loss of life to mine workers and visitors to the site.	Medium (-)	Possible	Long term
	SOCIO-ECONOMIC	Socio-economic impact on farmers, labourers and surrounding landowners and residents due to negative impacts on groundwater, dust pollution, noise pollution etc.	Medium (-)	Definite	Long term
		Extended employment provision due to the implementation of the extension of the mining activities, allowing mining activities to continue for additional years.	High (+)	Definite	Medium to Long term
		Sourcing supplies from local residents and businesses boosting the local economy for an extended period of time.	Medium (+)	Possible	Long term

Table 12: Impacts during the operational phase – activity specific impacts

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE OPERATIONAL PHASE					
ACTIVITY SPECIFIC IMPACTS					
Opencast Coal Mining	HYDROLOGICAL, SURFACE WATER, WETLANDS AND GROUNDWATER	Impact of Nitrate based explosives used during mining on groundwater quality. Contamination plume can affect the groundwater resource.	Medium (-)	Definite	Medium/Long term
		Impacts of dewatering on the groundwater aquifer should water be abstracted from ground water during the operational phase.	Medium (-)	Probable	Medium/Long term
		Impact on surface and groundwater quality as a result of oxidation of sulphates in the coal, waste rock and overburden.	Medium (-)	Definite	Medium/Long term
	WASTE	Generation and disposal of additional hazardous operational waste i.e. waste rock, etc.	Medium (-)	Definite	Short term
	HEALTH AND SAFETY	Increased risk to public and worker health and safety.	Medium (-)	Possible	Short term
	SOCIO-ECONOMIC	Extended employment provision due to the implementation of the extension of the mining activities, allowing mining activities to continue for additional years.	High (+)	Definite	Long term
	VIBRTAION	According to information received, no blasting will be done	-	-	-
Loading, hauling and conveying coal to market	HYDROLOGICAL, SURFACE WATER AND GROUNDWATER	Possible impact on surface and groundwater from contaminated process water.	Low (-)	Probable	Short term
		Possible impact of spills and overflows	low (-)	Possible	Medium term
	WASTE	Generation and disposal of additional hazardous operational waste i.e. waste rock, etc.	Medium (-)	Definite	Short term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE OPERATIONAL PHASE					
ACTIVITY SPECIFIC IMPACTS					
	AIR QUALITY	Increased dust pollution (soil and ore fines), vehicles on gravel roads and transport of product	Medium (-)	Definite	Short term
		Increased windborne dust (soil and ore fines), vehicle fumes and particulate matter PM10, altering air quality.	Medium (-)	Definite	Short term
	HEALTH AND SAFETY	Increased risk to public and worker health and safety.	Medium (-)	Possible	Short/Medium term
	SOCIO-ECONOMIC	Extended employment provision due to the implementation of the extension of the mining activities, allowing mining activities to continue for additional years.	High (+)	Definite	Long term
	VIBRTAION	Increase in vibration as a result of heavy equipment and processing plant.	Low (-)	Possible	Medium term
Processing of coal	HYDROLOGICAL SURFACE WATER AND GROUNDWATER	Impact on surface and groundwater from contaminated process water.	Low (-)	Probable	Medium term
		Impact of spills and overflows.	low (-)	Possible	Medium term
	WASTE	Generation and disposal of additional hazardous operational waste i.e. waste rock, etc.	Medium (-)	Definite	Medium term
	HEALTH AND SAFETY	Increased risk to public and worker health and safety.	Medium (-)	Possible	Medium term
	AIR QUALITY	Increased windborne dust (soil and ore fines), vehicle fumes and particulate matter PM10, altering air quality.	Medium (-)	Definite	Short term
	SOCIO-ECONOMIC	Extended employment provision due to the implementation of the extension of the mining activities, allowing mining activities to continue for additional years.	High (+)	Definite	Short term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE OPERATIONAL PHASE					
ACTIVITY SPECIFIC IMPACTS					
Deposition of waste rock onto waste rock dumps and if authorised back into the pit. Maintenance of residue or waste rock dumps.	HYDROLOGICAL, SURFACE WATER AND GROUNDWATER	Seepage from waste management activities e.g. waste rock dumps, could cause a contamination plume affecting the underground water resources.	Medium (-)	Probable	Medium/Long term
		Discharge and associated water handling infrastructure can cause contamination of surface water resources.	Medium (-)	Probable	Medium term
		Impact on surface and groundwater quality as a result of oxidation of sulphates from waste rock placed back in put as part of rehabilitation.	Medium (-)	Definite	Medium term
	WASTE	Generation and disposal of additional hazardous operational waste i.e. waste rock, etc.	Medium (-)	Definite	Short/Medium term
	AIR QUALITY	Increased windborne dust (soil and ore fines), vehicle fumes and particulate matter PM10, altering air quality.	Medium (-)	Definite	Short term
	HEALTH AND SAFETY	Increased risk to public and worker health and safety.	Medium (-)	Possible	Medium term
	SOCIO-ECONOMIC	Economic impact should there be an incident of public health and safety.	Medium (-)	Possible	Long term
Concurrent Rehabilitation of opencast voids	HYDROLOGICAL, SURFACE WATER AND GROUNDWATER	Impact on surface and groundwater quality as a result of oxidation of sulphates from waste rock placed back in put as part of rehabilitation.	Medium (-)	Probable	Long term
		Seepage from waste management activities e.g. waste rock, used for rehabilitation could cause a contamination plume affecting the underground water resources.	Medium (-)	Probable	Long term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE OPERATIONAL PHASE					
ACTIVITY SPECIFIC IMPACTS					
		Surface run off from rehabilitated areas resulting in siltation of water resources and causing erosion.	Medium (-)	Possible	Long term
	AIR QUALITY	Increased windborne dust (soil and ore fines), vehicle fumes and particulate matter PM10, altering air quality.	Medium (-)	Definite	Short term
	HEALTH AND SAFETY	Increased risk to public and worker health and safety.	Medium (-)	Possible	Short term
	SOCIO-ECONOMIC	Economic impact should there be an incident of public health and safety.	Medium (-)	Possible	Short term
Transport of coal to market	HYDROLOGICAL, SURFACE WATER AND GROUNDWATER	Increase in surface water pollution as a result of spills and transport of ore.	Low (-)	Probable	Medium term
	AIR QUALITY	Increased windborne dust (soil and ore fines), vehicle fumes and particulate matter PM10, altering air quality.	Medium (-)	Definite	Short term
	HEALTH AND SAFETY	Increased risk to public and worker health and safety.	Medium (-)	Possible	Short term
	SOCIO-ECONOMIC	Sourcing supplies from local residents and businesses boosting the local economy for an extended period of time.	Medium (+)	Possible	Short term
	VIBRATION	Disturbance due to vibrations caused by heavy duty vehicles.	Low (-)	Probable	Short term
	TRAFFIC	The change in the traffic patterns as a result of increased traffic entering and exiting the operations on the surrounding road infrastructure and existing traffic.	Medium (-)	Definite	Medium term
		Nuisance, health and safety risks caused by increased traffic on an adjacent to the study area including cars and heavy vehicles.	Medium (-)	Possible	Medium term

Table 13: Impacts during the closure phase – general impacts

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CLOSURE AND POST-CLOSURE PHASES					
GENERAL IMPACTS					
	GEOLOGICAL AND SOILS	Soil compaction by heavy duty vehicles.	Medium (-)	Possible	Medium term
		Contamination of soils through: - Accidental spillage of chemicals such as hydrocarbon-based fuels and oils or lubricants spilled from heavy duty vehicles and other chemicals.	Medium (-)	Possible	Short term
	HYDROLOGICAL, SURFACE WATER AND GROUNDWATER	Stormwater, erosion and siltation impacts due to a lack of implementing measures to manage stormwater run-off quantity and quality during the closure phase.	Medium (-)	Possible	Medium term
		Contamination of stormwater runoff and ground water, caused by: - Sediment release; - Chemicals such as hydrocarbon-based fuels and oils or lubricants spilled from heavy duty vehicles; - Effluent discharges, due to a lack of stormwater management. - Sulphate pollution as a result of oxidation of sulphate bearing minerals and waste	Medium (-)	Possible	Medium term
		Impacts of dewatering on the groundwater aquifer should water be abstracted from ground water during the closure phase.	Medium (-)	Possible	Medium term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CLOSURE AND POST-CLOSURE PHASES					
GENERAL IMPACTS					
		Impaction groundwater from the pollution plume associated with the oxidation of sulphate bearing minerals utilised during rehabilitation.	Medium (-)	Possible	Long term
		Impact on surface flow as a result of new topography after rehabilitation.	Medium (-)	Possible	Long term
		Decrease in groundwater quality as a result of pollution plume.	Medium (-)	Possible	Long term
	BIOLOGICAL	Disturbance and loss of fauna through noise, light and dust pollution as well as hunting, trapping and killing of fauna.	Low (-)	Definite	Long term
		Spreading of alien invasive species and bush encroachment of indigenous species.	Medium (-)	Possible	Long term
		Loss of ecological function of wetland/pan areas as a result of mining.	High (-)	Definite	Long term
	VISUAL	Visibility from sensitive receptors / visual scarring of the landscape as a result of the closure and rehabilitation activities.	Low (-)	Definite	Medium term
		Visibility of solid domestic and operational waste.	Low (-)	Possible	Medium term
	NOISE, VIBRATION AND LIGHTING	Nuisance and health risks caused by an increase in the ambient noise level as a result of noise impacts associated with the operation of heavy-duty vehicles and equipment.	Low (-)	Definite	Medium term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CLOSURE AND POST-CLOSURE PHASES					
GENERAL IMPACTS					
		Disturbance due to vibrations caused by heavy duty vehicles.	Low (-)	Probable	Medium term
		Impact of security lighting on surrounding landowners and animals.	Low (-)	Definite	Medium term
	AIR QUALITY	Dust (soil and ore fines) pollution due to rehabilitation activities and heavy-duty vehicles.	Medium (-)	Definite	Short term
		Windborne dust (soil and ore fines) and vehicle fumes and particulate matter PM10, altering air quality.	Medium (-)	Definite	Short term
	SERVICES	Need for additional services i.e. water, electricity and sewerage systems during the closure phase causing additional strain on natural resources and infrastructure.	Low (-)	Unlikely	Short term
	TRAFFIC	The change in the traffic patterns as a result of traffic entering and exiting the proposed mine on the surrounding road infrastructure and existing traffic.	Low (-)	Possible	Short term
		Nuisance, health and safety risks caused by increased traffic on an adjacent to the study area including cars and heavy vehicles.	Low (-)	Possible	Short term
	HEALTH AND SAFETY	Possibility of closure activities and workers causing veld fires, which can potentially cause injury and or loss of life to workers and surrounding landowners and visitors.	Low (-)	Possible	Short/Medium term
		Increased risk to public health and safety: Dangerous areas including the waste management facilities poses health risks and possible loss of life to mine workers and visitors to the site.	Medium (-)	Possible	Short/Medium term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CLOSURE AND POST-CLOSURE PHASES					
GENERAL IMPACTS					
		Increased risk to public and worker health and safety.	Medium (-)	Possible	Short/Medium term
	SOCIO-ECONOMIC	Socio-economic impact on farmers, labourers and surrounding landowners and residents due to negative impacts on groundwater, dust pollution, noise pollution etc.	Medium (-)	Definite	Short/Medium term
		Economic impact should there be an incident of public health and safety.	Medium (-)	Possible	Medium term
		Sourcing supplies from local residents and businesses boosting the local economy for an extended period of time.	Medium (+)	Possible	Medium term

Table 14: Closure and post-closure specific impacts

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CLOSURE AND POST-CLOSURE PHASES					
PHASE SPECIFIC IMPACTS					
Rehabilitation of site, removal of infrastructure, re-seeding of rehabilitated areas.	GEOLOGICAL AND SOILS	Soil erosion, loss of agricultural potential.	Medium (-)	Definite	Long term
	HYDROLOGICAL, SURFACE WATER AND GROUNDWATER	Seepage from waste rock could cause a contamination plume affecting the groundwater resources.	Medium (-)	Probable	Long term
		Ground water pollution.	Medium (-)	Probable	Long term

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
IMPACTS DURING THE CLOSURE AND POST-CLOSURE PHASES					
PHASE SPECIFIC IMPACTS					
	WASTE	Generation and disposal of additional hazardous operational waste i.e. waste rock.	Medium (-)	Definite	Medium term
	BIOLOGICAL, FAUNA AND FLORA	Rehabilitation of area with natural vegetation and re-establishment of local biodiversity.	Medium (-)	Definite	Medium/Long term
		Loss of ecological function in wetland, pans and streams.	Medium (-)	Possible	Short/Medium term

Table 15: Impacts as a result of not implementing the proposed development

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
NO-GO ALTERNATIVE					
N/A	SOCIO-ECONOMIC	Reduced period of providing employment for local residents and skills transfer to unskilled and semi-skilled unemployed individuals.	Very high (-)	Definite	Permanent
		Reduced period of development and upliftment of the surrounding communities and infrastructure.	Very high (-)	Definite	Permanent
		Reduced period of development of the economic environment, by job provision and sourcing supplies for and from local residents and businesses.	Very high (-)	Definite	Permanent
		Positive: No additional negative impacts on the environment.	Medium (+)	Definite	Permanent

ACTIVITY	ENVIRONMENTAL ASPECT	DESCRIPTION OF IMPACT	SIGNIFICANCE PRE-MITIGATION	PROBABILITY	DURATION
NO-GO ALTERNATIVE					
	GEOLOGICAL	Sterilisation of mineral resource.	Very high (-)	Definite	Permanent
	HYDROLOGICAL, SURFACE WATER AND GROUNDWATER	No additional pollution to surface and groundwater.	Medium (+)	Definite	Permanent
		Un-rehabilitated area will still cause surface and groundwater pollution.	Medium (-)	Definite	Permanent
	WASTE	No waste generated as a result of the activities.	Medium (+)	Definite	Permanent
	BIOLOGICAL, FAUNA AND FLORA	No impact on wetlands, pans or streams in proximity. No reduction in ecological function.	Low (+)	Definite	Permanent
		Agricultural activities will continue on the area and monoculture.	Low (+)	Definite	Permanent

11.1 METHODOLOGY USED IN DETERMINING THE SIGNIFICANCE OF ENVIRONMENTAL IMPACTS

A "significant impact" is defined as it is defined in the EIA Regulations (2014): "an impact that may have a notable effect on one or more aspects of the environment or may result in non-compliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence". The objective of this EIA methodology is to serve as framework for accurately evaluating impacts associated with current or proposed activities in the biophysical, social and socio-economical spheres. It aims to ensure that all legal requirements and environmental considerations are met in order to have a complete and integrated environmental framework for impact evaluations.

11.1.1 Environmental Impact Assessment (EIA) Regulations, 2017 [as amended] requirements

The Environmental Impact Assessment (EIA) 2014 Regulations [as amended] promulgated in terms of Sections 24 (5), 24M and 44 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) [as amended] (NEMA), requires that all identified potential impacts associated with the proposed project be assessed in terms of their overall potential significance on the natural, social and economic environments.

The criteria identified in the EIA Regulations (2014) include the following:

- Nature of the impact;
- Extent of the impact;
- Duration of the impact
- Probability of the impact occurring;
- Degree to which impact can be reversed;
- Degree to which impact may cause irreplaceable loss of resources;
- Degree to which the impact can be mitigated; and
- Cumulative impacts.

The Consultant has developed an impact assessment methodology (as defined below) whereby the Significance of a potential impact is determined through the assessment of the relevant temporal and spatial scales determined of the Extent, Magnitude and Duration criteria associated with a particular impact. This method does not explicitly define each of the criteria but rather combines them and results in an indication of the overall significance.

11.1.2 Impact Assessment Methodology

The impact assessment methodology used to determine the significance of impacts prior and after mitigation is presented below.

Extent of the impact

The EXTENT of an impact is the physical extent/area of impact or influence.

Score	Extent	Description
1	Footprint	The impacted area extends only as far as the actual footprint of the activity.
2	Site	The impact will affect the entire or substantial portion of the site/property.
3	Local	The impact could affect the area including neighbouring properties and transport routes.
4	Region	Impact could be widespread with regional implication.
5	National	Impact could have a widespread national level implication.

Duration of the impact

The DURATION of an impact is the expected period of time the impact will have an effect.

Score	Duration	Description
1	Short term	The impact is quickly reversible within a period of less than 2 years, or limited to the construction phase, or immediate upon the commencement of floods.
2	Short to medium term	The impact will have a short term lifespan (2–5 years).
3	Medium term	The impact will have a medium term lifespan (6 – 10 years)
4	Long term	The impact will have a long term lifespan (10 – 25 years)
5	Permanent	The impact will be permanent beyond the lifespan of the development

Intensity of the impact

The INTENSITY of an impact is the expected amplitude of the impact.

Score	Intensity	Description
1	Minor	The activity will only have a minor impact on the affected environment in such a way that the natural processes or functions are not affected.
2	Low	The activity will have a low impact on the affected environment.
3	Medium	The activity will have a medium impact on the affected environment, but function and process continue, albeit in a modified way.
4	High	The activity will have a high impact on the affected environment which may be disturbed to the extent where it temporarily or permanently ceases.
5	Very High	The activity will have a very high impact on the affected environment which may be disturbed to the extent where it temporarily or permanently ceases.

Reversibility of the impact

The REVERSIBILITY of an impact is the severity of the impact on the ecosystem structure

Score	Reversibility	Description
1	Completely reversible	The impact is reversible without any mitigation measures and management measures
2	Nearly completely reversible	The impact is reversible without any significant mitigation and management measures. Some time and resources required.
3	Partly reversible	The impact is only reversible with the implantation of mitigation and management measures. Substantial time and resources required.
4	Nearly irreversible	The impact is can only marginally be reversed with the implantation of significant mitigation and management measures. Significant time and resources required to ensure impact is on a controllable level.

5	Irreversible	The impact is irreversible.

Probability of the impact

The PROBABILITY of an impact is the severity of the impact on the ecosystem structure

Score	Probability	Description
1	Improbable	The possibility of the impact occurring is highly improbable (less than 5% o impact occurring).
2	Low	The possibility of the impact occurring is very low, due either to the circumstances, design or experience (5% to 30% of impact occurring).
3	Medium	There is a possibility that the impact will occur to the extent that provision mus be made therefore (30% to 60% of impact occurring).
4	High	There is a high possibility that the impact will occur to the extent that provisior must be made therefore (60% to 90% of impact occurring).
5	Definite	The impact will definitely take place regardless of any prevention plans, and there can only be relied on migratory actions or contingency plans to contain the effec (90% to 100% of impact occurring).

Calculation of Impacts – Significance Rating of Impact

Significance is determined through a synthesis of the various impact characteristics and represents the combined effect of the Irreplaceability (Magnitude, Extent, Duration, and Intensity) multiplied by the Probability of the impact. The significance of an impact is rated according the scores a presented below:

Equation 1:

Significance = Irreplaceability (Reversibility + Intensity + Duration + Extent) X Probability

Significance Rating

Score	Significance	Colour Code
1 to 20	Very low	
21 to 40	Low	
41 to 60	Medium	
61 to 80	High	
81 to 100	Very high	

Degree to which the impact can be mitigated: *The effect of mitigation measures on the impact and its degree of effectiveness:*

Equation 2:

Significance Rating (WM) = Significance Rating (WOM) x Mitigation Efficiency

Mitigation Efficiency (ME)	
High	0,2
Medium to High	0,4
Medium	0,6
Low to Medium	0,8
Low	1,0

Confidence rating: *Level of certainty of the impact occurring*.

- **Certain**
- **Sure**
- **Unsure**

Cumulative impacts: *The effect the combination of past, present and "reasonably foreseeable" future actions have on aspects.*

- Very Low cumulative impact
- Low cumulative impact
- Medium cumulative impact
- High cumulative impact

12 THE POSITIVE AND NEGATIVE IMPACTS AND ALTERNATIVES

Potential impacts that were identified during the Scoping process, with inputs from I&APs, are discussed under environmental component headings in this section. These discussions should be read with the corresponding descriptions of the baseline environment.

The potential impacts associated with the project phases (construction, operations, decommissioning and closure) have been identified and described and reference has been made to the studies/investigations that are required to inform the impact assessment. In the absence of site-specific studies, the assessment conclusions are conservative. It follows that the assessment provided below is a preliminary assessment which will, after having obtained specialist input, be refined/changed as necessary in the EIA, as appropriate.

Geology

No geological impacts such as sterilisation of mineral resources are expected as the proposed project is being planned in a manner that allows for the maximum extraction of the targeted commodities within the project area.

Topography

The topography of the project area would be altered by project related activities. It should be noted that historical mining and current agricultural activities have altered the original topography of the areas. The topography of the site could be further altered through:

- surface subsidence in backfilled and rehabilitated mining areas and the impact this can have on water drainage and topography
- alteration of drainage patterns
- establishment of overburden/waste rock dumps.

Biodiversity

In the broadest sense, biodiversity provides value for ecosystem functionality, aesthetic, spiritual, cultural, and recreational reasons. The known ecosystem related value is listed as follows:

- Soil formation and fertility maintenance;
- Primary production through photosynthesis, as the supportive foundation for life;
- Provision of food and fuel;
- Provision of shelter and building materials;
- Regulation of water flows and water quality;
- Regulation and purification of atmospheric gases;
- Moderation of climate and weather;
- Control of pests and diseases; and
- Maintenance of genetic resources (key for medicines, crop and livestock breeding).

The discussions below consider terrestrial and aquatic ecosystems.

Issue: Physical Loss and/or general disturbance of terrestrial biodiversity

The existing habitat units of the project area have been impacted and degraded to some extent as a result of past mining, agricultural and anthropogenic activities, however, the project area still contains habitat units which are considered to be ecologically sensitive.

The significance of this impact is medium in the unmitigated scenario. The processing (which will consist of crushing) of ore (will not be washed) will take place in-pit. Mitigation and management measures that will be identified by the specialist studies will be implemented, included in the EIA and EMPr to ensure that the impact reduce.

Water Resources - Surface Water

The discussion below considers surface water and focus on possible impact associated with the proposed project.

Issue: Reduction in surface water quantity and quality

The proposed mining area have the potential to negatively impact on water resources. Surface water impacts are associated with the processing of ore and disposal of waste onto temporary waste storage facilities. Impact associated with processing and disposal will be assessed and mitigation and management measures will be included in the EIA phase. In the absence of mitigation measures will the direct impact on surface resources be medium and the indirect impact low. With mitigation measured the significance of the potential impacts can be reduced. The impact on any wetlands or sensitive water features will be assessed in the EIA phase will be investigated. Preliminary, the depressions have been assessed and do not constitute wetlands.

Water Resources – Groundwater

The discussion below considers groundwater and focus on possible impact associated with the proposed project.

Issue: Reduction in groundwater quantity and quality

Mining projects have the potential to negatively impact on water resources through abstraction for water supply and dewatering activities that may occur within all or some of the mining permit footprints, regardless of the alternatives that are selected. Mining projects also present a number of emission sources that can have a negative impact on water quality. Contaminants from the project are expected to include operation related consumables, silt, fuels, hydrocarbons, residues, sulphate pollution and hazardous wastes. Sulphate pollution is associated with the oxidation of sulphate minerals and the leaching, oxidation of these minerals.

In the absence of mitigation, given the importance of the groundwater system and based on the mine plan as presented in this report, the severity of unmitigated impacts would be high. Regarding water quantity impacts, where water resources are used by third party users, potential impacts affecting third party supply could occur. Impacts could extend beyond the site boundary to the water users and could extend beyond closure. In time, losses in water quantities and reduced water qualities could be reversed, however, at this stage, the related time period is not known. The related unmitigated significance is high. Important to note is that the use or potential contamination of water resources is regulated through water use licensing requirements of the DWS as the custodian of water resources in South Africa. Where the project plan takes into account the findings of specialist studies, applies the necessary mitigation to avoid,

minimises or remedy impacts in line with the mitigation hierarchy and operates under a water use license, the significance of potential impacts can be reduced.

Blasting, Vibration and Noise
Issue: Blasting and vibration related impacts

The mining method does not involve blasting activities.

Socio-Economic
Issue: Positive and negative socio-economic impacts

Mining projects have the potential to have positive and/or negative impacts on the following, regardless of the alternatives that are selected:

- employment for local communities;
- the local and national economy;
- social structures within communities;
- increased pressure on basic services;
- quality of life and health related issues
- livelihoods of businesses

Socio-economic impacts would occur during all project phases. In the absence of mitigation that focuses on enhancing positive impacts and reducing negative impacts, the severity of unmitigated impacts would be medium for negative impacts and medium (positive) for positive impacts. The related unmitigated significance could be medium. Where the project planning takes into account and applies the necessary mitigation to avoid, minimises or remedy impacts in line with the mitigation hierarchy, the significance of potential negative impacts can be reduced and potential positive impacts can be increased.

Land Use
Issue: Impact on surrounding land uses

The dominant land use in the area is agriculture with residential houses and historical mining activities. Project activities have the potential to impact on these land uses in all phases, regardless of the alternatives that are selected. These land uses may be affected by one or more of the biophysical, cultural and socio-economic impacts that could occur as a result of the proposed project. In the absence of mitigation that focuses on effectively mitigating each biophysical, cultural and socio-economic impact type, the severity would be medium; potential impacts would extend to the land uses located beyond the site boundary. The severity is likely to decrease with an increase in distance from the impact source. For the proposed opencast mining areas, with mitigation in place, the duration of impacts would be linked to the life of the project, which is between 1-2 years. Where project planning takes into account the findings of specialist studies and applies the necessary mitigation to avoid, minimises or remedy impacts in line with the mitigation hierarchy, the significance of potential impacts could be reduced.

Heritage/Cultural resources
Issue: Loss of or damage to heritage

The placement of infrastructure and mining activities in general, in all phases prior to closure, have the potential to remove, damage or destroy heritage/cultural and palaeontological resources, either directly or indirectly, and result in the loss of the resource for future generations. In the absence of mitigation measures, if the resources are considered to be of heritage significance, the unmitigated severity could be high. The related unmitigated significance would be high. Where the project planning takes into account the findings of the specialist studies and either avoids resources of high significance or alternatively document and/or relocate resources in line with a permit or the necessary approvals the significance of potential impacts can be reduced. However, the heritage study had already been conducted and preliminary results found to not have significant impacts.

Traffic
Issue: Effect on roads due to project related traffic

Mining projects contribute to increased traffic and introduce mine-related trucks on public road networks which can result in an inconvenience to current road users, higher accidents (for people and animals) decreased road service levels and/or increased road damage. This in turn can put pressure on the relevant roads authority to increase the maintenance programmes and/or upgrade the roads.

Traffic impacts are expected from construction through to the end of the decommissioning phase. However, an existing road exists, and this road will be widened if needed to cater for the increase in traffic. This road is already used by heavy vehicles from the adjacent agricultural and mining activities.

In the absence of mitigation measures that take into account other road uses and users, project-related use of public roads could result in a high severity impact. Any serious injury or death is a long-term impact that would extend to the communities to which injured people/animals belong. The related unmitigated significance is medium. With mitigation that focuses on ensuring adequate capacity on the road network and safety measures for other road users, the significance could reduce to medium as the severity, duration and frequency of potential accidents is expected to reduce.

Soil and Land Capability
Issue: Loss of soil and land capability through removal, erosion and compaction

Topsoil is generally a resource of high value containing a gene bank of vegetation seeds and other organisms. Soil resources can be lost through removal, erosion and compaction which can result in a loss of soil functionality as an ecological driver. The conservation of topsoil, soil management practises and the related rehabilitation strategy and initiatives become is highly important in achieving the post-closure land use. A number of activities/infrastructures in all phases have the potential to result in the loss of soils and related land capability, regardless of the alternatives that are selected.

In the absence of soil conservation and management measures and a rehabilitation plan that supports the post closure land use, the severity of potential impacts is expected to be high due to the impacted nature of the project area. Given the extent of the planned mining, the area of disturbance could be significant if rehabilitation is not followed. Without mitigation the loss of soil and related land capability would definitely occur. This impact could be significantly reduced to medium/low with the implementation of mitigation measures focused on minimising impacts during operations and remedying any negative impacts at closure.

12.1 THE POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED AND THE LEVEL OF RISK

Table 16: Mitigation measures (Construction, Operational and Closure Phase)

Activity	Potential Impact	Possible mitigation	Potential for residual risk
Opencast mining and establishment of Crushing and Screening plant. Transport and processing of coal. Rehabilitation of area. General Site activities.	Physical loss and/or general disturbance of terrestrial biodiversity	• Avoid sensitive areas as far as practically possible. • Implementation of an alien invasive species programme. • Limit emissions (dust, light, noise). • Training of employees on the value of biodiversity. • Zero tolerance for harming and harvesting fauna and flora. • Effective waste management and pollution prevention. • Effective rehabilitation to achieve post closure land use.	Medium

	Reduction in surface water quantity and quality.	• Design and implement contamination containment measures.
		• Mine infrastructure will be constructed and operated so as to comply with the National Water Act No. 36 of 1998 and Regulation 704 (4 June 1999):
		  ○ Clean and dirty water system will be separate.
		  ○ Clean run-off will be diverted away from the site.
		  ○ Dirty water will be contained.
		  ○ The necessary exemptions and approvals will be obtained for activities and
		  ○ Infrastructure not located within 100 m or within the 1:100-year floodline of the River and its tributaries.
		• Conduct surface water monitoring and implement remedial actions as required.
		• Effective equipment and vehicle maintenance.
		• Fast and effective clean-up of spills.
		• Effective waste management.
		• Education and training of workers.
		• Implement WUL requirements and mitigation measures.
			Medium

Activity	Potential Impact	Possible mitigation	Potential for residual risk
		• Effective rehabilitation to achieve post closure land use.	
	Reduction in groundwater quantity and quality.	• Groundwater pollution will be identified and included into a groundwater management plan which will be implemented as part of the operational and closure phase. • Implement WUL requirements and mitigation measures. • Conduct groundwater monitoring and implement remedial actions as required. This includes compensation for mine related loss of third-party water supply. • Effective equipment and vehicle maintenance. • Fast and effective clean-up of spills.	Medium
	Blasting and vibration related impacts	• No blasting is proposed. If this changes, appoint a blasting specialist and conduct a blasting impact assessment and design to ensure safety and impact management.	None – No Blasting proposed
	Positive and negative socio-economic impacts	• Develop and implement procedures for recruiting, training and procurement that align with good industry practise. • Employ local people and procure goods and services locally as far as practically possible. • Effective communication to manage expectations with regard to employment and other opportunities. • Ensure that closure planning considerations address the re-skilling of employees for the downscaling, early closure and long-term closure scenarios. • Work together with communities to manage issues such as security.	Medium
	Negative visual impacts	• Limit the extent of disturbed areas. • Supress dust to prevent a visual dust cloud. • Effective waste management. • Implement effective use of lighting which reduces light spill. • Effective rehabilitation to achieve post closure land use. • The use of berms where appropriate.	Low
	Loss and sterilization of mineral resources	• Incorporate cross discipline planning to avoid mineral sterilisation. A key component of the cross-cutting function is the Mine resource manager.	Low

Activity	Potential Impact	Possible mitigation	Potential for residual risk
	Loss of soil and land capability through removal, erosion and compaction	• Limit site clearance to what is absolutely necessary for the immediate future mining permit area. • Strip, handle, stockpile and re-use soil resources in line with site specific soil conservation and management plan.	Medium
	Physical loss and/or general disturbance of terrestrial biodiversity and aquatic ecosystems	• Undertake pre-construction surveys of the development footprints for species suitable for search and rescue operations. • Avoid sensitive areas as far as practically possible. • Obtain relevant permits prior to removal of protected species. • Implementation of an alien invasive species programme. • Limit emissions (dust, light, noise). • Training of employees on the value of biodiversity. • Zero tolerance for harming and harvesting fauna and flora. • Effective waste management and pollution prevention. • Implementation of a biodiversity action plan to ensure that the undeveloped/disturbed areas within the property are properly conserved and maintained. • Effective rehabilitation to achieve post closure land use.	Medium
	Increase in Noise and Air pollution	• Maintain vehicles and equipment in good working order. • Provide noise berms where possible between activities and receptors. • Conduct noise monitoring in response to noise complaints. • Limit disturbed areas. • Supress dust effectively. • Maintain equipment and vehicles in good working order. • Monitor pollutants of concern and implement additional mitigation as required. • Effective rehabilitation to achieve post closure land use.	Medium/Low
	Effect on roads due to project related traffic	• Construct safe access points/intersections. • Educate employees (temporary and permanent) about road safety.	Medium

Activity	Potential Impact	Possible mitigation	Potential for residual risk
		• Enforce strict vehicle speeds. • If a person or animal is injured by transport activities an emergency response procedure must be implemented.	
	Change in land use affecting surrounding land uses	• Effectively manage biophysical, cultural and socio-economic impacts. • Effectively rehabilitate opencast mining areas in line with an approved rehabilitation plan that meets the post closure land use objectives and ensure successful rehabilitation as soon as mining is complete. • Schedule the opencast mining operations in a manner that minimises cumulative impacts on receptors. • Establish a stakeholder communication and grievance mechanisms for the duration of the mining operation.	Medium

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

(Provide a final site layout plan as informed by the process of consultation with interested and affected parties)

The final site layout plan will be described in the EIR / EMPR once all specialist studies have been completed and comments from I&APs have been received. In the absence of site-specific specialist studies, it is not possible to complete a final site selection matrix at this stage. Please refer to Appendix D for a preliminary layout of the mining schedule for the proposed mining area.

The positioning of the mining areas was informed by the position of the mineable resource and ensuring a feasible access point to the mineable resource. Thus, no locational alternatives are considered in this Scoping Report.

12.2.1 Motivation where no alternative sites were considered

See section on alternatives.

12.2.2 Statement motivating the preferred site

(Provide a statement motivation the final site layout that is proposed)

The final site layout plan will be described in the EIR / EMPR once all specialist studies have been completed and comments from I&APs have been received. Please refer to Appendix D for a preliminary layout of the mining schedule for the proposed mining area.

13 PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

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

See section on alternatives for full description as discussed in this report.

The following alternatives were investigated as feasible alternatives:

- *The site on which the proposed mining sections are to be located (site and layout alternatives);*

The location of the proposed mining is based on the availability of a resources and the layout is to ensure that minimal sterilisation of the resources takes place. Specialist studies will be completed in the EIA phase and the input of the specialist studies will be taken into account to establish the final layout.

- *The mining method (technology alternatives)*

The opencast mining method will be applied to the proposed mining areas. Underground mining is not feasible due to the depth of the resources and the fact that the application is for three mining permits to be owned by different applicants.

- *Design alternatives*

The layout plans are based on the availability of resources and geological structures. Layout plans can be altered based on resources, geological information and specialist findings.

- Not implementing the mining activities (*No – Go alternative*).

This option will be discussed and assessed in further detail. The no-go alternative will result in the sterilisation of a resources. The un-rehabilitated area of historical mining will remain un-rehabilitated and illegal mining will continue. Agriculture will continue on sections of the proposed areas.

13.2 DESCRIPTION OF THE ASPECTS TO BE ASSESSED AS PART OF THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

This section lists the aspects to be subjected to specialist investigation in the EIA phase in line with the terms of reference outlined in Table 34 below. These include:

- Ecological Assessment (Fauna, Flora);
- Heritage Assessment;
- Soil, Land Capability and Agriculture Impact Assessment;
- Air Quality Assessment;
- Waste Classification;
- Geohydrological Assessment;
- Geotechnical Assessment;
- Wetland Assessments;
- Hydropedology Assessment – need to be assessed is subject to wetland assessment outcome;
- Noise Impacts Assessments;
- Waste Classification Report;
- Closure and Financial provision.

This section describes the nature and extent of the investigations required. In particular, it describes the scope of work for the specialist investigations. The impact assessments and detailed management measures for each aspect will be included in the EIA. Copies of the specialist reports will be attached as appendices to the EIA.

13.3 DESCRIPTION OF ASPECTS TO BE ASSESSED BY SPECIALISTS

Table 17: Description of aspects to be assessed by specialists

Aspect	Specialist Study	Specialist	Terms of Reference
Air Quality	Air Quality Impact Assessment	Specialist to be appointed	The purpose of this study will be to: • Study the available information relevant to the pre and post-development ambient air quality pollution concentrations in the environment; • Identify the major existing air emission sources in the environment; • Identify the existing sensitive air pollution areas in the environment; • Estimate by means of measurements and integration of the results with those of any relevant existing information the present ambient air quality climate; • Identify the mining related processes and equipment that will cause the major contribution to the future air quality impact; • Consider, evaluate and rate the potential air quality impacts; and • Propose relevant management and mitigation measures to lessen the anticipated impacts.
Noise	Environmental Noise Impact Assessment	Enviroroots (Pty) Ltd	The study will determine the potential noise impact on the surrounding environment due to the proposed development of a coal mine. The purpose of this study will be to: • Establish baseline conditions of the area • Model noise generated by proposed activities • Determine impact of activities • Establish mitigation and management measures
Geohydrology	Groundwater Impact Assessment	Luhlaza Advisory and Consulting (Pty) Ltd	A specialist grounding study will be undertaken to address the inter-related aspects of groundwater resources. The groundwater study would characterise the groundwater resource by reviewing available DWS databases, conducting a hydrocensus of existing water uses and users, measure the water quality of groundwater resources and determine the aquifer parameters on the site.
Waste Classification	Waste Classification	Elemental Sustainability (Pty) Ltd	The overall objective of the assessment will be to perform a waste classification as per the General National Regulation 635 of the Waste Act 59 of 2008.

Aspect	Specialist Study	Specialist	Terms of Reference
Heritage	Heritage Impact Assessment	Tobias Coetzee	Phase 1 Heritage Impact Assessment (HIA) for the proposed mining permits x 3
Fauna and Flora	Ecological Assessment	Red Kite Environmental Solutions (Pty) Ltd	• Comply with October 2020 regulations published on the specialist field of flora and fauna assessment: • Describe the affected floristic environment from available literature and by means of a desktop study to identify a list of possible floral species that are likely to occur on site. • List and record endangered, red data and protected plant species found on site. • List exotic and invasive plant species found on site. • List plants found on site with medicinal properties • Identification of anticipated impact of the proposed project on the vegetation and ecosystem services. • Provide proposals for mitigation of identified impacts. • Draw up a sensitivity map indicating all sensitive areas, transformed areas and buffers around sensitive features. • To provide a description of the potentially affected fauna habitat by making use of available literature resources, and in so compiling a list of fauna species likely to occur on site; • To list and record endangered, red data or protected fauna species found or likely to occur on site; • To assess the condition of suitable habitat on site for sensitive fauna species; • To compile a sensitivity map indicating sensitive or non-sensitive or transformed areas and relevant buffer zones; • To identify anticipated impacts of the proposed development on fauna species; and • To provide mitigation measures to limit and/or eliminate the anticipated impacts.
Wetlands	Wetland Impact and Offset Assessment	Elemental Sustainability (Pty) Ltd	• Delineate and classify wetlands within 500m of the development site • Discusses drivers of wetlands • Groundtruthed of desktop data • Assessment of the PES or EIS scores and Recommended Ecological Category • The Risk Assessment based on the 2016 version of the Risk Matrix Tool presented in appendix A of the Risk-Based Water Use Authorisation Approach and Delegation Protocol for Section 21(c) and (i) • To identify anticipated impacts of the proposed development on wetlands; • To provide mitigation measures to limit and/or eliminate the anticipated impacts.
Hydro-pedological Assessment	Hydro-pedological Assessment	Elemental Sustainability (Pty) Ltd	• Determine the flow drivers if relevant • Determine the catchment of the pan area.

Aspect	Specialist Study	Specialist	Terms of Reference
– If required after outcome of wetland assessment			• Link the wetland assessment, geohydrological assessment and soil assessment to understand soil-water interactions. • To understand the movement of water through the soil.
Agricultural and Land Capability	Assessment of the Land Capability	Elemental Sustainability (Pty) Ltd	The main objectives of this study will be as follows: • Calculate the opportunity cost of land (Opportunity cost is defined is the amount of income that could be earned if the economic resource was put to an alternative use) • Assessment of the soil's conditions of present on the proposed area • Mapping of soil types and classification of areas. • Determine capacity of soils (Agricultural production potential); • To identify anticipated impacts of the proposed development land capability; • To provide mitigation measures to limit and/or eliminate the anticipated impacts.
Geotechnical	Geotechnical Assessment	Luhlaza Advisory and Consulting (Pty) Ltd	Assess the geotechnical qualities of the site and profile the soil and different layers present in the area and within immediate proximity of the site.
Financial Provision	Financial Provision	Elemental Sustainability (Pty) Ltd	The financial provision for the proposed project will be determined by Elemental Sustainability and would be determined in accordance with the NEMA Regulations (1147 of 2015) pertaining to the financial provision for mining operations and in accordance with any amended regulations (2021).

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

14.1 STEPS TO BE TAKEN TO NOTIFY INTERESTED AND AFFECTED PARTIES

(These steps must include the steps that will be taken to ensure consultation with the affected parties identified in (h) (ii) herein)

All registered interested and affected parties will personally be notified via email or message of the availability of the scoping report and EIA report including the venue and the period it will be available for.

A final EIA report including comments received during the I&AP review process will be prepared and submitted to the DMRE for their review and decision-making. A site visit and meeting will be held, if requested.

14.2 Next Phases of The Public Participation Process

14.2.1 Details of the engagement process to be followed

(Describe the process to be undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings and records of such consultation will be required in the EIA at a later stage)

During the Scoping and EIA phases hardcopies and/or CDs of all reports and supporting documents will be submitted to the organs of state and relevant authorities. All the reports will be placed within an area accessible to I&APs and viewing can be arranged with the Consultant.

Engagement with interested and affected parties during the Scoping and EIA phase will involve the following:

- All stakeholders and registered I&APs will have the opportunity to review and comment on all the documents released in the EIA phase. The EIA / EMPR report will be released for a period of 30 days for review and comment:
    - A hard copy of the report will be located at venues as specified.
    - Hard copies and CDs of the report will be submitted to all relevant organs of state; and
    - Digital copies can be provided via mail or other digital platforms (i.e. Dropbox).
- One-on-one meetings could be held with interested and affected parties, specifically the landowners associated with the project or immediate landowners if requested. Minutes and attendance registers will be included in the EIA/EMP.

14.2.2 Description of the information to be provided to Interested and Affected Parties

(Information to be provided must include the initial site plan and sufficient detail of the intended operation and the typical impacts of each activity, to enable them to assess what impact the activities will have on them or on the use of their land).

- The scoping report is herewith provided. The scoping report includes *inter alia* the site plan, a project description and typical impacts of each activity;

- The Environmental Impact Assessment Report will include *inter alia* findings of specialist studies and full assessment of all impacts of the alternatives, including cumulative impacts;
- The Environmental Management Programme to be made available, will include *inter alia* mitigation, management and monitoring measures to prevent and mitigate negative impacts and enhance positive impacts that have been identified in the EIA; roles and responsibilities and an environmental awareness plan.

14.2.3 Description of the tasks that will be undertaken during the environmental impact assessment process

A description of the tasks that would be undertaken during the EIA phase is provided below in Table 17. A preliminary schedule for the EIA phase that aligns with regulatory timeframes is included below.

Table 18: EIA Tasks and Timing

Phase	**EAP activity**	**Opportunities for Consultation and Participation**		**Schedule ***
		Competent Authorities	**I&APs**	
Specialist studies	EAP to manage specialist activities and receive inputs for EIA.	-	-	August - October 2021
EIA Phase	Compile EIA report	-	-	August – October / November 2021
	Distribute EIA for review	Provide copy to DMRE for records	Review of EIA (30 days), Comments to EAP	November/December or if too late, will commence January 2022 with onset of PPP
	I&AP consultations	-	Consultation with I&APs	
	Collate and respond to comments and finalise EIA report	-	-	January 2022
Competent authority review and decision making	EIA report to DMRE (106 days from acceptance of Scoping report).	DMRE Acknowledge Receipt of EIA (10 days).	Notify I&APs of final report submission	January 2022/February 2022 envisaged for final submission
		DMRE Review (107 days)		
		Environmental Authorisation Granted / Refused		May/June 2022
Decision	Notify registered I&APs of decision (within 14 days of date of decision)	-	-	June 2022 onwards
Appeal Phase	EAP to provide information on appeal process as and when required.	Consultation during processing of appeal if relevant.	Submit appeal in terms of National Appeal Regulations, 2014	90-day process

- **Approach to the EIA**

An Environmental Impact Assessment (EIA) is a good planning tool. It identifies the environmental impacts of a proposed development and assists in ensuring that a project will be environmentally acceptable and integrated into the surrounding environment in a sustainable way.

The EIA for this project will comply with the National Environmental Management Act (1998) (as amended) and the NEMA EIA Regulations (2014) [as amended in 2017/2021] of the Department of Environmental Affairs (DEA). The guiding principles of an EIA are listed below.

- **Guiding principles for an EIA**

The EIA must take an open participatory approach throughout. This means that there should be no hidden agendas, no restrictions on the information collected during the process and an open-door policy by the proponent. Technical information must be communicated to stakeholders in a way that is understood by them and that enables them to meaningfully comment on the project.

There should be ongoing consultation with interested and affected parties representing all walks of life. Sufficient time for comment must be allowed. The opportunity for comment should be announced on an on-going basis. There should be opportunities for input by specialists and members of the public. Their contributions and issues should be considered when technical specialist studies are conducted and when decisions are made.

- **Information gathering**

Early in the EIA process, the Environmental Assessment Practitioner (EAP) identified the information that would be required for the impact assessment and the relevant data were obtained. In addition, available information about the receiving environment was gathered from reliable sources, interested and affected parties, previous documented studies in the area and previous EIA Reports. The project team then visited the site to gain first-hand information and an understanding of the existing operations and the proposed project.

- **Specialist Assessments**

Based on the impacts identified during the Scoping Phase, the following specialist studies have been identified to be completed and form part of the EIA. The main objective of the specialist studies is to provide independent scientifically sound information on issues of concern relating to the project proposal. The findings of the various specialist studies undertaken will be incorporated into the EIA Report. Any impacts that have not been identified during the scoping phase that have been identified and assessed by specialists will also be included in the environmental impact assessment.

Table 19: Specialist Reports to be conducted versus recommendations of Screening Tool Report

Specialist studies proposed as per Screening Tool Report	
Agricultural Impact Assessment	Soil, Land Capability and Agricultural Assessment in process. The landowner is aware of the application and the land will be subjected to a landowner agreement. Large sections of the area have also been subjected to historic mining.
Archaeological and Cultural Heritage Impact Assessment	In process as Heritage Phase 1 Report

Palaeontology Impact Assessment	The site has already been extensively dug up and mined historically, therefore, no additional palaeontology aspects are deemed to be at risk. The other areas have been utilised as agricultural fields.
Terrestrial Biodiversity Assessment	In process as a Terrestrial Biodiversity and Ecological Report
Aquatic Biodiversity Impact Assessment	No aquatic biodiversity assessment is done due to the lack of water and flowing river. A wetland assessment had been conducted in the place to assess the features found to occur on site.
Hydrology Assessment	No flowing water has been found to occur. This study is replaced with a Geohydrology, Hydropedology and Wetland assessment and report.
Noise Impact Assessment	In process
Radioactivity Impact Assessment	Not applicable for the specific project as no radioactivity impacts are foreseen for the site-specific removal of coal reserves.
Traffic Impact Assessment	No new road developments will be conducted and an existing roads will be utilised and widened if necessary
Geotechnical Assessment	In process
Socio-Economic Assessment	A public participation process will record all the socio-economic aspects, issues and concerns applicable to the project.
Plant Species Assessment	In process as a Terrestrial Biodiversity and Ecological Report
Animal Species Assessment	In process as a Terrestrial Biodiversity and Ecological Report

In summary, the specialist investigations in process include:

- Ecological Assessment (Fauna, Flora);
- Heritage Assessment;
- Soil, Land Capability and Agriculture Impact Assessment;
- Air Quality Assessment;
- Waste Classification;
- Geohydrological Assessment;
- Geotechnical Assessment;
- Wetland Assessments;
- Hydropedology Assessment – need to be assessed is subject to wetland assessment outcome;
- Noise Impacts Assessments;
- Waste Classification Report;
- Closure and Financial provision.

- **Legislative Framework**

The legal requirements will be described and assessed in more detail.

- **Alternatives**

Current site alternatives (based on findings of specialists) and layouts and additional site and layout alternatives as identified by interested and affected parties, will further be assessed and a preferred alternative recommended.

- **Description and assessment of impacts identified during the scoping phase**

A comprehensive list of all impacts as identified by the EAP and the specialists, will be provided within the EIA report and assessed as per the methodology described in this report and plan of study.

- **Environmental management programme**

An Environmental Management Programme containing mitigation, management and monitoring measures and specifying roles and responsibilities will be compiled with specialist input.

- **Stakeholder engagement**

Registered interested and affected parties including relevant organs of state, will be consulted with during the EIA phase. All their comments will be formally responded to and incorporated into the EIA and the EIA report that will be submitted to the competent authority.

14.2.4 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

See Table 15. It should be noted that this table has been compiled with the information in hand and would be refined during the EIA phase. Mitigation and management measures identified by all specialist during the EIA phase will be included in the EIA and EMPr.

15 OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY

i) Compliance with the provisions of sections 24 (4) (a) and (b) read with section 24 (3) (a) and (7) of the National Environmental Management Act (Act 107 of 1998) the EIA report must include the:

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

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any directly affected person including the landowner, lawful occupier, or, where applicable, potential beneficiaries of any land restitution claim, attach the investigation report as Appendix 2.19.1 and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12. herein).

A Social and Labour Plan is not required for a Mining Permit, but socio-economic impacts can be assessed based on the public consultation phase and all information related to the public consultation can be viewed within Section 8 within the EIA/EMPr and finalised as part of the final EIA/EMPr to be submitted to the CA.

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

(Provide the results of Investigation, assessment, and evaluation of the impact of the mining, bulk sampling or alluvial diamond prospecting on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999) with the exception of the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act, attach the investigation report as Appendix 2.19.2 and confirm that the applicable mitigation is reflected in 2.5.3; 2.11.6.and 2.12.herein).

A heritage study will be conducted to identify potential impacts on heritage resources. The results of this study will be included in the EIA. Preliminary findings and characteristics have been included above and no relevant historical or heritage aspects have been found to occur or will be impacted based on initial findings.

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

(The EAP managing the application must provide the competent authority with detailed, written proof of an investigation as required by section 24 (4)(b)(i) of the Act and motivation if no reasonable or feasible alternatives, as contemplated in sub-regulation 22(2)(h), exist. The EAP must attach such motivation as Appendix D).

No other matters are required in terms of Section 24(4)(A) and (B) of the act.

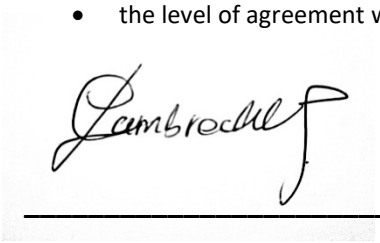
15.4 REASONED OPINION OF EAP

Based on the findings of the preliminary impact assessment during the scoping phase, the EAP is of the opinion that the scoping phase be approved, due to the positive social and economic impacts it can have on the local and regional communities. The potential negative impacts will be investigated in the EIA phase and mitigation measures for the impacts will be developed and included in the EMP.

16 UNDERTAKINGS BY THE EAP

I, Corlien Lambrechts, 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 have been correctly recorded, although due to the volume of comments and objections received from I&APs, it's possible that not all the information has been included;
- information and responses provided to stakeholders and I&APs by the EAP is correct to the best of the Consultant's knowledge at the time of compiling the report; and
- the level of agreement with I&APs and stakeholders has been correctly recorded and reported.



Signature of the EAP

DATE: 09/09/2021

-END-

17 REFERENCES

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CITED AS SPECIALIST STUDIES

Coetzee, T. (2021). *Phase 1 Archaeological Impact Assessment: The proposed mining development on Portion 2 of the Famr Rietfontein 314 JS near Middleburg.*

Elemental Sustainability (Pty) Ltd. (2021). *Wetland Assessment on the establishment of three Mining Permits on Portion 2 of the farm Rietfontein 314 JS, Mpumalanaga Province.*

Red Kite Environmental Solutions (Pty) Ltd. (2021). *Terrestrial Ecology Assessment for the Rietfotnein Mining Permits on Portion 2 of the Farm Rietfontein 314 JS, Mpumalanaga Province.*

APPENDICES

APPENDIX A	:	QUALIFICATIONS OF THE EAP
APPENDIX B	:	EAP'S CURRICULUM VITAE
APPENDIX C	:	LOCALITY MAP
APPENDIX D	:	SITE PLAN
APPENDIX E	:	LAND USE MAP
APPENDIX F	:	PUBLIC PARTICIPATION PROCESS
APPENDIX F – I	:	I&AP DATABASE - *TO BE INCLUDED IN FINAL SCOPING*
APPENDIX F- II	:	ADVERTISEMENTS – SCOPING PHASE
APPENDIX F -III	:	SITE NOTICES
APPENDIX F – IV	:	SITE NOTICES – LOCATIONS – *TO BE INCLUDED IN FINAL SCOPING*
APPENDIX F – V	:	BID AND DISTRIBUTION OF BID
APPENDIX F – VI	:	COMMENTS AND RESPONSES, COMMENTS – *TO BE INCLUDED IN FINAL SCOPING*
APPENDIX F – VII	:	PROOF OF SUBMISSION – DEPARTMENTS – *TO BE INCLUDED IN FINAL SCOPING*
APPENDIX F – VIII	:	DEPARTMENT COMMENTS AND COMMUNICATION – *TO BE INCLUDED IN FINAL SCOPING*