Trentra (Pty) Limited

Rietkol Colliery Scoping Report

Draft

Compiled and submitted as contemplated in Appendix 2 and Regulation 21 of the Environmental Impact Assessment Regulations, 2014 of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended

For the application for an Environmental Authorisation and a Waste Management Licence in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) and the Amended Environmental Impact Assessment Regulations 2014, Government Notice No. 327 (NEMA EIA Regulations, 2014) - Listing Notice 1 of 2014, Government Notice No. 325 - Listing Notice 2 of 2014, Government Notice No. 324-Notice No-Listing Notice 3 of 2014 and Government Notice R 921 – List of Waste Management Activities

DMRE Reference No.: MP 30/5/1/2/2/10370 MR

January 2023

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Compiled for:	Trentra (Pty) Limited
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Disclaimer:

The results and conclusions of this report are limited to the Scope of Work agreed between Geovicon Environmental (Pty) Limited and Trentra (Pty) Limited for whom this report/ investigation has been conducted. All work conducted by Geovicon Environmental (Pty) Limited is done in accordance with the Geovicon Standard Operating Procedures.

Declaration:

I hereby declare:

1. I have no vested interest (present or prospective) in the project that is the subject of this report as well as its attachments. I have no personal interest with respect to the parties involved in this project.
2. I have no bias with regard to this project or towards the various stakeholders involved in this project.
3. I have not received, nor have I been offered, any significant form of inappropriate reward for compiling this report.
4. 

(Electronic signature)

T. Shakwane, B.Sc. Hons. (Professional Natural Scientist no: 117080)

EXECUTIVE SUMMARY

Trenta (Pty) Limited is an emerging coal mining company, which intends to undertake a coal mining operation on portion 1, 5, 6, 9, 70,77,78, 85, 87, 90, 99 and the remaining extent of the farm Rietkol 237 IR, situated in the Magisterial District of Delmas, Mpumalanga Province. See Regulation 2 (2) plan attached as **Appendix A.**

Based on the depth of the coal seam within the proposed mining area, the proposed mining area can be optimally mined using opencast mining method. The opencast mining method will be utilising the sequential lateral rollover mining technique. A reputable mining contractor will conduct the mining and crushing and screening of coal will be conducted in-house. The coal to be mined will be transported by tipper trucks from the mining areas to the R.O.M. coal stockpile area. After the processing of the R.O.M coal, the product coal will be hauled by haulage trucks via the road networks to destined clients. All necessary surface infrastructures required to undertake the proposed mining operation will be constructed at the proposed Rietkol Colliery.

The opencast coal will be dry crushed and screened (sized) on site in a dedicated R.O.M coal stockpile area and transported via roads to the Eskom and/or the inland markets. Some R.O.M coal may also be supplied to offsite coal washing clients to augment the income of the planned coal mining operation.

Associated infrastructure and facilities that will be constructed, include access/haul roads, water management structures (storm water diversion structures and pollution control dams with silt traps), overburden material stockpiles, box-cuts, R.O.M./product stockpiles, crushing/screening, workshop, diesel storage facility and weighbridge.

In view of the above, Trentra (Pty) Limited has lodged a mining right application (Ref. No.: MP 30/5/1/2/2/10370 MR) with the Department of Mineral Resources and Energy (Mpumalanga Regional Office) in accordance with the relevant guidelines and regulations under the Mineral and Petroleum Resources Development Act, 2002 as amended.

In addition to the above, the National Environmental Management Act, 1998 (Act 107 of 1998), (NEMA), and the National Environmental Management: Waste Act, 2008 (Act 59 of 2008), (NEMWA), requires that any person or entity that intends to undertake activities listed in the NEMA listing notice regulations (Government Notices No. 983, 984 and 985) as amended in 2017 and waste management activities listed under GN 921 must obtain an Environmental Authorisation in terms of section 24D of the NEMA and a waste management licence in terms of part 4 of chapter 4 of the NEMWA before undertaking such activities. Activities that will require an Environmental Authorisation and a waste management licence in terms of the above-mentioned acts were identified and are listed in a table contained in this report.

According to the NEMA EIA Regulations 2014, as amended in 2017, under Government Notice No. 326 (NEMA EIA Regulations 2014), an application for an Environmental Authorisation together with an application for a waste management licence for the above-mentioned listed activities and waste management activities, respectively, must be submitted to a competent authority in line with the requirements of the above-mentioned regulations. Since both the applications for the environmental authorisation and waste management licence were submitted as one application to the DMRE, the application will be referred to in this report as an integrated environmental authorisation application. The Department of Mineral Resources and Energy (eMalahleni Office) is the competent authority for the above-mentioned applications.

In view of the above, Trentra (Pty) Limited appointed Geovicon Environmental (Pty) Limited, an independent environmental consulting company, to prepare and submit the IEA application and manage the Environmental Impact Assessment (EIA) process for the proposed Rietkol Colliery. The above-mentioned Integrated Environmental Authorisation (IEA) for activities listed under Table 4 in this report, has been submitted to the DMRE, Mpumalanga Regional Office (Competent Authority) for their consideration.

Regulation 21 of the NEMA EIA Regulations, 2014, requires that if a Scoping and Environmental Impact Reporting process (S&EIR) must be applied to an application, the applicant must submit a Scoping Report (SR), an Environmental Impact report (EIR) and an Environmental Management Programme (EMPr) to the competent authority which has been subjected to a public participation process and which reflects the incorporation of comments received, including any comments of the competent authority. The draft SR (this document), which has been compiled to meet the requirements of Appendix 2 and Regulation 21 of the NEMA EIA Regulations, 2014, and is made available to the competent authority and Registered Interested and Affected Parties (I&APs) as part of the public participation process for their review and comments.

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ABBREVIATIONS

TERMS	DEFINITION
EAR	Environmental Audit Report
EAPASA	Environmental Assessment Practitioners Association of South Africa
BARs	Basic Assessment Reports
BEE	Black Economic Empowerment
CV	Curriculum Vitae
CBA	Critical Biodiversity Areas
CO2	Carbon Dioxide
DALA	Department of Agriculture and Land Administration
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
DFFE	Department of Forestry, Fisheries and Environment
EAP	Environmental Assessment Practitioner
EA	Environmental Authorisation
ESA	Ecological Support Areas
EA's	Environmental Authorisations
IEA	Integrated Environmental Authorisation
EIA	Environmental Impact Assessment
EIAs	Environmental Impact Assessments
EMPr	Environmental Management Programme Report
GA	General Authorisation
GN	Government Notice

TERMS	DEFINITION
Gm	Messic Highveld Grassland Bioregenion
GNR	Government Notice Regulation
GIS	Geographic Information System
Ha	Hectare
HIA	Heritage Impact Assessment
HIA	Health Impact Assessment
Hu	Hutton
IAIA	International Association for Impact Assessment
IWUL	Integrated Water Use Licence
IWUL's	Integrated Water Use Licences
I&APs	Interested and Affected Parties
Km	Kilometres
Lo	Longlands
LoM	Life of Mine
l/s	Liters per second
mamsl	Metres above mean sea level
m	Meters
mm	Millimetres
m^2	Meters squared
m^3	Meters cube
MTSF	Mid Term Strategic Framework
m/d	Meters per day
MPRDA	Mineral and Petroleum Resources Development Act
Mt	Million tonnes
MTPA	Mpumalanga Tourism and Parks Agency
ML	Mega Litres
MBCP	Mpumalanga Biodiversity Conservation Plan
No	Number
NWA	National Water Act
MSDS	Material Safety Data Sheets
NEMA	National Environmental Management Act
NEMWA	National Environmental Management: Waste Act

TERMS	DEFINITION
NEMPAA	National Environmental Management: Protected Areas Act
NEMBA	National Environmental Management: Biodiversity Act
NFEPA	National Freshwater Ecological Priority Areas
NDCR	National Dust Control Regulations
NHRA	National Heritage Resources Act
ONAs	Other Natural Areas
PCD	Pollution Control Dam
PTY	Proprietary Limited Company
RDP	Resource Development Plan
ROM	Run of Mine
ROD	Record of Decision
SABAP2	Southern African Bird Atlas Project 2
SANRAL	South African National Roads Agency Limited
SANS	South African National Standards
SACNASP	South African Council for Natural Scientific Professions
SAHRA	South African Heritage Resources Agency
S&EIR	Scoping and Environmental Impact Reporting/Report
SMME's	Small, Medium and Micro Enterprises
SIA	Social Impact Assessment
SLP	Social and Labour Plan
WULA	Water Use License Application
WML	Waste Management Licence

1. INTRODUCTION

1.1 WHO IS DEVELOPING THE SCOPING REPORT?

1.1.1 Name and contact details of the EAP's who prepared the Scoping Report

EAP: Mr. O.T Shakwane (BSc. Honns.)

SACNASP Registration: 117080

EAPASA Registration: 2019/1763

IAIA Membership No.: 3847

Company: Geovicon Environmental (Pty) Limited

Postal Address:

P.O. Box 4050

Middelburg, 1050

Tel: (013) 243 0542

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Cell No.: 082 498 1847

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1.1.2 Expertise of the EAP's who prepared and reviewed the Scoping Report

Geovicon Environmental (Pty) Limited has been appointed by Trentra (Pty) as the independent environmental consultant to compile this SR and has no vested interest in the project.

Geovicon Environmental (Pty) Limited is a geological and environmental consulting company. The company was formed in 1996, and currently has twenty-four years' experience in the geological and environmental consulting field. Geovicon Environmental (Pty) Limited has successfully completed consulting projects in the Mining sector (coal, gold, base metal and diamond), Quarrying sector (sand, aggregate and dimension stone), Industrial sector and Housing sector. Geovicon Environmental (Pty) Limited has undertaken contracts within all the provinces of South Africa and in Swaziland, Botswana and Zambia. During 2001 Geovicon Environmental (Pty) Limited entered the field of mine environmental management and water monitoring.

Geovicon Environmental (Pty) Limited is a Black Economically Empowered Company with the BEE component owning 60% of the company. Geovicon Environmental (Pty) Limited has three shareholders i.e. O.T. Shakwane, J.M. Bate and T.G. Tefu.

Mr. O.T. Shakwane obtained his BSc (Microbiology and Biochemistry) from the University of Durban Westville in 1994, and completed his honours degree in Microbiology in 1995. Mr O.T. Shakwane has also completed short courses on environmental law, EIA, environmental risk assessment and environmental management systems with several tertiary institutions. He has worked within the three state departments tasked with mining and environmental management i.e., Department of Water and Sanitation (Gauteng and

Mpumalanga Region), DMRE (Mpumalanga Region) and Department of Agriculture, Conservation and Environment (Gauteng Region). Mr. Shakwane has been in the consulting field since 2004 and has undertaken environmental impact assessments for mining operations similar to the proposed Rietkol Colliery. Mr. Shakwane is the appointed EAP for the NEMA IEA application and the EIA process for the proposed Rietkol Colliery project. Mr. Shakwane has been involved in the field of EIA for the past nineteen years.

He is registered with the Environmental Assessment Practitioners Association of South Africa and South African Council for Natural Scientific Professions as an EAP and a Professional Natural Scientist in terms of section 24H of the National Environmental Management Act, (Act 107 of 1998) and section 20(3) of the Natural Scientific Professions Act, 2003 (Act 27 of 2003), respectively. He is also a member of the International Association for Impact Assessment, South Africa.

Mr. Ornassis Tshepo Shakwane of Geovicon Environmental (Pty) Limited, hereby declares that they are independent EAP and that Geovicon Environmental (Pty) Limited have no business, financial, personal or other interest in this project in respect of which Geovicon Environmental (Pty) Limited is appointed. Furthermore, no circumstances exist that may compromise the objectivity of Geovicon Environmental (Pty) Limited, excluding fair remuneration for work performed in connection with this environmental audit. The EAP's CV is attached as **Appendix B**.

1.2 WHO WILL EVALUATE THE SCOPING REPORT?

Before the proposed project can proceed, an EAP must compile an application for an IEA for the proposed activities. An EIA must be undertaken in support of the application for an IEA where a SR must be compiled and an EIA be carried out for the activities applied for, in terms of the NEMA EIA Regulations, 2014. The above-mentioned application must be made to the competent authority in terms of Section 24 of NEMA, Section 45 and Section 20(b) of the NEMWA and in terms of Regulations 16 of the NEMA EIA Regulations, 2014. The Minister responsible for the DMRE is the competent authority for this application. In view of the above, the IEA for the proposed Rietkol Colliery was submitted to the DMRE, eMalahleni Regional Office for their consideration and decision making.

In the spirit of co-operative governance and in compliance with Regulation 7(2) the NEMA EIA Regulations, 2014, the competent authority (DMRE) will, during the processing of the IEA application, consult with other organs of state that administers laws that relate to matters affecting the environment relevant to this application.

In addition to the above, all organs of state which have jurisdiction in respect of the activity applied for and all potential, or, where relevant, I&APs will also be given an opportunity to evaluate and comment on the documents to be submitted to the authorities.

1.3 PURPOSE OF THE SCOPING REPORT

The Draft SR addresses the requirements as contemplated in Appendix 2 of the NEMA EIA Regulations, 2014. This report also allows for the I&APs to raise issues and concerns during the consultation phase which will then be addressed in the final SR. The aim of this SR is to:

- Provide background information on the proposed mining project,
- Provide information regarding alternatives that have been considered,

- Show how authorities and I&APs were afforded the opportunity to contribute to the project, and to indicate the issues raised and the responses to those issues,
- Describe the receiving environment that might be affected by the proposed mining project,
- Describe the extent of environmental consequences for the construction, operational and decommissioning phases of the proposed project,
- Describe the environmental studies that are going to be conducted/have already been conducted,
- Present findings in a manner that facilitates decision-making by the relevant authorities.

2. PROJECT BACKGROUND AND CONTEXT

2.1 OVERVIEW OF THE PROJECT

2.1.1 Name of the Applicant

Trentra (Pty) Limited

2.1.2 Name of the Proposed Project

Rietkol Colliery

2.1.3 Address of the proposed Project

Postal address:

Trentra (Pty) Limited

P. O. Box 213

Waterkloof

Pretoria

0181

2.1.4 Project Manager

Mongwe Mojalefa

Email: douglas@xakwa.com

Cell No: 0745489126

2.1.5 Contact Person

Mongwe Mojalefa

Email: douglas@xakwa.com

2.2 DESCRIPTION OF THE PROPERTY (LOCATION OF THE PROJECT)

2.2.1 Name of the property

The name of the properties within which the proposed project falls has been described in Table 2.

2.2.2 Magisterial District & Regional Services Council

Magisterial:	Delmas Magisterial District, Mpumalanga
District Municipality:	Nkangala District Municipality
Local Municipality:	Victor Khanye Local Municipality

2.2.3 Direction and Distance to Nearest Towns

Table 1: Direction and Distance to Nearest Towns.

Town	Direction	Distance
Delmas	East	7.5 km
Benoni	West	20 km
Bronkhorstspruit	North	39 km
Springs	South West	13 km

2.2.4 Surveyor General Code

Table 2: Surveyor General Code for the Project Area

Farm portion and name	Surveyor General Code
Portion RE of the farm Rietkol 237 IR	T0IR00000000023700000
Portion 5 of the farm Rietkol 237 IR	T0IR00000000023700005
Portion 6 of the farm Rietkol 237 IR	T0IR00000000023700006
Portion 9 of the farm Rietkol 237 IR	T0IR00000000023700009
Portion 85 of the farm Rietkol 237 IR	T0IR00000000023700085
Portion 87 of the farm Rietkol 237 IR	T0IR00000000023700087
Portion 90 of the farm Rietkol 237 IR	T0IR00000000023700090
Portion 99 of the farm Rietkol 237 IR	T0IR00000000023700099

2.3 LOCATION

The proposed Rietkol Colliery is situated on portion 1, 5, 6, 9, 70, 77, 78, 85, 87, 90, 99 and the remaining extent of the farm Rietkol 237 IR, in the Magisterial District of Delmas, Mpumalanga Province. The proposed project area is located on the southern side of the N12 National Road and the Provincial Road R555 passing through the southern area of the proposed mining right area. Access to the proposed project area will be via R555 (Provincial Road). Refer to Figure 1 for the locality plan of the proposed Rietkol Colliery.

2.4 LAND TENURE OF IMMEDIATE AND ADJACENT LAND

Table 3 and Figure 2 indicates the immediate and adjacent surface owners for the proposed Rietkol Colliery. Also refer to Appendix A (Regulation 2 (2) plan and **Appendix C** the Deed's list of direct farm owners. Land use within the proposed project area includes land used for agricultural purposes (grazing and crop

cultivation). Wetland areas are mostly utilised as grazing and livestock watering areas. Provincial road and railway line are situated within the project area.

Table 3: Direct and Indirect Surface Owners of the proposed Rietkol Colliery

FARM	PORTION	SURFACE RIGHT OWNERS
Direct Surface Owners		
Rietkol 237 IR	0	Rietkol Farming Company (Pty) Limited
Rietkol 237 IR	1	Transnet Ltd
Rietkol 237 IR	5	Francina Uys
Rietkol 237 IR	6	Brookfield Investments 1 (Pty) Limited
Rietkol 237 IR	9	Rossgro Belleggings 4 (Pty) Limited
Rietkol 237 IR	70	Transnet Ltd
Rietkol 237 IR	77	Transnet Ltd
Rietkol 237 IR	78	Transnet Ltd
Rietkol 237 IR	85	Eveleigh Farms cc
Rietkol 237 IR	87	Unknown
Rietkol 237 IR	90	Chris Rossouw Familie Beleggings (Pty) Limited
Rietkol 237 IR	99	J.P. Weideman
Adjacent Surface Owners		
Rietkol 237 IR	3	Rietkol Small Holdings (Pty) Limited
Rietkol 237 IR	26	Norman Jim Mostert
Rietkol 237 IR	27	Reid Farming (Pty) Limited
Rietkol 237 IR	28	Margaret Anne Reid
Rietkol 237 IR	29	Ivor Clearance Reid
Rietkol 237 IR	31	Christian Le Cordeur Rossouw
Rietkol 237 IR	52	Norman Jim Mostert
Rietkol 237 IR	54	Elizabeth Johanna Naude
Rietkol 237 IR	56	Louman Farm Properties cc

Rietkol 237 IR	58	Joao Luis Concalves Borrageiro
Rietkol 237 IR	60	Louman Farm Properties cc
Rietkol 237 IR	62	Louman Farm Properties cc
Rietkol 237 IR	64	Louman Farm Properties cc
Rietkol 237 IR	66	Louman Farm Properties cc
Rietkol 237 IR	72	Maria Johanna Margarita Du Plessis
Rietkol 237 IR	103	Chris Rossouw Familie Beleggings (Pty) Limited
Geluk 243 IR	7	Nicolina Martinuzi
Middelbult 235 IR	1	Transnet Ltd
Middelbult 235 IR	2	Lofdal Trust
Middelbult 235 IR	3	John Blieden
Middelbult 235 IR	7	Elof plantations & Township Syndicate Ltd
Middelbult 235 IR	42	Brechtje Sophia Botha
Middelbult 235 IR	43	Sunset Bay Trading 451 (Pty) Ltd
Middelbult 235 IR	117	Johanna Susanna Margaretha Swanepoel
Droogefontein 242 IR	5	Eloff Mining company (Pty) Ltd
Droogefontein 242 IR	12	Droogefontein Agricultural Department
Droogefontein 242 IR	38	Dundra Town
Droogefontein 242 IR	52	George Ernest Van Schalkwyk
Droogefontein 242 IR	53	Lofdal Trust
Droogefontein 242 IR	54	Lofdal Trust
Droogefontein 242 IR	68	Transnet Ltd

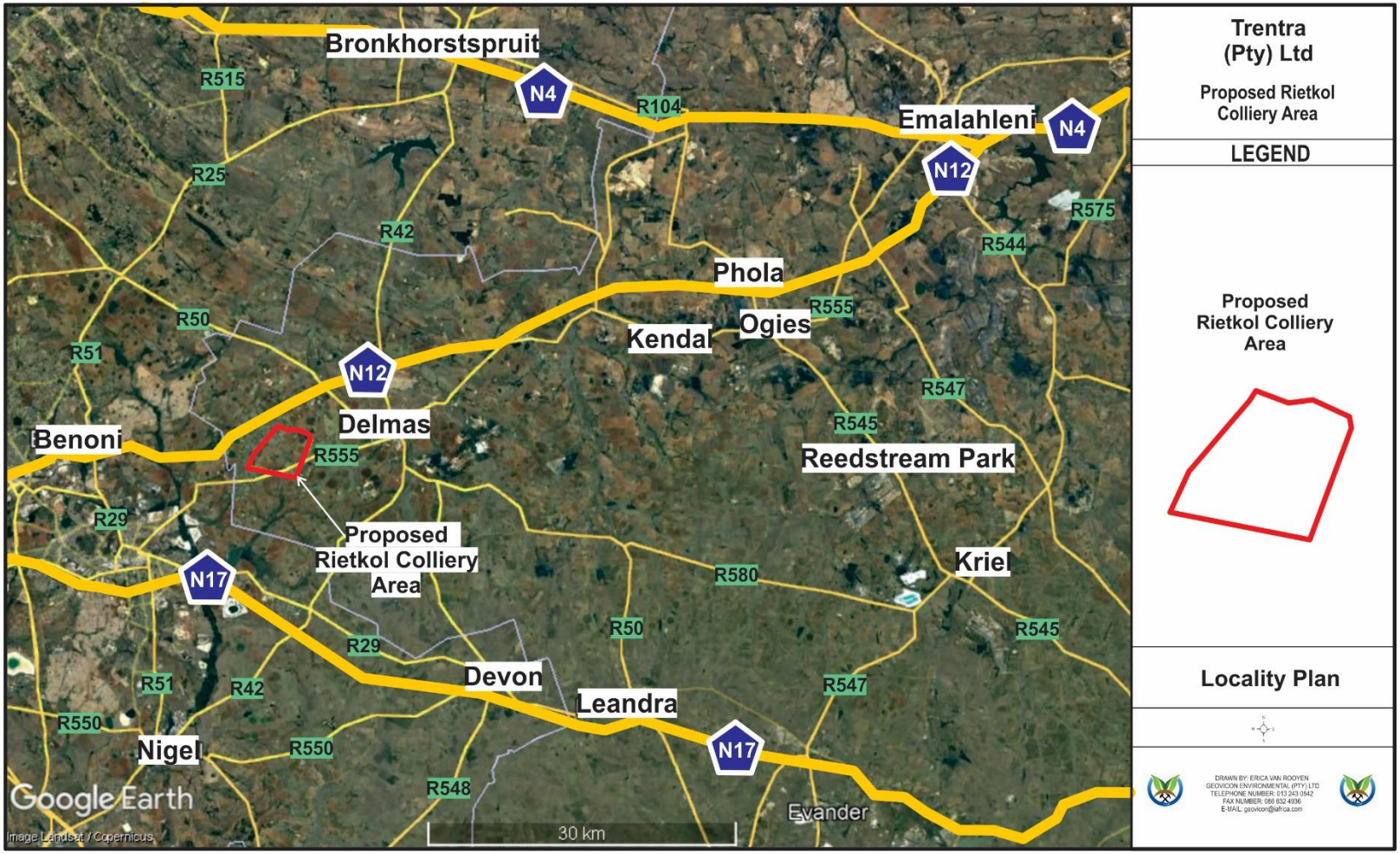


Figure 1: Locality plan for the proposed Rietkol Colliery

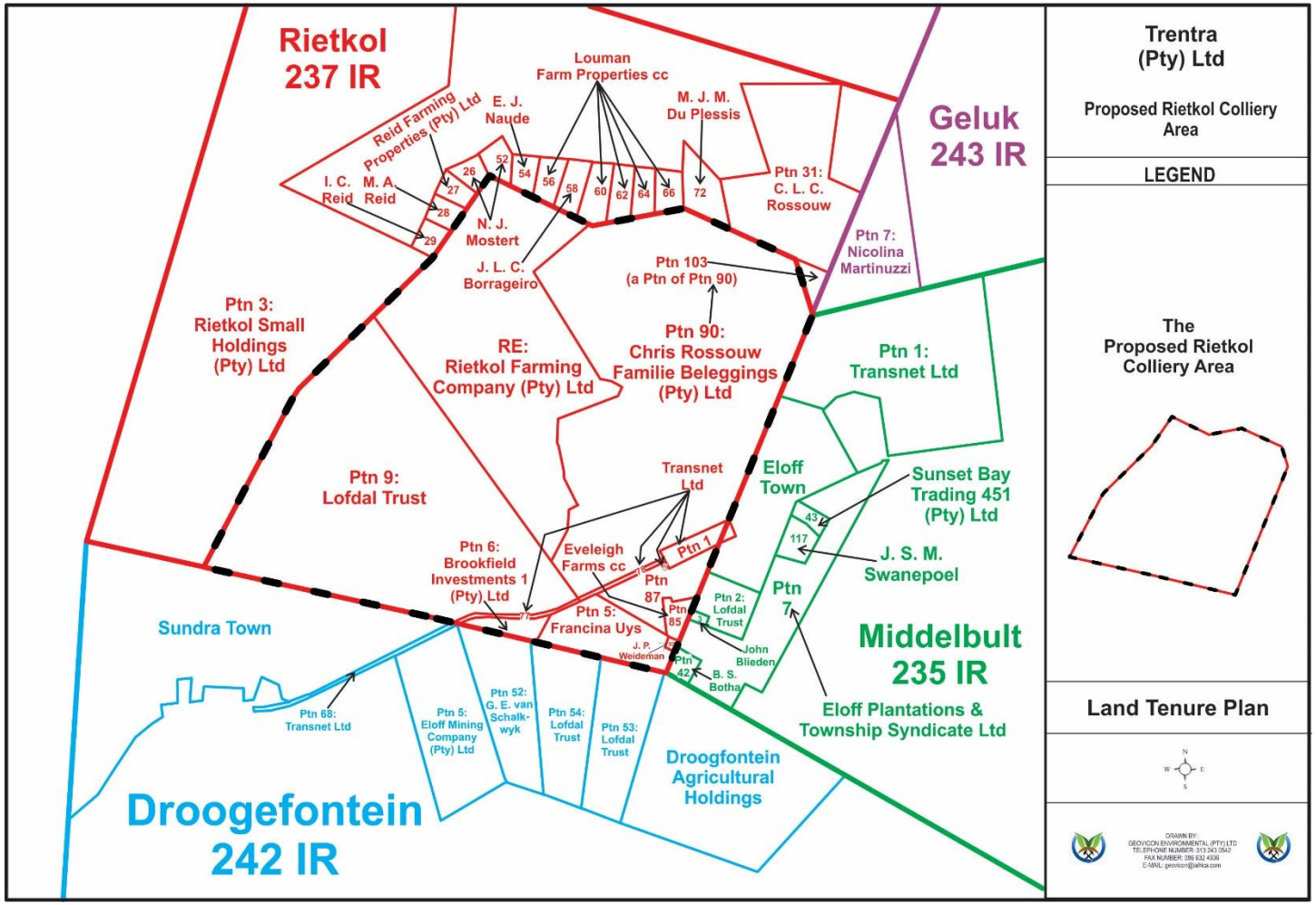


Figure 2: Land Tenure Plan for the proposed Rietkol Colliery

3. DESCRIPTION OF THE SCOPE OF THE PROPOSED ACTIVITY

3.1 DESCRIPTION OF THE PROPOSED RIETKOL COLLIERY

Trentra (Pty) Limited intent to undertake a coal mining operation on portion 1, 5, 6, 9, 70, 77, 78, 85, 87, 90, 99 and the remaining extent of the farm Rietkol 237 IR, situated in the Magisterial District of Delmas, Mpumalanga Province. The project will comprise of initial box-cut, subsequent opencast cuts, R.O.M. stockpiling area, overburden stockpiles, offices, workshops, diesel storage facilities, crushing/screening plant, access/haul roads, water management structures (Pollution Control Dam and clean and dirty water diversion structures) and other related mining infrastructure.

Haul and Access/Haul Road

A haul road will be constructed to access the Rietkol Colliery Project area. The road will be used for the haulage of overburden and coal material from the proposed project.

Opencast Pits

Opencast mining, using the truck and shovel lateral rollover mining method will be undertaken. Mining will commence from the initial box-cut. Access to the opencast pit will be via a pit ramp. Access and haul roads that will be extended from the nearby existing road infrastructure will be used to access the opencast mining area and for the haulage of material from the opencast.

The soft overburden will be removed by mechanical methods. The hard overburden will be drilled and blasted and then removed by mechanical methods. The coal will also be drilled and blasted prior to removal.

Topsoil stockpile

Topsoil material will be stripped from the opencast and surface infrastructure areas and will be stockpiled at the dedicated topsoil stockpiling areas. The stripped soils will be stockpiled as per the recommendation from the soil specialist report. The topsoil material will therefore be used later to cover the backfilled opencast voids.

Water Management Structures

Dirty water from the proposed mining area (workings and dirty water areas) will be pumped/drained/diverted to the pollution control facilities to be constructed on site. The pollution control facilities will be designed and constructed to have enough capacity to handle the volumes of the dirty water emanating from the proposed mine including the volumes from a 1:50 year 24-hour storm event.

3.2 LISTED AND SPECIFIED ACTIVITIES TRIGGERED

In terms of the NEMA and NEMWA, the proposed project will result in conducting of activities that are considered as listed activities and waste management activities. In terms of the above-mentioned legislations, none of the above-mentioned listed activities can commence without an Environmental Authorization (EA) and a Waste Management Licence (WML). In view of the above, Trentra (Pty) Limited has appointed Geovicon Environmental (Pty) Limited, an independent environmental consulting company to apply for an IEA for all listed activities and waste management activities to be conducted at the proposed

project area to the competent authority (DMRE). This section will give a description of the NEMA listed activities and NEMWA waste management activities that were included in the application form for the IEA. Table 4 reflects listed activities applied for that will be undertaken at the proposed Rietkol Colliery.

Table 4: Description of listed activities to be undertaken for the proposed Rietkol Colliery

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
PROJECT LISTED AND SPECIFIC ACTIVITIES			
NATIONAL ENVIRONMENTAL MANAGEMENT ACT			
NEMA EIA AMENDED Regulations Listing Notice 1			
The construction and operation of storm water diversion trenches. The dirty water trenches will channel dirty water to the pollution control dam and the clean water trench will be diverted to the nearby clean water environment and associated watercourses.	The storm water diversion trenches will cover an area of 2,620 m in length.	Activity 9 of Listing Notice 1: The development of infrastructure exceeding 1000 metres in length for the bulk transportation of water or storm water- (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where- (a) such infrastructure is for bulk transportation of water or storm water or storm water drainage inside a road reserve; or (b) where such development will occur within an urban area.	GNR 983
The development and related operation of water pipelines exceeding 1000 metres in length for the transportation of waste water from the pit to the pollution control dam.	The length of the pipeline for transportation of wastewater located in pit will be approximately 1 km.	Activity 10 of Listing Notice 1: The development and related operation of infrastructure exceeding 1000 metres in length for the bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes? (i) with an internal diameter of 0,36 metres or more; or (ii) with a peak throughput of 120 litres per second or more; excluding where- (a) such infrastructure is for bulk transportation of sewage, effluent, process water, waste water, return water, industrial discharge or slimes inside a road reserve; or (b) where such development will occur within an urban area.	GNR 983

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
The lined pollution control dams will be constructed for the containment of polluted water emanating from the mining operation and will have a capacity of more than 35 000 cubic meters. Since more than one dam may be constructed, the combined capacity of the dams may exceed the 50 000 m^3 threshold.	The lined pollution control dam facility will cover an area of approximately 0.8 hectares.	Activity 13 of Listing Notice 1: The development of facilities or infrastructure for the off-stream storage of water, including dams and reservoirs, with a combined capacity of 50 000 cubic metres or more, unless such storage falls within the ambit of activity 16 in Listing Notice 2 of 2014.	GNR 983
The development of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres. The goods to be stored include all hydrocarbon liquids (oils, petrol, diesel etc.), chemicals that may be used at the mine and all waste considered as dangerous goods.	80 square meters	Activity 14 of Listing Notice 1: The development of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres	
The construction and operation of access roads for accessing the proposed mining operation.	The access and haul roads will cover a length of approximately 1.1 km.	Activity 24 of Listing Notice 1: The development of- (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; but excluding- (a) roads which are identified and included in activity 27 in Listing Notice 2 of 2014; or (b) roads where the entire road falls within an urban area.	GNR 983

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
NEMA EIA AMENDED Regulations Listing Notice 2			
The development of the proposed Rietkol Colliery Opencast Mining Project and associated infrastructure will require an integrated water use licence in terms of the National Water Act, 1998 (Act 36 of 1998).	The development of the mining operation with its associated infrastructure will cover an area of approximately 2741.49 hectares.	Activity 6 of Listing Notice 2: The development of facilities or infrastructure for any process or activity which requires a permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution or effluent, excluding- • activities which are identified and included in Listing Notice 1 of 2014; • activities which included in the list of waste management activities published in terms of section 19 of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) in which case the National Environmental Management: Waste Act, 2008 applies; or • the development of facilities or infrastructure for the treatment of effluent, wastewater or sewage where such facilities have a daily throughput capacity of 2000 cubic metres or less.	GNR 984
The development of the mining operation and associated infrastructure will result in the clearance of indigenous vegetation from the project area.	The proposed operation with its associated infrastructure will cover an area of approximately 2741.49 hectares.	Activity 15 of Listing Notice 2: The clearance of an area of 20 hectares or more of indigenous vegetation, excluding where such clearance of indigenous vegetation is required for- (i) the undertaking of a linear activity; or (ii) maintenance purposes undertaken in accordance with a maintenance management plan.	GNR 984
Opencast mining which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).	The development of the mining operation with its associated infrastructure will cover an area of approximately 2741.49 hectares.	Activity 17 of Listing Notice 2: Opencast mining which requires a mining right as contemplated in section 22 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including associated infrastructure, structures and earthworks, directly related to the extraction of a mineral resource, including activities for which an	GNR 984

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
		exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).	
Crushing and screening of ROM coal to produce products required by the markets.		Activity 21 of Listing Notice 2: Any activity including the operation of that activity associated with the primary processing of a mineral resource including winning, reduction, extraction, classifying, concentrating, crushing, screening and washing but excluding the smelting, beneficiation, refining, calcining or gasification of the mineral resource.	GNR 984
NEMA EIA AMENDED Regulations Listing Notice 3			
The development of access and haul roads within the proposed mining area.	The access and haul roads will cover a length of approximately 1.1 km.	Activity 4 of Listing Notice 3: The development of a road wider than 4 metres with a reserve less than 13, 5 metres. In Free State, Limpopo, Mpumalanga and Northern Cape provinces: • In an estuary; • Outside urban areas in: (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; (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;	GNR 985

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
		(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.; or (hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or (iii) In urban areas: (aa) Areas zoned for use as public open space; (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose; or (cc) Seawards of the development setback line or within urban protected areas.	
The development of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 cubic metres or more but not exceeding 500 cubic metres	80 square meters	Activity 10 of Listing Notice 3: The development of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 30 cubic metres or more but not exceeding 80 cubic metres.	
Clearance of indigenous vegetation for the mining operation and for the construction of infrastructure associated with the mining project.	The proposed operation with its associated infrastructure will cover an area of approximately 2741.49 hectares.	Activity 12 of Listing Notice 3: The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan. (c) in Mpumalanga (i) within any critically endangered or endangered ecosystem listed in terms of section 52 of the NEMBA or prior to the publication of such a list, within an area that has been identified as critically endangered in the National Spatial Biodiversity Assessment 2004; (ii) within critically biodiversity area identified in bioregional plans;	GNR 985

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
		(iii) within the littoral active zone or 100 metres inland from high water mark of the sea or an estuarine functional zone; whichever distance is the greater, excluding where such removal will occur behind the development setback line on erven in urban areas (iv) on land, where, at the time of the coming into effect of this Notice or thereafter such land was zone open space, conservation or had an equivalent zoning or proclamation in terms of NEMPAA.	
New access and haul roads will be constructed to connect to the existing road infrastructure. This will result in the extension of the current road by more than one kilometre.	The access and haul roads will cover a length of approximately 1.1 km	<u>Activity 18 of Listing Notice 3:</u> The widening of a road by more than 4 metres, or the lengthening of a road by more than 1 kilometre. a) In Free State, Limpopo, Mpumalanga and Northern Cape provinces: (i) In an estuary; (ii) Outside urban areas, in: (aa) A protected area identified in terms of NEMPAA, excluding conservancies; (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; (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; (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 area of a biosphere reserve; (hh) Areas seawards of the development setback line or within 1 kilometre from the high-water mark of the sea if no such development setback line is determined; or	GNR 985

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
		(ii) Areas on the watercourse side of the development setback line or within 100 metres from the edge of a watercourse where no such setback line has been determined; or iii. Inside urban areas: (aa) Areas zoned for use as public open space; or (bb) Areas designated for conservation use in Spatial Development Frameworks adopted by the competent authority or zoned for a conservation purpose.	
NATIONAL ENVIRONMENTAL MANAGEMENT WASTE ACT			
The disposal of overburden material (carbonaceous) into the mined out areas.	The overburden stockpile material will cover an area of approximately 0.45 hectares.	Activity 7 under category B: Disposal of any quantity of hazardous waste on land.	GNR 921
Disposal of dirty water from opencast pits, ROM coal stockpile, overburden stockpile areas and any dirty water area of the mine into the line pollution control dam.	The pollution control dams facility will cover an area of approximately 0.8 hectares.	Activity 7 under category B: Disposal of any quantity of hazardous waste on land.	GNR 921
The establishment and maintenance of the overburden material stockpiles and associated pollution control dam.	The associated infrastructure will cover an area of approximately 3.55 hectares.	Activity 10 under category B: The construction of a facility for a waste management activity listed under Category B of this Schedule (not in isolation to associated waste management activity).	GNR 921
Reclamation of the overburden material for rehabilitation.	As much of the material as possible will be reclaimed and used for rehabilitation.	Activity 11 under category B: The establishment or reclamation of a residue stockpile or residue deposit resulting from activities which require a mining right, exploration right or production right in terms of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).	GNR 921/ GNR 632

3.3 RIETKOL COLLIERY SURFACE INFRASTRUCTURE DESCRIPTION AND THE MINING METHOD

Below is the description of the surface infrastructure and the mining method for the proposed Rirtkol Colliery.

3.3.1 Target Mineral

The target mineral for the proposed project is coal.

3.3.2 Mining Method

Opencast mining, using the truck and shovel lateral rollover mining method will be undertaken. Mining will commence from the initial box-cut. Access to the opencast pit is via a pit ramp. Haul roads that will be extended from the nearby existing road to access the opencast mining area.

The soft overburden will be removed by mechanical methods. The hard overburden will be drilled and blasted and then removed by mechanical methods. The coal will be drilled and blasted prior to removal.

3.3.3 Proposed Surface Infrastructure Description

The project will comprise of initial box-cut, subsequent opencast cuts, R.O.M. stockpiling area, overburden stockpiles, offices, workshops, diesel storage facilities, crushing/screening plant, access/haul roads, water management structures (Pollution Control Dam and clean and dirty water diversion structures) and other related mining infrastructure.

3.3.3.1 Power Supply

Power supply will be sourced from an existing Eskom power line.

3.3.3.2 Access

There is a good network of both tarred and gravel roads connecting the proposed Rietkol Colliery with the surrounding towns. Existing roads to be used for the proposed area include the R555 Provincial Road and unnamed road passing at the middle of the mining right area. A haul road will be constructed to join the existing road.

3.3.3.3 Waste Management

According to NEMWA, waste is defined as any substance, material, or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether such substance, material or object can be re-used, recycled or recovered and includes all waste as defined in Schedule 3 of NEMWA. Schedule 3 of NEMWA further divides waste into hazardous and general waste. Both hazardous and general waste will be generated from the Rietkol Colliery. Identification of waste to be generated from the Rietkol Colliery was conducted in terms of Schedule 3 of NEMWA and all identified waste and their management is described below.

General Waste Management

General waste that may be generated at the proposed project include paper, plastic, cut boards, and food waste. Waste management include the separation of waste components into recyclable waste and waste

that require disposal. Waste generated will temporarily be stored on-site prior to off-site transportation to recycling facilities, collection points or licensed waste disposal sites by registered contractors. Rietkol Colliery will use a certified contractor for the collection and disposal of the waste generated from the project area.

Management of domestic waste include the temporary storage of all domestic waste generated from the mine in a demarcated area. The area will have a capacity to handle not more than 100 m^3, of waste. Should enough waste be generated to warrant recycling, recycling will be conducted. All generated domestic and general waste will be collected on-site into clearly demarcated waste skips/bins and transported off site by the appointed waste removal contractor. The waste skips/bins will be placed on protected areas. The waste generated will comply with the National Norms and Standards for Storage of Waste, 2013.

Hazardous Waste Management

Hazardous waste that may be generated at the proposed project include used oils, fuel, degreasers, brake fluid, lubricants and fire suppressants. This list of chemicals to be used at the proposed project area will be finalised as the project progresses to the other stages. The Material Safety Data Sheets (MSDS) will be made available for all the chemicals to be stored on site prior to the commencement of construction. The waste management system will be used for the collection and disposal of this waste.

Waste generated will be removed by a permitted waste disposal contractor for treatment and disposal at a licensed hazardous waste disposal site. Management of hazardous waste include the temporary storage of all hazardous waste generated from the mine in a demarcated area. The waste stored on site will not be more than 80 m^3 for hazardous waste at any given time. The waste generated will comply with the National Norms and Standards for Storage of Waste, 2013.

All industrial waste will be stored separately in clearly marked containers and waste skips at the workshop area and will be removed by the appointed waste handling contractor.

Hydrocarbon waste will be collected in drums at designated collection waste points that will be underlain by an impervious layer linked to an oil trap or sump, which ensures that spills are contained. Waste from the drums will be collected by the appointed contractor when full for recycling or safe disposal.

Maintenance of the above-mentioned waste storage facilities will take place on slabs that are linked to sumps that prevents potential pollution. The hazardous waste collected is transported to a registered landfill site.

Diesel fuel will be regularly bulk delivered and stored in tanks placed on concrete foundations surrounded by spillage bunds with a capacity to contain 110% of the volume of diesel stored (as per the SANS 10131:2004 specifications).

3.3.3.4 Water Pollution Management Facilities

3.3.3.4.1 Sewage Treatment Plant

No sewage treatment plant will be required for the proposed project. Chemical toilets will be utilized.

3.3.3.4.2 Dirty Water Management and Storm Water Management Facilities

Storm water management entails the prevention of runoff from clean areas from entering dirty areas and the prevention of runoff from dirty areas from entering clean water areas. The above will hence prevent clean water from being contaminated and contaminated water from contaminating clean water. This section will indicate how storm water at the proposed Rietkol Colliery will be managed.

The storm water management system for the proposed Rietkol Colliery includes the construction and operation of storm water diversion berms, dirty water pipelines and a PCD. The system will be designed to separate clean and dirty storm water from the catchment of the proposed Rietkul Colliery project and its associated infrastructure.

Clean storm water generated within the Rietkol Colliery area and the associated infrastructure will be diverted via berms towards the nearby clean water environment.

All dirty water from the mined opencast pits will be collected in a PCD via dirty water pipelines. Water from the pollution control dam will be utilised to suppress dust on the haul roads.

3.3.3.5 Water Supply Infrastructures

Water will be required at the proposed Rietkol Colliery area for the purpose of supplying potable water and dust suppression. Water for dust suppression will be sourced from the proposed PCD and potable water will be sourced from a borehole or via a water supplier for portable water. Alternatively, portable water may be sourced from the local municipality.

3.3.3.6 Mineral Processing

Crushing and screening of coal will be conducted before coal is transported to the inland markets.

3.3.3.7 Transportation of product

Coal from the mining area will be transported via tipper trucks to the R.O.M stockpile area. Front-end loaders will be used to feed the crushing, screening, with coal from the R.O.M. stockpile. Haulage trucks will then be used to transport the coal product from the coal product stockpile to the destined clients.

4. POLICY AND LEGISLATIVE CONTEXT

4.1 CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA (ACT NO. 108 OF 1996)

Section 24 of the Constitution of the Republic of South Africa (Act No. 108 of 1996) states that 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

(iii) secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

In terms of Section 24 of the Constitution of the Republic of South Africa (Act No. 108 of 1996), everyone has the right to an environment that is not harmful to their health or well-being. In addition, people have the right to have the environment protected, for the benefit of present and future generations, through applicable legislations and other measures that prevent pollution, ecological degradation and promote conservation and secure ecological sustainable development using natural resources while prompting justifiable economic and social development. The needs of the environment, as well as affected parties, should thus be integrated into the overall project to fulfil the requirements of Section 24 of the Constitution. In view of the above, several laws pertaining to environmental management were promulgated to give guidance on how the principles set out in section 24 of the Constitution of the Republic of South Africa (Act No. 108 of 1996) would be met. Below are laws applicable to the Rietkol Colliery system that were promulgated to ensure that section 24 of the Constitution of the Republic of South Africa (Act No. 108 of 1996) is complied with.

4.2 NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT NO. 107 OF 1998)

Section 24(1) of the NEMA states:

“In order to give effect to the general objectives of integrated environmental management laid down in this Chapter [Chapter 5], the potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on to the competent authority or the Minister of the DMRE, as the case may be, except in respect of those activities that may commence without having to obtain an environmental authorisation in terms of this Act.”

In order to regulate the procedure and criteria as contemplated in Chapter 5 of NEMA relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto, Regulations (EIA Regulations, 2014) were promulgated. These Regulations took effect from the 4th of December 2014.

In addition to the above, Section 28 of the NEMA includes a general "Duty of Care" whereby care must be taken to prevent, control and remedy the effect of significant pollution and environmental degradation. This section stipulates the importance to protect the environment from degradation and pollution irrespective of the operations taking places or activities triggered / not triggered under GN327, GN325 and GN324.

In view of the above, an EIA process is being undertaken to comply with the requirements of the NEMA and the NEMA EIA Regulations, 2014. The NEMA EIA Regulations of December 2014 determines requirements to be met to obtain an IEA. This report has therefore been compiled in compliance with the above regulations.

4.3 National Environmental Management Air Quality Act, 2004 (Act No. 39 of 2004)

The National Environmental Management: Air Quality Act (Act No. 39 of 2004) (NEM: AQA) focuses on reforming the law regulating air quality in South Africa to protect the environment through the provision of reasonable measures protecting the environment against air pollution and ecological degradation and securing ecological sustainable development while promoting justifiable economic and social developments. This Act provides national norms and standards regulating air quality management and control by all spheres of government. These include the National Ambient Air Quality Standards (NAAQS) and the National Dust Control Regulations (NDCR). The standards are defined for different air pollutants with different limits based on the toxicity of the pollutants to the environment and humans, number of allowable exceedances and the date of compliance of the specific standard.

On 22 November 2013 the list of activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage was published in Governmental Gazette No 37054, in terms of Section 21(1)(b) of the NEM: AQA.

The proposed Rietkol Colliery will not trigger any of the activities listed under the above-mentioned Regulations. However, Trentra (Pty) Limited must ensure that emissions from the proposed activities complies with the standards as set in the above-mentioned regulations.

4.4 The National Heritage Resources Act, 1999 (Act No. 25 of 1999)

The National Heritage Resources Act (Act No. 25 of 1999) (NHRA) focuses on the protection and management of South Africa's heritage resources. The governing authority for this act is the South African Heritage Resources Agency (SAHRA). In terms of the NHRA, historically important features such as graves, trees, archaeology and fossil beds are protected as well as culturally significant symbols, spaces and landscapes. Section 38 of the NHRA stipulates the requirements a developer must undertake prior to development. In terms of Section 38 of the NHRA, SAHRA can call for a Heritage Impact Assessment (HIA) where certain categories of development are proposed.

A Heritage Impact Assessment (HIA) is the process to be followed in order to determine whether any heritage resources are located within the area to be developed as well as the possible impact of the proposed development thereon.

The Act also makes provision for the assessment of heritage impacts as part of an EIA process and indicates that if such an assessment is deemed adequate, a separate HIA is not required. An assessment of the proposed area will be done to determine if there are any sites that require protection.

4.5 NATIONAL ENVIRONMENTAL MANAGEMENT BIODIVERSITY ACT (ACT NO. 10 OF 2004)

The National Environmental Management: Biodiversity Act (Act No. 10 of 2004) (NEMBA) provides for the management and protection of South Africa's biodiversity within the framework established by NEMA. The Act aims to legally provide for biodiversity conservation, sustainable, equitable access and benefit sharing and provides for the management and control of alien and invasive species to prevent or minimize harm to the environment and indigenous biodiversity. The Act imposes obligations on landowners (state or private) governing alien invasive species as well as regulates the introduction of genetically modified organisms. The Act encourages the eradication of alien species that may harm indigenous ecosystems or habitats. The NEMBA ensures that provision is made by the site developer to remove any aliens which have been introduced to the site or are present on the site.

The NEMBA also provides for listing of threatened or protected ecosystems, in one of four categories: critically endangered, endangered, vulnerable or protected. The purpose of listing protected ecosystems is primarily to conserve sites of exceptionally high conservation value.

The Act supports South Africa's obligations under sanctioned international agreements regulating international trade in specimens of endangered species, and ensures that the utilization of biodiversity is managed in an ecological sustainable way.

The SR has been complied to ensure that all applicable requirements prescribed in the NEMBA are complied with.

4.6 MPUMALANGA NATURE CONSERVATION ACT, 1998 (ACT NO. 10 OF 1998)

The Mpumalanga Nature Conservation Act, No. 10 of 1998, aims to consolidate and amend the laws relating to nature conservation within the province and to provide for matters connected therewith. Provincial legislation relevant to biodiversity conservation comprises of two Provincial Acts, the Mpumalanga Nature Conservation Act (Act 10 of 1998) and the Mpumalanga Tourism and Parks Agency Act (Act 5 of 2005). In relation to nature conservation, the province has developed the Mpumalanga Biodiversity Conservation Plan (MBCP). This plan has been jointly developed by the Mpumalanga Tourism and Parks Agency (MTPA) and the Department of Agriculture and Land Administration (DALA). The MBCP takes its mandate from the South African Constitution, the National Biodiversity Act (10 of 2004) and the Mpumalanga Nature Conservation Act 10 of 1998. Areas identified under the MBCP as sensitive were identified and where applicable measures will be proposed for ensuring that the areas are not degrade by the proposed project activities. Furthermore, the SR has been complied to ensure that all applicable requirements prescribed in the NEMBA are complied with.

4.7 MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2002 (ACT NO. 28 OF 2002)

The Department of the DMRE is responsible for regulating the mining and minerals industry to achieve equitable access to the country's resources and contribute to sustainable development. The Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002) (MPRDA) requires that an EIA be conducted and that the EMPr be drafted for the mitigation of impacts identified during the EIA for a mining project. During December 2014, the "One Environmental System" was implemented by Government which initiated the streamlining of the licensing processes for mining, environmental authorisations and water use. Under the One Environmental System, The Minister of Mineral Resources, will issue environmental authorisations

and waste management licences in terms of the NEMA, and the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), respectively, for mining and related activities. In view of the above, the application for an IEA for the proposed Rietkol Colliery was submitted to the DMRE as the competent authority.

4.8 NATIONAL WATER ACT, 1998 (ACT NO. 36 OF 1998)

The National Water Act (Act No. 36 of 1998) (NWA) is the primary regulatory legislation, controlling and managing the use of water resources as well as the pollution thereof in South Africa. The NWA recognises that the aim of water resource management is to achieve sustainable use of water for the benefit of all users and that the protection of the quality of water resources is necessary to ensure sustainability of the nation's water resources in the interests of all water users. The NWA presents strategies to facilitate sound management of water resource s, provides for the protection of water resources, and regulates use of water by means of Catchment Management Agencies, Water User Associations, Advisory Committees and International Water Management. The National Government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest. Further, an industry can only be entitled to use water if the use is permissible under the NWA. The enforcing authority on water users is the Department of Water and Sanitation (DWS).

Further, Regulation 704 of the NWA deals with the control and use of water for mining and related activities aimed at the protection of water resources.

Trentra (Pty) Limited will apply for an integrated water use licence for the water uses triggered by the proposed project to the DWS for consideration.

4.9 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (ACT NO. 59 OF 2008)

The National Environmental Management: Waste Act (NEMWA) requires that all waste management activities must be licensed. According to Section 44 of the NEMWA, the licensing procedure must be integrated with an EIA process in terms of the NEMA.

The objectives of NEMWA involve the protection of health, wellbeing and the environment. The NEMWA provides measures for the minimisation of natural resource consumption, avoiding and minimising the generation of waste, reducing, recycling and recovering waste, and treating and safely disposing of waste.

Waste management activities are triggered by the proposed disposal of dirty water into the PCD, hence an application in terms of the NEMWA was submitted to the DMRE. However, where applicable, principles and objectives relating to waste management will be used during the compilation of the EMPr for the proposed project.

4.10 NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (ACT NO. 57 OF 2003)

NEMPAA provides for the declaration and management of protected areas in South Africa and provides for the declaration of special nature reserves, national parks, nature reserves; world heritage sites; specially protected forests, forest nature reserves; and mountain catchment areas.

According to Section 48 of NEMPAA, no person may conduct commercial prospecting, mining, exploration, production or related activities in a special nature reserve; national park; nature reserve; world heritage site; marine protected area; specially protected forest area; forest nature reserve or forest wilderness area. Furthermore, Section 48 of the NEMPAA provides that no person may conduct commercial prospecting,

mining, exploration, production or related activities in a protected environment without the written permission of the Minister of Environmental Affairs and the Minister of Mineral Resources. None of the areas where identified.

4.11 EIA GUIDELINES

Several national and provincial EIA guidelines were published by different departments. These guidelines are mainly aimed at assisting relevant stakeholders by providing information and guidance and giving recommendations on several aspects relating to the EIA process. The guidelines can be used by the competent authority, applicant and the EAP during the EIA process. It is therefore important that the EAP and the person compiling a specialist report must have relevant expertise when conducting the environmental impact assessments.

Several guidelines were consulted during the compilation of this report and these include amongst them the following i.e., Guidelines on the Need and Desirability, Department of Environmental Affairs and Tourism Integrated Environmental Management Guidelines, Department of Water Affairs Best Practice Guidelines and the Western Cape Provincial Department of Environmental Affairs and Development Planning Guidelines on Public Participation.

5. NEED AND DESIRABILITY OF THE PROPOSED PROJECT

In terms of the EIA Regulations the need and desirability of any development must be considered by the relevant competent authority when reviewing an application. The need and desirability must be included in the reports to be submitted during the environmental authorisation application processes. This section of the SR will indicate the need and desirability for the proposed North Shaft Project, which was compiled in terms of the 2010 guideline on need and desirability, integrated environmental management guideline series 9, Department of Environmental Affairs (now known as the Department of Agriculture, Forestry and Fisheries).

Proposed Rietkol Colliery Project is situated within the Victor Khanye Local Municipality in the Mpumalanga Province. As part of the requirements of the compilation of the SR, the applicant must determine the Need and Desirability of the proposed project. This section of the SR was therefore compiled in order to comply with the requirements of the guideline on need and desirability promulgated on the 20th of October 2014 under Government Notice 891 of 2014, which in turn will comply with the requirements of the EIA Regulations, 2014.

The need and desirability determination for this project will hence be structured such that it determines how the ecological attributes of the area, spatial development of the area, socio-economic profile of the communities within the study area and the project's financial viability fits together in ensuring that the proposed project becomes a success for the region.

5.1 ECOLOGICAL INTEGRITY

5.1.1 Considerations of the ecological integrity

Threatened ecosystems

According to the **Vegetation map of Southern Africa (South African National Biodiversity Institute – GIS-based electronic application, 2018)** the study area is situated in the Eastern Highveld grassland

vegetation unit (Gm 12) / ecosystem, within the Mesic Highveld Grassland bioregion (Figure 4). The status of these vegetation units is vulnerable.

According to Government Notice 1002, (Government Gazette No. 34809 9 December 2011), vulnerable ecosystems are considered threatened ecosystems since it is ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems (Figure 5).

According to the **National Freshwater Ecological Priority Areas (NFEPA) (South African National Biodiversity Institute – GIS-based electronic application, 2011)** the study area is not situated in a NFEPA river area, upstream water management area or freshwater ecosystem priority area.

According to the **South African National Biodiversity Institute, GIS-based electronic application, 2018: National Biodiversity Assessment - National Wetlands Map 5,** the study area is situated in the vicinity of the following wetland types *viz.* channelled valley bottom wetlands, seepage wetlands, depression wetlands (pans) and floodplain wetlands (Figure 6).

According to the **National Wetland Types (South African National Biodiversity Institute – GIS-based electronic application, 2016)**, wetland areas over the study area form part of the Mesic Highveld Grassland, Group 4, wetland ecosystem type (Figure 7). The ecosystem threat status assessment indicates the following categories for wetland types in this wetland ecosystem *viz.* Channelled valley bottom wetlands – Least threatened; Depression wetlands – Endangered; Flats – Endangered; Floodplain wetlands – Endangered; Seep wetlands – Least threatened; Unchanneled valley bottom wetlands – Least threatened; Valleyhead seep wetlands – Critically endangered (Mbona *et. al.* 2015).

According to the **Mpumalanga Biodiversity Sector Plan, GIS-based electronic application (Mpumalanga Tourism and Parks Agency (MTPA, 2013),** the study area is primarily situated in the terrestrial assessment categories of and **"Heavily Modified"**, meaning areas that are currently transformed and where biodiversity and ecological function has been lost to the point that it is not worth considering for conservation at all; **"Moderately modified – old lands"** meaning areas which were modified within the last 80 years but were at some point abandoned, including old mines and old cultivated lands, collectively termed "old lands"; **"Other Natural Areas (ONAs)"**, meaning areas that are not identified to meet biodiversity pattern or process targets; and **"Critical Biodiversity areas (CBA) – Optimal**" meaning areas optimally located to meet the various biodiversity targets (Figure 8).

According to the **Mpumalanga Biodiversity Sector Plan, GIS-based electronic application (Mpumalanga Tourism and Parks Agency (MTPA, 2013),** the study area is primarily situated in the freshwater assessment categories of **"Heavily Modified"** meaning areas that have experienced a form of land use that has resulted in the near complete loss of biodiversity and a degree of loss of ecological function; **"Other Natural Areas"** meaning areas that have not been identified as a priority in the current systematic biodiversity plan but retain most of their natural character and perform a range of biodiversity and ecological infrastructural functions; **"Ecological Support Areas (ESA) – Wetlands"** meaning areas that support the hydrological functioning of rivers, water tables, freshwater biodiversity as well as providing a host of ecosystem services through their ecological infrastructure. They need to be maintained in a healthy condition; **"Critical Biodiversity Area Wetlands"** meaning wetlands that are important for meeting biodiversity targets for freshwater ecosystems; the ecological condition of these wetlands needs to be maintained or improved, and their loss or deterioration must be avoided. This category includes FEPA w and **"Dams"** meaning artificial water bodies which may have impacted on wetlands or river systems. These areas may, however, still have a recharge effect on wetlands, groundwater, and river systems. (Figure 9).

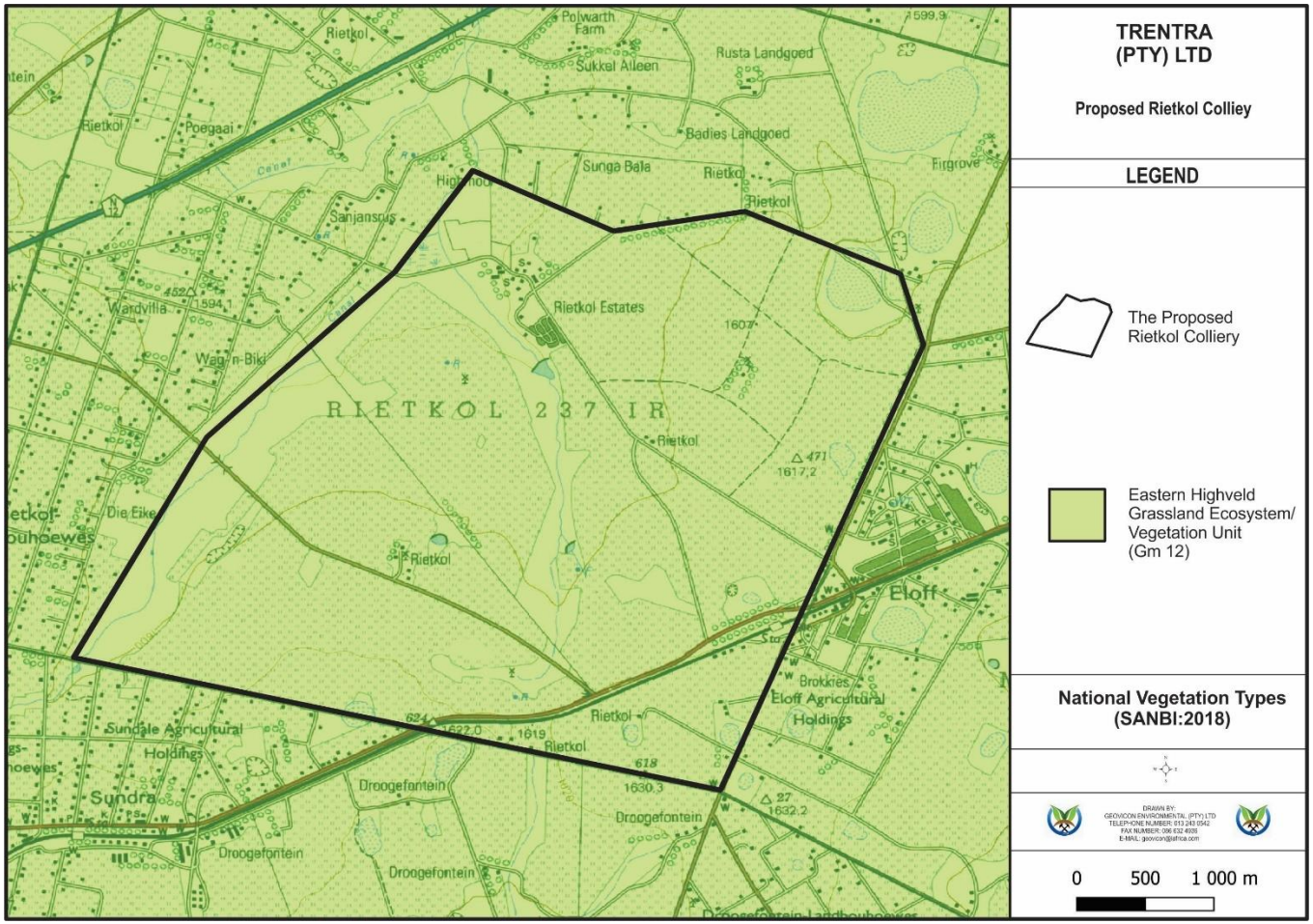


Figure 3: National vegetation map (SANBI) for the proposed Rietkol Colliery

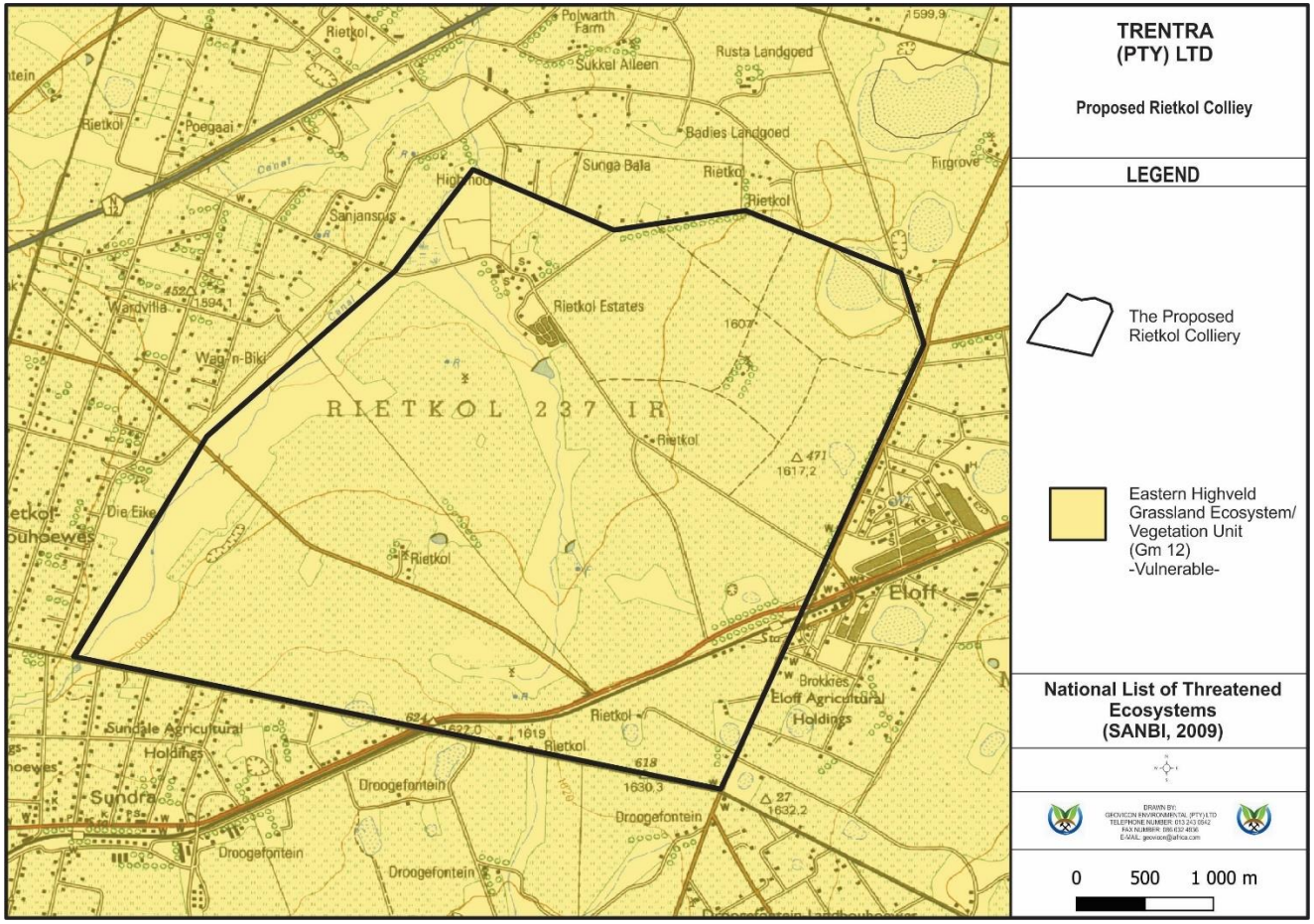


Figure 4: Threatened ecosystems for the proposed Rietkol Colliery

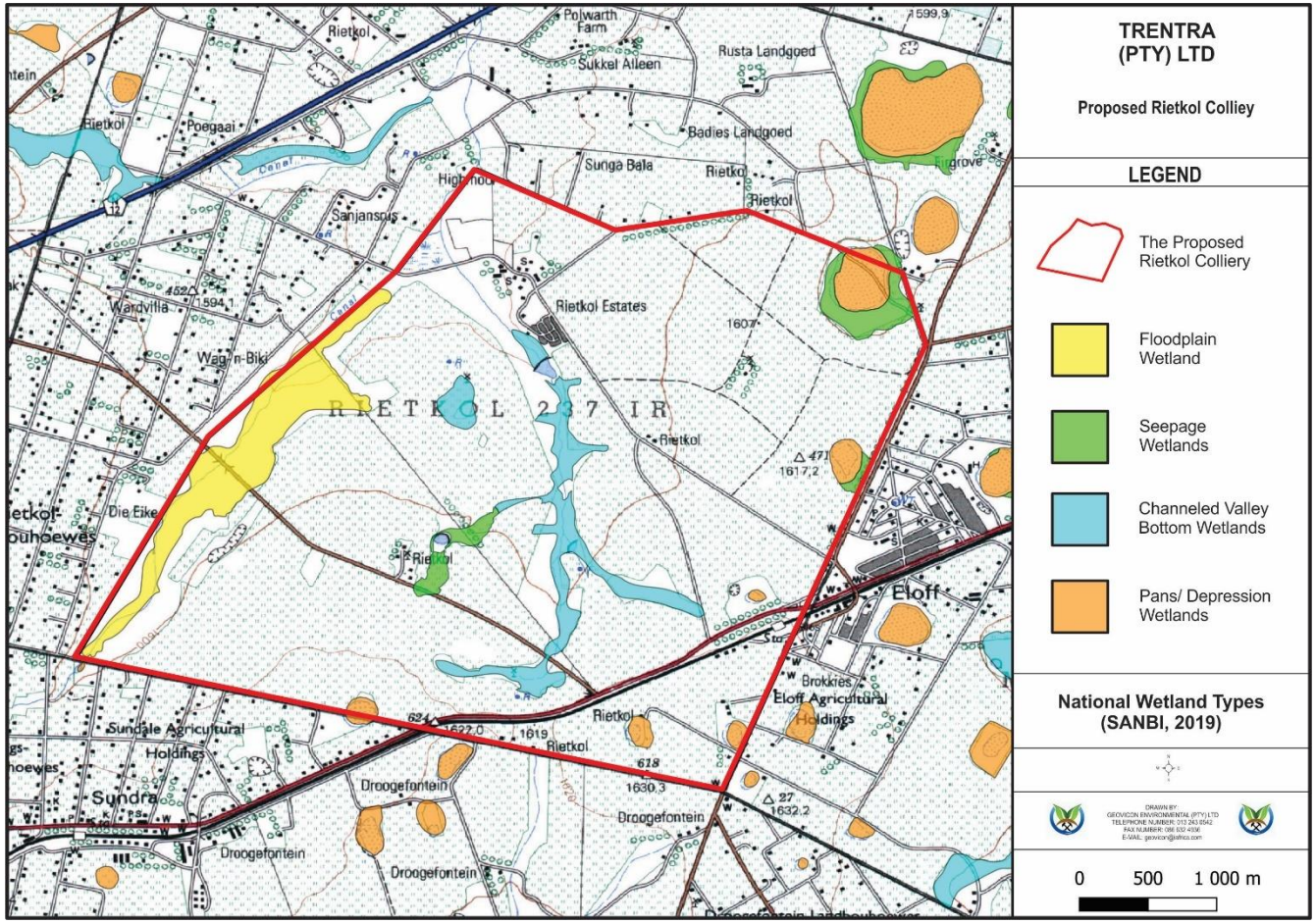


Figure 5: National wetland Types, Map 5 (2018) for the proposed Rietkol Colliery

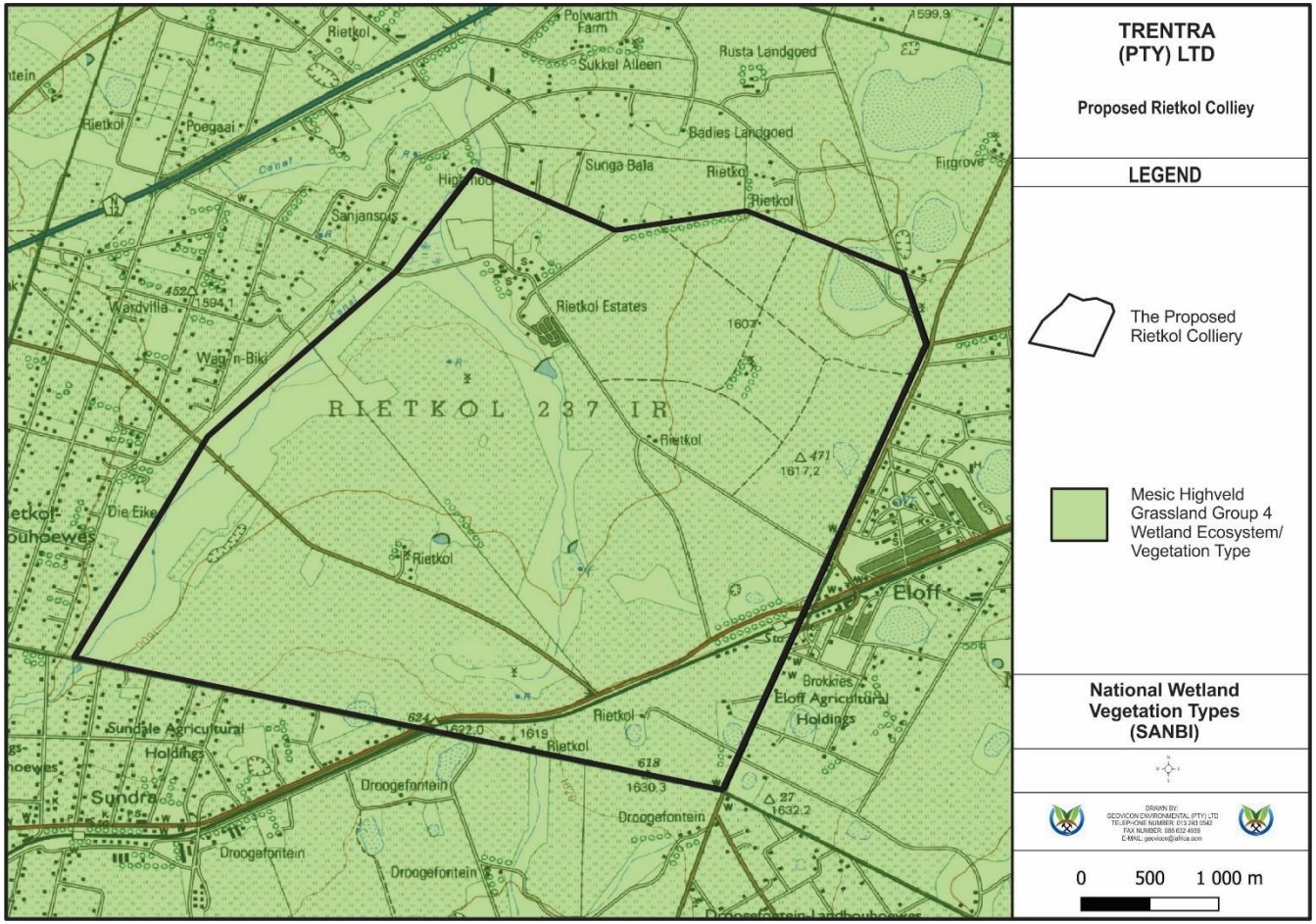


Figure 6: National Wetland Ecosystem types for the proposed Rietkol Colliery

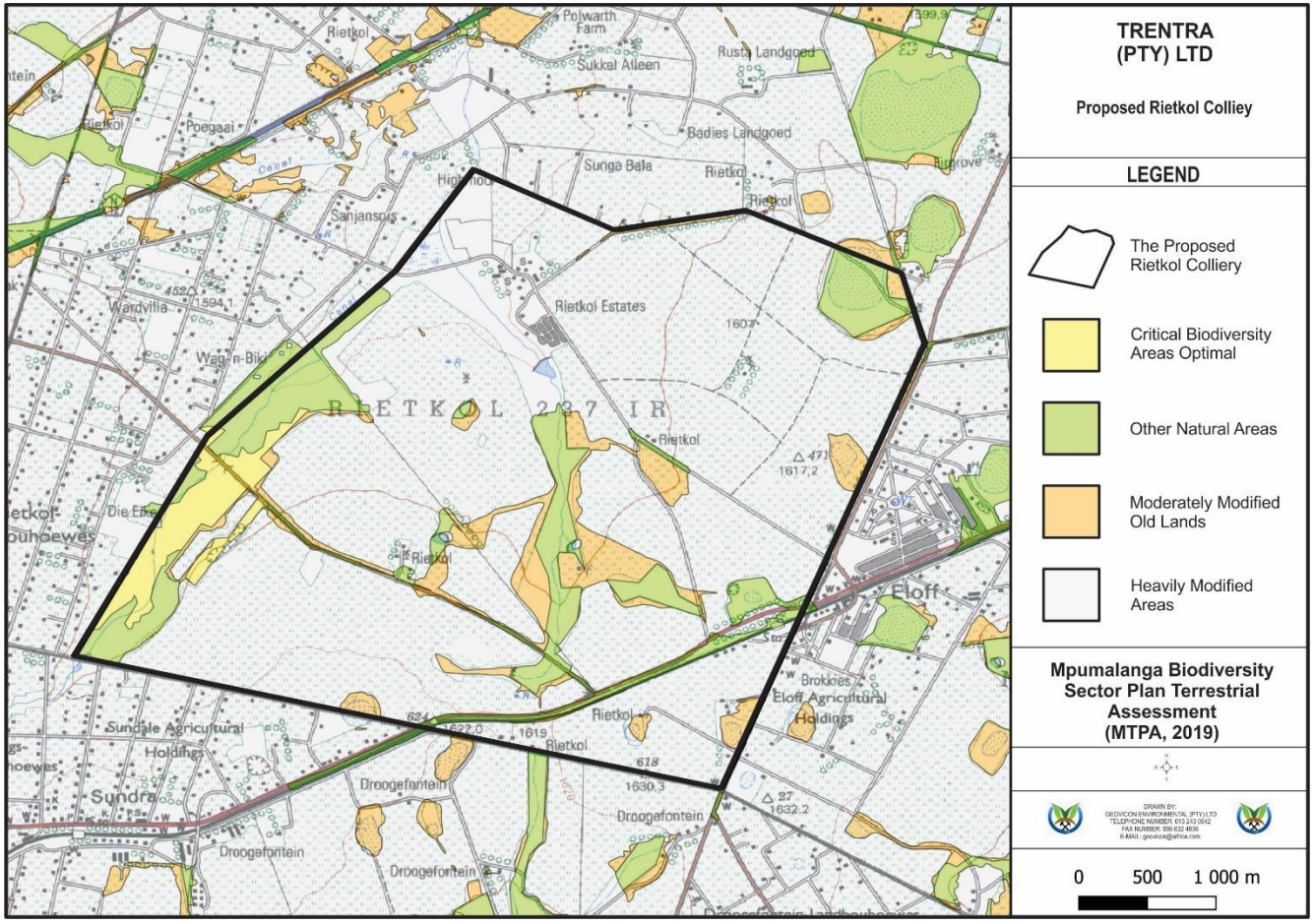


Figure 7: MBSP Terrestrial assessment for the proposed Rietkol Colliery

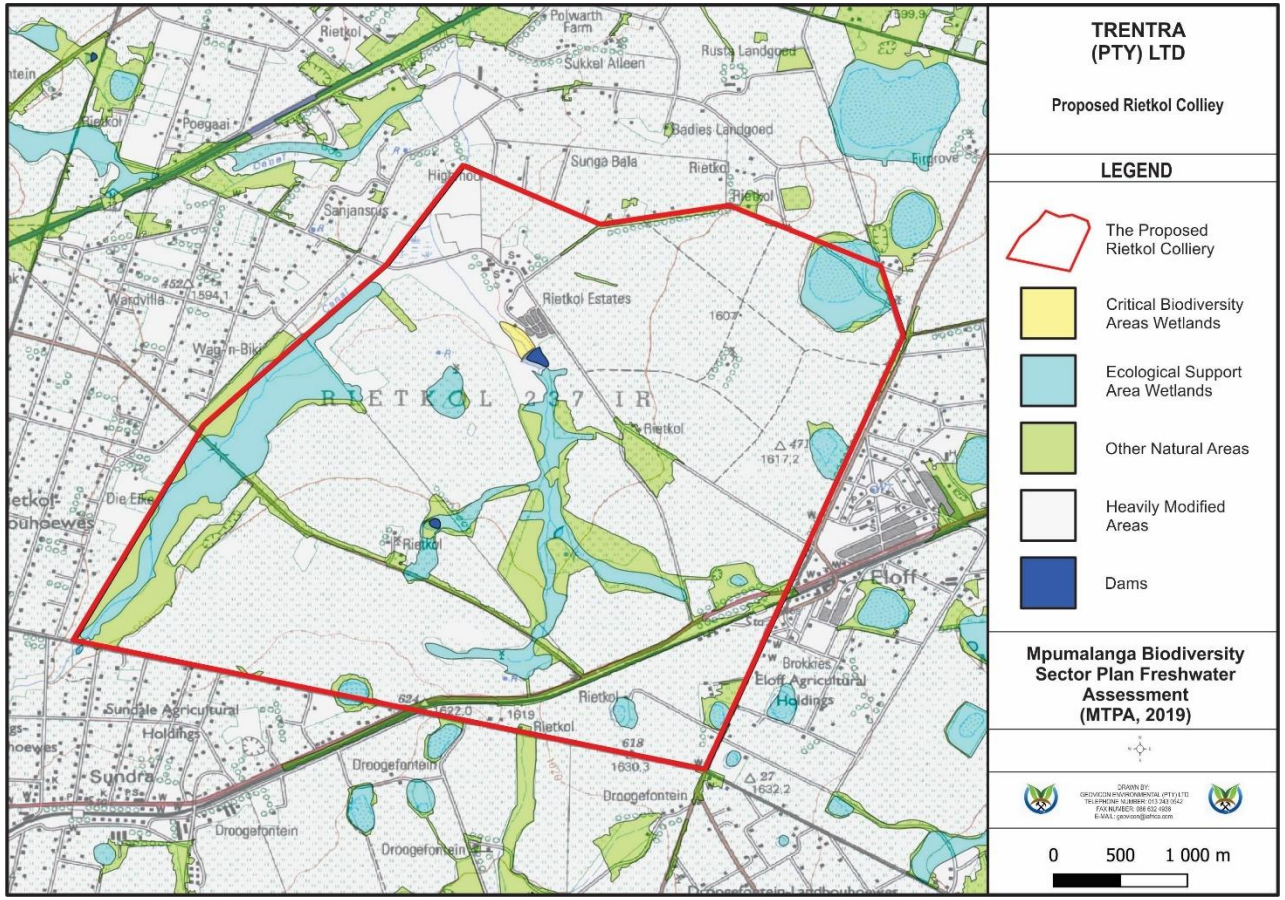


Figure 8: MBSP Freshwater assessment for the proposed Rietkol Colliery

Conservation targets

According to the Mpumalanga Biodiversity Sector Handbook the Rand Highveld grassland vegetation type (Gm 11) / ecosystem is poorly protected. The conservation target is 27 % with a transformed land of 25 % consisting of crop cultivation, grazing and dams. The conservation status of the project area is vulnerable.

Ecological drivers of the ecosystem

According to the Mpumalanga Biodiversity Sector Handbook, the most important ecological drivers in Mpumalanga are built infrastructure, cultivation, mining, prospecting and residential areas. The proposed Rietkol Colliery is situated in the Nkangala District Municipality with the percentages for the different ecological drivers as a percentage of the surface area of Mpumalanga as:

Built infrastructure – 14.3 %

Cultivation – 1.8 %

Mining – 39.9 %

Prospecting – 75.6 %

Residential – 8 %

Environmental Management Framework

The Mpumalanga Biodiversity Sector Plan (MTPA 2013) is the Environmental Management Framework for Mpumalanga and provides for the sustainable use of natural resources in Mpumalanga by means of utilising the most recent and best quality spatial biodiversity information to inform land use and development planning, environmental assessments and authorisations and natural resource management.

Spatial Development Framework

The Victor Khanye Local Municipality utilises its Spatial Development Framework for land use planning. Based on the above-mentioned special development framework, the proposed project is situated within an already developed area and will hence not conflict with the municipality's spatial development framework regarding preservation of the ecological integrity of the area.

5.1.2 Consideration of the disturbance or enhancement of the ecosystems and/or result in the loss or protection of biological diversity

Only small portion of the infrastructural area will disturb the ecosystem and result in the loss of biological diversity since the area will be stripped of all vegetation and topsoil. This negative impact cannot be avoided since this is the only area where the infrastructural area will have the least environmental impact since the area is already disturbed by historic mining related infrastructure. The negative impact will be remedied by keeping the footprint of the development as small as possible and post mining, by means of rehabilitation and re-vegetation according to best practises.

5.1.3 Consideration of pollution and degradation of the biophysical environment

The Rietkol Colliery may pollute or degrade the biophysical environment with polluted mine water (in the surface and groundwater), coal dust, alteration of surface runoff water quantity, velocity and patterns, soil compaction and invasion of declared invader species. This negative impact cannot be avoided since this is the area where the coal reserve is situated, however it can be mitigated.

The negative impact will be remedied by keeping the footprint of the development as small as possible, by the separation of dirty and clean water, containing all mine polluted water in the proposed PCD, dust

suppression, routing clean water around the mining area to report to the clean environment, keeping the footprint of all stockpiles as small as possible and to implement an eradication programme for declared invader species.

5.1.4 Waste to be generated by the proposed development and their management

According to NEMWA, waste is defined as any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be re-used, recycled or recovered and includes all waste as defined in Schedule 3 of NEMWA. Schedule 3 of NEMWA further divides waste into hazardous and general waste. Both hazardous and general waste will be generated from the Rietkol Colliery. Identification of waste to be generated from the Rietkol Colliery was conducted in terms of Schedule 3 of NEMWA and all identified waste and their management is described below.

General Waste Management

Waste management include the separation of waste components into recyclable waste and waste that require disposal. Waste generated will temporarily be stored on-site prior to off-site transportation to recycling facilities, collection points or licensed waste disposal sites by registered contractors. Rietkol Colliery will use a certified contractor for the collection and disposal of the waste generated from the project area.

Management of domestic waste include the temporary storage of all domestic waste generated from the mine in a demarcated area. The area will have a capacity to handle not more than 100 m^3, of waste. Should enough waste be generated to warrant recycling, recycling will be conducted. All generated domestic and general waste will be collected on-site into clearly demarcated waste skips/bins and transported off site by the appointed waste removal contractor. The waste skips/bins will be placed on protected areas.

The domestic/general waste collected from the mine will be transported to a registered solid waste disposal site. The waste stored on site will not be more than 100 m^3, for general waste at any given time. The waste generated will comply with the National Norms and Standards for Storage of Waste, 2013.

Hazardous Waste Management

Hazardous waste that may be used at the proposed project include oils, fuel, degreasers, brake fluid, lubricants and fire suppressants. This list of chemicals to be used at the proposed project will be finalised as the project progresses to the other stages. The MSDS will be made available for all of the chemicals stored on site prior to the commencement of construction. The waste management system will be used for the collection and disposal of this waste. The system is described below.

Chemical waste will be removed by a permitted waste disposal contractor for treatment and disposal at a licensed hazardous waste disposal site. Batteries will be removed by a permitted waste disposal contractor for recycling or treatment and disposal at a licensed hazardous waste disposal site.

Management of hazardous waste include the temporary storage of all hazardous waste generated from the mine in a demarcated area. The waste stored on site will not be more than 80 m^3 for hazardous waste at any given time. The waste generated will comply with the National Norms and Standards for Storage of Waste, 2013.

All industrial waste will be stored separately in clearly marked containers and waste skips at the workshop area and will be removed by the appointed waste handling contractor.

Hydrocarbon waste will be collected in drums at designated collection waste points that will be underlain by an impervious layer linked to an oil trap or sump, which ensures that spills are contained. Waste from the drums will be collected by the appointed contractor when full for recycling or safe disposal.

Maintenance of the above-mentioned waste storage facilities will take place on slabs that are linked to sumps that prevents potential pollution. The hazardous waste collected is transported to a registered landfill site.

Diesel fuel will be regularly bulk delivered and stored in tanks placed on concrete foundations surrounded by spillage bunds with a capacity to contain 110% of the volume of diesel stored (as per the SANS 10131:2004 specifications).

5.1.5 Consideration of the disturbance or enhancement of landscape

No disturbance of the nation's cultural heritage will be undertaken from the activities associated with the proposed project area. As part of the EIA, the specialist studies will be conducted to determine if negative impacts will occur on sites that constitute the nation's cultural heritage.

5.1.6 Consideration of the impacts on non-renewable natural resources

The Rietkol Colliery will exploit the coal reserve in this area. The coal reserve will only be exploited in an area where the coal is economically viable. This will keep the footprint of the project as small as possible. The consequence of the depletion of the non-renewable natural resource will be a positive impact on the community. This negative impact cannot be avoided since this is the area where the coal reserve is situated. The negative impact will be remedied by rehabilitation and re-vegetation of disturbed areas, especially the shaft and associated infrastructure area, according to best practises.

5.1.7 Consideration of the impacts on renewable natural resources

5.1.7.1 Increment of the project's dependency on resources to maintain economic growth

The proposed Rietkol Colliery coal mining project will reduce resource dependency since the non-renewable natural resource (coal) will be totally extracted.

5.1.7.2 Use of natural resources

Since South Africa is still dependant on coal for energy, and it is seen as a strategic mineral by the government, the proposed use of the natural resource constitutes the best use thereof. The use is justifiable since South Africa is currently still dependent on coal for energy because the use of alternative methods for energy is still too expensive in South Africa. Coal will probably not be used by future societies as an energy resource since alternative energy resources will become cheaper in future. The coal resource will thus not be needed by future societies and thus do not need to be justifiable. Energy generation is the most important priority for which the resource can be used.

5.1.8 Application of risk-averse and cautious approach

5.1.8.1 Knowledge Gaps

The limits of current knowledge are the fact that most of the environmental investigations that were conducted, concentrated on the Rietkol Colliery areas within the Rietkol Colliery Mining Right area.

5.1.8.2 Application of the risk-averse and cautious approach to the proposed project

A risk-averse and cautious approach was applied by means of the different environmental investigations, including impact assessments, which were conducted for the proposed project and will form part of the EIR/EMPr.

5.1.9 Consideration of people's environmental rights

5.1.9.1 Negative impacts on people's environmental rights

There are commercial farmers situated within or immediately adjacent to the proposed project area, that may be negatively impacted regarding the above-mentioned negative impacts. The negative impact cannot be avoided since this is the area where the coal reserves are situated. The negative impact will be remedied by keeping the footprint of the development as small as possible and post mining, by means of rehabilitation and re-vegetation of the opencast mining and infrastructure areas, according to best practises.

5.1.9.2 Positive impacts on people's environmental rights

Rietkol Colliery will at a minimum spend the legislative required percentage of its revenue on community projects in accordance to its Social and Labour Plan.

The following include the positive impacts from the proposed project:

- More job opportunities will be created for people living in the nearby communities.
- The proposed project has effects on the local economy by capital expenditure, investment in local projects and other activities. This not only has direct positive impacts on the economy, but also creates a demand for a variety of goods and services that in turn stimulate local sectors. This economic environment will likely generate more opportunities for micro and small businesses, provided they are formalised and able to meet the procurement requirements of the proposed mine.

5.1.9.3 Impacts of the proposed project on ecological integrity objectives/targets/considerations of the project area

The proposed Rietkol Colliery will negatively impact on ecological integrity objectives/targets/considerations. The negative impact will be remedied to an extent by keeping the footprint of the development as small as possible and post mining, by means of rehabilitation and re-vegetation, especially of the shaft and infrastructure area, according to best practises.

5.1.9.4 Consideration of the need to secure ecological integrity and a healthy biophysical environment

This negative impact cannot be avoided since this is the area where the coal reserve is situated. No alternatives can be considered since this is the area where the coal reserve is situated.

5.1.9.5 Description of cumulative ecological/biophysical impacts

The proposed Rietkol Colliery is situated within the Mining Right area of Rietkol Colliery. The negative cumulative ecological/biophysical impacts of the project may be high since it is situated in the vicinity of some wetland areas. The positive cumulative impact will be that the areas will be rehabilitated and re-vegetated to be grazing land. Vegetation cover and number of plant species will thus in future be higher than in the case of mono-crop cultivation. Over time, plant species occurring in natural veld may once again colonise the areas and this will enhance the habitat for small mammals, invertebrates and other small animal species.

5.2 SOCIO-ECONOMIC CONTEXT OF THE AREA

5.2.1 Risk-averse and cautious approaches applied in terms for socio-economic impacts

Desktop studies and literature review, primary data, consultation and fieldwork were used to gather data for the determination of the socio-economic impacts from the proposed project. These included various secondary data sources for the extrapolation of information to determine and analyse the social and economic characteristics of the study area. A site visit was undertaken and interviews conducted with relevant stakeholders and I&APs to assists in establishing the baseline environment, social fabric, as well as the key economic activities of the core communities. Information gathered in terms of the above approaches are deemed sufficient to determine the current socio-economic situation and the impacts from the proposed project.

5.2.2 Impacts on people's environmental rights

The environmental rights contained in section 24 of the Constitution of the Republic of South Africa (Act No. 108 of 1996) provide that everyone is entitled to an environment that is not harmful to his or her well-being. In the context of the proposed Rietkol Colliery, this requires a determination of what level of pollution and degradation to the environment from the project is harmful to well-being. The general approach of the common law is to define an acceptable level of impacts which a reasonable person can be expected to tolerate in the particular circumstances. The subjectivity of this approach can be problematic which has led to the development of environmental guidelines and noise standards.

Several studies were conducted over the project area, which included studies on biophysical and social aspects of the environment. The outcomes of the studies were used to identify possible impacts from the proposed project. All significant impacts identified from the proposed project will be avoided and if they cannot be avoided, they will be mitigated to ensure that they are within acceptable levels as determined by the applicable environmental guidelines and standards. In view of the above and if the mitigation measures are strictly adhered to, the people's environmental rights as stipulated in section 24 of the Constitution will not be affected by the commencement and operation of the proposed project.

During the operation of the proposed project, monitoring of the environment will be ongoing and the results from the monitoring will be regularly reported to the responsible organs of state. Compliance to the measures that will be included in the EIR/EMPr (after the SR is accepted) will also be undertaken in accordance with the timeframes indicated in the IEA that will be issued. Reports from the above monitoring and compliance assessment will be made available to the public for their perusal and commenting. The above illustrate the commitment Trentra (Pty) Ltd will have ensuring that the environment is held in public trust for the people.

5.2.3 Public participation

A process that ensures that consultation with I&APs for the project will be undertaken. The process will be conducted to provide all I&APs with an opportunity to comment on the project. Platforms such as public meetings (focussed group) and public commenting opportunities will be offered to the I&APs. Trentra (Pty) Ltd further commits to ensure their contribution to environmental education, to their employees and the nearby communities during the proposed project's LoM.

The employees will be made aware of work that may be harmful to their health and the environment and of any work posing danger. This will be undertaken in terms of the Mine Health and Safety Act, 1999 (Act 25 of 1999) and their regulations, which gives the employees the right to refuse work that is dangerous Trentra

(Pty) Ltd will respect decisions of employees regarding the above and is committed to the protection of employees against any dangerous working environment.

All issues raised by the I&APs will be recorded and addressed in the final SR.

5.2.4 Intergovernmental co-ordination

Before the proposed project can proceed, IEA must be applied for and issued. The above-mentioned application must be made to the competent authority, which in this case is the DMRE.

In the spirit of co-operative governance and in compliance with the NEMA, the competent authority will, during the processing for this application, consult with other organs of state that administer laws that relate to a matter affecting the environment relevant to this application.

The organs of state that will be consulted may include the following:

- Department of Mineral Resources and Energy
- Department of Water and Sanitation
- Department Agriculture, Forestry and Fisheries
- Department of Economic Development, Environment and Tourism
- Mpumalanga Tourism and Parks Agency
- South African Heritage Resource Agency
- SANRAL
- ESKOM
- Transnet
- Victor Khanye Local Municipality
- Relevant Ward Councillors

Note however that this list is not exhaustive as more organs of state may be identified by the competent authority.

Aside from the NEMA IEA, an integrated water use licence will be required for the water uses for the proposed project area.

In view of the above, Trentra (Pty) Ltd believes that sufficient intergovernmental co-ordination and harmonisation of policies, legislation and actions relating to environment were undertaken. No conflicts of interests between organs of state are therefore anticipated in the application.

5.2.5 Environmental considerations

In the interest of the public and in bid to ensure that the environment is used to the interest of the public, environmental baseline data was obtained through various independent agencies and used in the SR. The data accumulated and analysed is deemed sufficient to gain a baseline indication of the present state of the environment. The impacts that could arise during and after the proposed activities were determined and ranked according to their significance. Based on the impact assessment, recommendations were made for the mitigation of significant negative environmental impacts that will result from the proposed project.

The proponent will also make sufficient financial provision for remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects through a bank guarantee for closure costs and

by making funds available from their operational costs during the operational phase of the mine.

6. MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT

6.1 CONSIDERATION OF ALTERNATIVES

The amended NEMA, EIA Regulations, 2014 requires a SR to identify alternatives for projects applied for. An alternative in relation to a proposed activities, refers to different means of meeting the general purpose and requirements of the activities, which may include alternatives to (a) the property on which or location where it is proposed to undertake the activities; (b) the type of activities to be undertaken; (c) the design or layout of the activities;(d) the technology to be used in the activities; (e) the operational aspects of the activities; and (f) the option of not implementing the activities.

6.1.1 Project Alternatives

The location of the proposed development is the most suitable due to its ideal location in terms of the requirements for coal mining. Prospecting boreholes drilled indicated that the quality of the coal in the area where the applicant proposes to mine coal, is of the best quality and therefore no alternative site has been investigated.

6.1.2 Site Layout Alternatives

Site layout alternatives can be considered after specialist input has identified possible sensitive landscapes and wetland zones have been delineated.

6.1.3 Transport Alternatives

In terms of the proposed Rietkol Colliery the most viable option to accessing the site will be via the existing R555 Provincial Road.

6.2 CONCLUDING STATEMENT

- If the mine cannot proceed with this project, this may result in the sterilisation of the reserves for an extended period, which will cause loss of revenue to the local municipality and the district at large.
- In view of the above, the consequences of not proceeding with this project will have a detrimental impact on the employment opportunities to be created, the surrounding previously disadvantaged community and the owners of the mine.

7. DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED

In terms of Chapter 6 of the NEMA regulations (GNR 326), all potential I&APs should be informed of the project and be given a chance to register as an I&APs in order to raise any comments and concerns which relates to the proposed project.

7.1 THE CONSULTATION PROCESS UNDERTAKEN

Public participation is the cornerstone of the EIA process. The principles of the NEMA govern many aspects of EIA's, including public participation. The general objectives of integrated environmental management laid down in the NEMA include to "ensure" adequate and appropriate opportunity for public participation in decisions that may affect the environment". The National Environmental Management Principles include the principle that "The participation of all I&APs in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills and capacity necessary to achieve equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured", which basically means that the person responsible for the application (EAP) must ensure that provision of sufficient and transparent information on an ongoing basis to stakeholders are made to allow them to comment, and to ensure that the participation of previously disadvantaged people like women and the youth are undertaken.

In terms of the EIA Regulations, 2014 (as amended), when applying for an IEA, the EAP managing the application must conduct a public participation process where all potential or registered I&APs, including the competent authority, are given a period of at least 30 days to submit comments on each of the SR, BARs, EIR/EMPr and where applicable the closure plan. In this case the SR and the EIR/EMPr is considered.

This section of the SR will explain the public participation process taken to comply with the above-mentioned requirements. Several public participation guidelines were published in a bid to assist persons responsible for the environmental authorisation applications. As much of the available guidelines were used in determining the public participation process, in guiding the public participation process of the proposed project.

Trentra (Pty) Limited is applying for an IEA for the proposed Rietkol Colliery. The application for the IEA is undertaken in terms of the process as laid out in part 3 of Chapter 4 under the NEMA EIA Regulations, 2014 (as amended). The above-mentioned regulations require that an applicant for an IEA submit a SR and an EIR/EMPr report to the competent authority after having subjected the reports to a public participation process.

In view of the above, a public participation process was initiated for the proposed project. The public participation process for the proposed project is designed to provide sufficient and accessible information to I&APs in an objective manner to assist them to:

- Raise issues of concern and make suggestions for enhanced benefits;
- Contribute local knowledge and experience;
- Verify that their issues have been captured;
- Verify that their issues have been considered in the technical investigations; and
- Comment on the findings of the SR.

7.1.1 Registration phase

Immediate and adjacent landowners, local municipality, state departments and the greater public will be notified via emails (individual notices), site notices and a local newspaper of the proposed project. The Draft SR will be made available for comments to all relevant stakeholders during the registration phase.

7.1.2 Registered Interested and Affected Parties

The I&APs identified are as follows:

- Department of Mineral Resources and Energy
- Department of Water and Sanitation
- Department Agriculture, Forestry and Fisheries
- Department of Economic Development, Environment and Tourism
- Mpumalanga Tourism and Parks Agency
- South African Heritage Resource Agency
- SANRAL
- ESKOM
- Transnet
- Victor Khanye Local Municipalities
- Relevant Ward Councillors
- Direct and Adjacent Landowners
- Office of the Regional Land Claims Commissioner
- Communities

7.1.3 Scoping Phase

The draft Scoping Report was placed in the Delmas Public Library on the 27th of January 2023 for evaluation and comment. An advertisement was placed in the local newspaper (Streeknuus Newspaper) on the 27th of January 2023 in accordance with Regulation 41 of Government Notice No. 326 under section 24 of the National Environmental Management Act, 107 (Act no. 107 of 1998) informing the public about the availability of the draft scoping report in the said Library for evaluation and comment.

The draft Scoping Report will be submitted to relevant State Departments which deals with matters relating to the environment.

7.1.4 EIA/EMP Phase

Upon acceptance of the final SR, the draft EIR/EMPr report, will be compiled and submitted to relevant State Departments, the Victor Khanye Local Municipality, and registered I&APs for evaluations and for comments. The draft EIR/EMPr will also be placed at the Delmas public library for comment. An advert will be placed in the local newspapers (Streeknuus Newspaper) in accordance with Regulation 41 of Government Notice No. 326 under section 24 of the NEMA informing the public about the availability of the draft EIR/EMPr report in the said libraries for evaluation and comments and inviting the public to a public meeting. Once the commenting period lapses, the final EIR/EMPr including comments from registered I&APs, will be submitted to the DMRE for their evaluation and decision-making.

7.1.5 Record of Decision (ROD)

Once a decision on the application has been taken and communicated to the applicant by the competent authority, all registered I&APs will be informed directly in writing, via email or fax and indirectly through advertisement in local newspapers.

8. BASELINE INFORMATION

8.1 GEOLOGY

The proposed Rietkol Colliery falls within the Witbank Coalfield of the well-known Middle Ecca stage Coal Province. Several coalmines have been, or are operating within this coalfield.

The proposed Rietkol Colliery is situated near current small- and large-scale operating collieries, which have an impressive history of exploration and mining activities, associated with them. The geology, sedimentary deposition and mineralogy of the coal seams within the Witbank Coalfield are well understood.

Witbank Coalfield

The Witbank coalfield extends over 180 km from Brakpan/Springs in the west to Belfast in the east and about 40 km in a north-south direction. The Witbank Coalfield includes the districts of Benoni, Nigel, Brakpan/Springs, Delmas, Dryden, Bronkhorstspruit, Kendal, Ogies, Witbank, Middelburg, Arnot and Belfast encompassing a surface area of approximately 7 200 km2. The Witbank Coalfield has a boundary with the Highveld coalfield to the south, the South Rand coalfields to the southwest and the Eastern Transvaal coalfield to the southeast.

The Witbank coalfield is the centre of the coal mining industry in South Africa. It has been mined since 1890 and is presently producing more than 50% of the South African coal production, and will remain of great importance for the economy for a considerable time.

The coal seams of the Witbank coalfield are at a shallow depth, with the lowest seam seldom reaching 100 metres in the deepest lying parts of the field. Due to erosion of the sediments, all that remains of the Karoo System in this area is that portion from the lower part of the Middle Ecca Stage to the Dwyka tillite. Within the Witbank coalfield, the Karoo System un-conformably overlays the Witwatersrand System, the Waterberg System and the Bushveld Igneous Complex.

The strata in which the coal seams occur consist predominantly of fine, medium and coarse-grained sandstone with subordinate mudstone, shale, siltstone and carbonaceous shale. Ideally there are seven coal seams with varying degrees of persistence numbered from below as No. 1, No. 2, No. 3, No. 4 lower, No. 4 upper, No. 4 A and No. 5 Seams.

Description and distribution of the coal seams within the Witbank sector.

The coal seams in the Witbank Coalfield area mainly flat lying to gently undulating. The coal seam topography and aerial distribution are commonly controlled by pre-Karoo topography. Steep dips are encountered where seams abut against pre-Karoo hills. The distribution of some 7 of the coal seams (No. 4 and No. 5 coal seams) is largely limited by present-day surface topography.

The Karoo strata in the Witbank coalfield are virtually unfolded and have not been subjected to marked displacements, except where intersected by dolerites. Faults do occur in the coal seams and where faulting occurs it is usually associated with steeper dips on the flanks of pre-Karoo valleys or hollows. Dolerite intrusions, in a form of sills and dykes, have adversely affected the most areas of the coalfield.

Dykes are ubiquitous throughout the area, the main trends being east, north-east and north. The most prominent of all is the Ogies dyke, which has been traced on surface over a strike length of approximately 100 km. Two main dolerite sills are known in this coalfield i.e. non-porphyritic (attains thickness of up to 50 m) and porphyritic type (attains thickness of up to 15 m).

The No. 1 seam

This coal seam is the least important of the economically mineable coal seams. It is generally better developed in the northern and eastern parts of the coalfield. Elsewhere the coal seam is patchily developed and thin. The coal seam typically consists of lustrous to dull coal with local shaly sandstone partings giving rise to a local No. 1 Lower Seam.

The No. 2 seam

This coal seam contains approximately 70% of the Witbank coalfield and contains some of the best quality coal. In the main central part of the coalfield, it attains an average thickness of 6.5 meters. In some areas of the coalfield the No. 2 coal seam commonly attains a thickness of approximately 8 meters. Thick sandstone parting occurs locally in the upper parts of the seam, splitting the seam into a No. 2 and a No. 2 Upper Seam.

The No. 2 coal seam consists of good quality low ash metallurgical coal and steam coal for export.

The No. 3 seam

The No. 3 coal is very thin usually less than 0.5 meters thick and has in the past been considered uneconomic. Although considered uneconomic it is locally of high quality and where it attains a thickness of 0.8 meters, it could represent an important opencast resource.

The No. 4 seam

This seam contributes about 26% to the coal resources of the Witbank coalfield. It varies in thickness from 2.5 metres in the central Witbank area to 6.5 metres elsewhere where it contains numerous shale and sandstone partings. In addition to the No. 4 seam, the coal zone generally contains a 4 Upper and 4A seam, neither of which is at present of economic importance due to thinness, sporadic development, and poor quality. This seam contains dull to dull lustrous coal.

The No. 5 seam

The No. 5 coal seam contributes only approximately 4% of the coal resources of the Witbank Coalfields. This coal seam has been largely eroded over large areas. It attains on average a thickness of 1.8 meters. The seam consists of mixed, mainly bright, banded coal, with thin shale and mudstone partings in a few localities.

The Rietkol Colliery Area has the potential to be underlain by some of these coal seams.

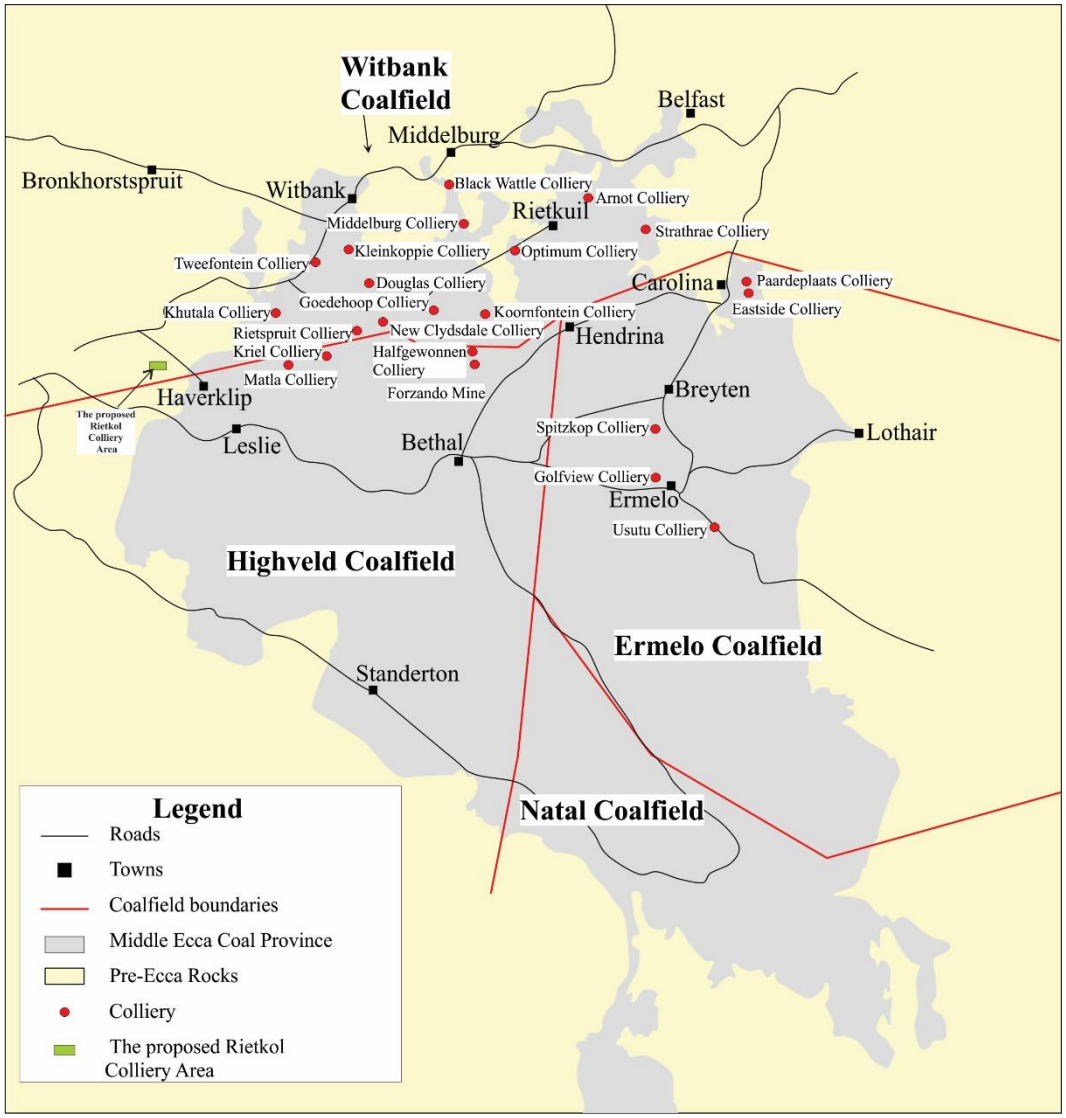


Figure 9: Coalfields associated with Rietkol Colliery

8.2 CLIMATE

8.2.1 Regional Climate

The proposed Rietkol Colliery Area is within the summer rainfall region of South Africa, which is warm temperate, with cold dry winters and moderate summers. The summer rainfall is sporadic, with frequent thunderstorms, associated with high-intensity rainfall events. The mean annual precipitation of the site is 706 mm, with the high rainfall months between November and April. The mean annual evaporation of the site is 1700 mm (S-Pan).

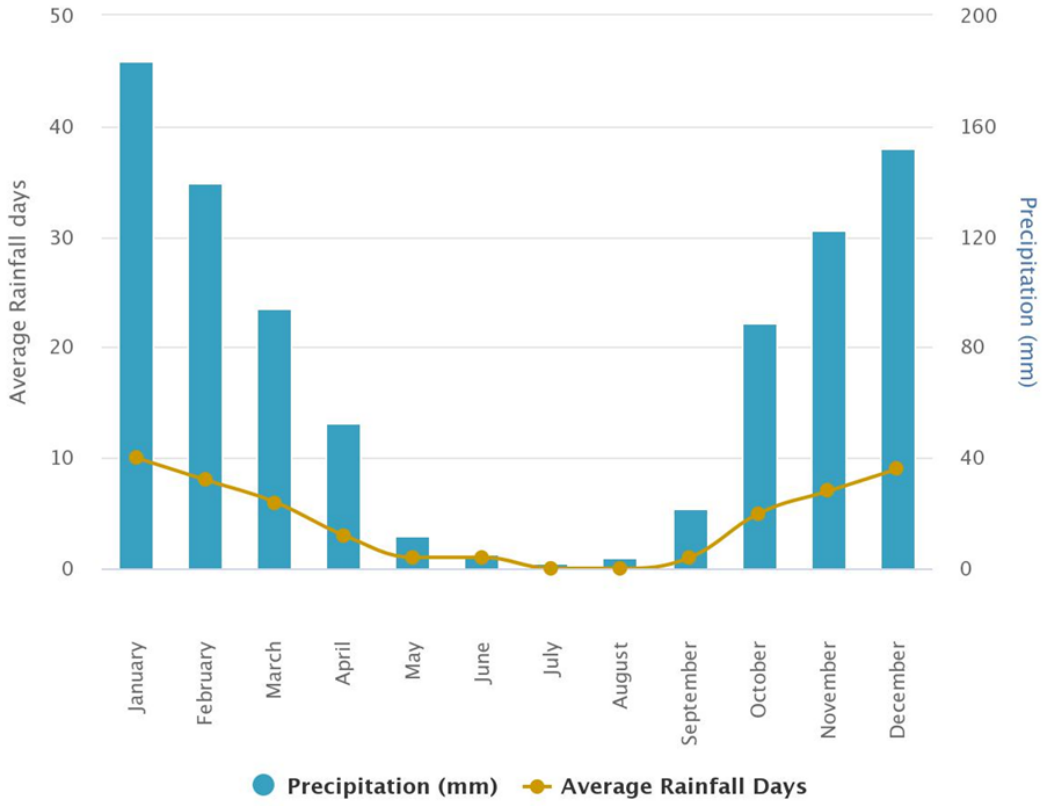


Figure 10: Average rainfall for Delmas, Mpumalanga

Table 5: Climatic conditions in the vicinity of Rietkol Colliery–Delmas.

Month	Rainfall (mm)	Temperature (°C)		A-pan Evaporation (mm)
		Mean max	Mean min	
January	131.2	27.2	13.7	251
February	109.7	26.8	13.4	199
March	89.6	26.0	11.4	183
April	39.3	23.9	7.4	147
May	20.7	21.3	2.2	121
June	6.7	18.5	-1.8	102
July	9.0	18.4	-1.7	127
August	9.8	21.4	0.8	146
September	22.9	24.0	5.3	195
October	66.3	26.0	10.1	223
November	117.4	26.2	11.8	210
December	119.7	27.1	13.2	223
Total	742.3			2127
Average		23.9	7.1	

Monthly Mean Wind Direction and Speed

No data on the wind patterns is available for the mine. Owing to the location of the site, the gentle undulating topography and the non-existence of mountain ranges, no localised wind systems (topographically induced) will be generated.

Extreme weather conditions

The area is prone to host extreme events on a regular basis. These events include the following:

- The area is prone to drought conditions.
- Regular frost occurs during the winter months.
- Rainfall occurs as scattered thunderstorms.

Strong gusty winds prior to and during thunderstorms.

8.3 TOPOGRAPHY

The elevation of the surrounding area ranges from 1560 metres above sea level to 1640 metres above sea level. The surrounding area is considered undulating and consists of hills and valleys, often with streams in the valleys and pans in the hills.

8.4 LAND USE

The land in the area is mainly used for agricultural activities (crop production and grazing) and has provincial road (R555) and railway line. Adjacent land is used for mainly residential purposes, crop production and grazing. Refer to figure 12 below.

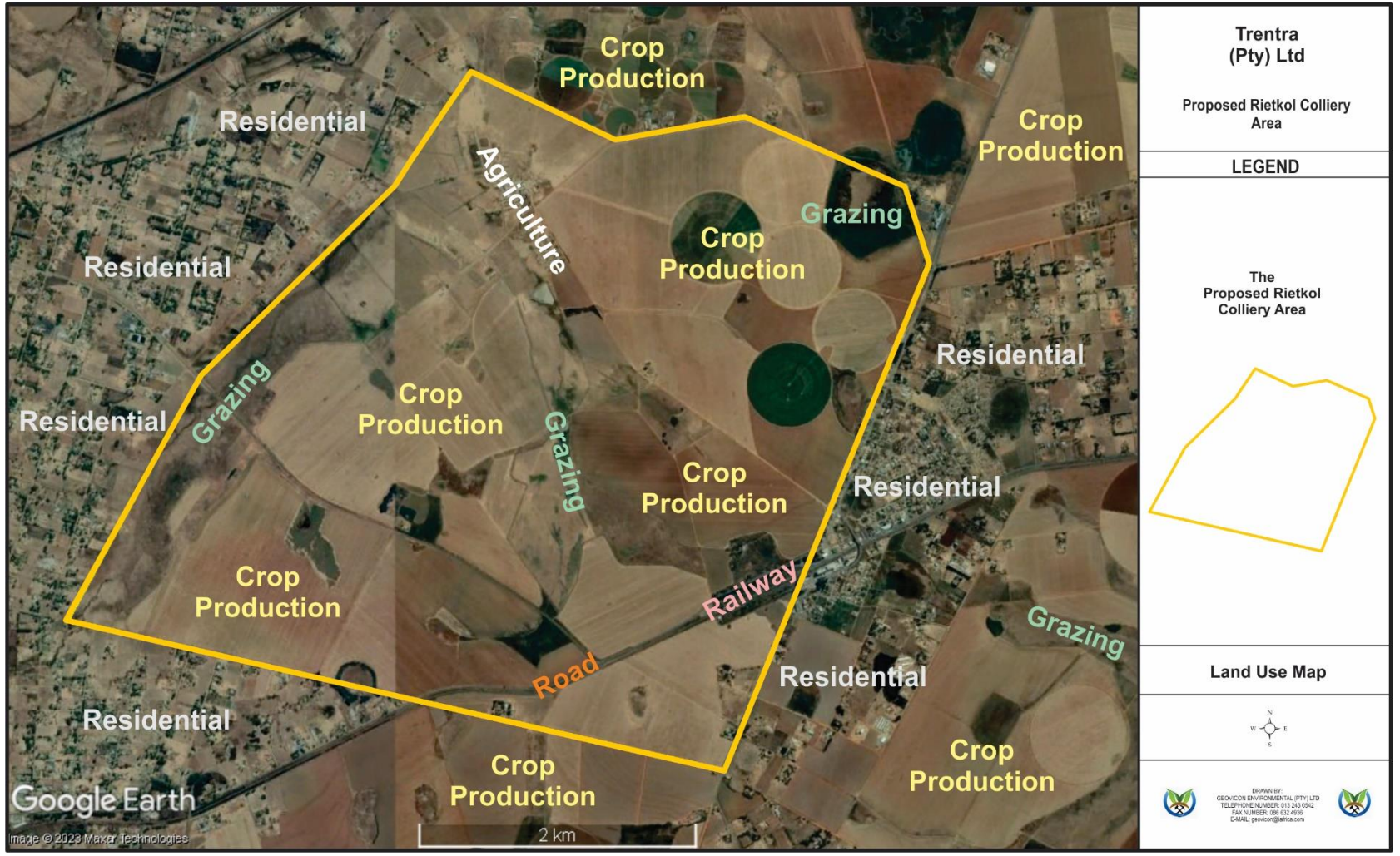


Figure 11: Land Use Map for the proposed Rietkol Colliery

8.5 BIODIVERSITY

According to Government Notice 1002, (Government Gazette No. 34809 9 December 2011), vulnerable ecosystems are considered threatened ecosystems since it is ecosystems that have a high risk of undergoing significant degradation of ecological structure, function or composition as a result of human intervention, although they are not critically endangered ecosystems or endangered ecosystems.

According to the NFEPA (South African National Biodiversity Institute – GIS-based electronic application, 2011) the study area is not situated in a NFEPA river area, upstream water management area or freshwater ecosystem priority area.

According to the South African National Biodiversity Institute, GIS-based electronic application, 2018: National Biodiversity Assessment - National Wetlands Map 5, the study area is situated near the following wetland types viz. channelled valley bottom wetlands, seepage wetlands, depression wetlands and floodplain wetlands.

According to the National Wetland Types (South African National Biodiversity Institute – GIS-based electronic application, 2016), wetland areas over the study area form part of the Mesic Highveld Grassland, Group 4, wetland ecosystem type. The ecosystem threat status assessment indicates the following categories for wetland types in this wetland ecosystem viz. Channelled valley bottom wetlands – Least threatened; Depression wetlands – Endangered; Flats – Endangered; Floodplain wetlands – Endangered; Seep wetlands – Least threatened; Unchanneled valley bottom wetlands – Least threatened; Valley head seep wetlands – Critically endangered.

According to the Mpumalanga Biodiversity Sector Plan, GIS-based electronic application (Mpumalanga Tourism and Parks Agency (MTPA, 2013), the study area is primarily situated in the terrestrial assessment categories of and “Heavily Modified”, meaning areas that are currently transformed and where biodiversity and ecological function has been lost to the point that it is not worth considering for conservation at all; “Moderately modified – old lands” meaning areas which were modified within the last 80 years but were at some point abandoned, including old mines and old cultivated lands, collectively termed “old lands”; “ONAs”, meaning areas that are not identified to meet biodiversity pattern or process targets; and “Critical Biodiversity areas (CBA) – Optimal” meaning areas optimally located to meet the various biodiversity targets.

According to the Mpumalanga Biodiversity Sector Plan, GIS-based electronic application (Mpumalanga Tourism and Parks Agency (MTPA, 2013), the study area is primarily situated in the freshwater assessment categories of “Heavily Modified” meaning areas that have experienced a form of land use that has resulted in the near complete loss of biodiversity and a degree of loss of ecological function; “Other Natural Areas” meaning areas that have not been identified as a priority in the current systematic biodiversity plan but retain most of their natural character and perform a range of biodiversity and ecological infrastructural functions; “Ecological Support Areas (ESA) – Wetlands” meaning areas that support the hydrological functioning of rivers, water tables, freshwater biodiversity as well as providing a host of ecosystem services through their ecological infrastructure. They need to be maintained in a healthy condition; “Ecological Support Areas (ESA) – Wetland clusters” meaning clusters of wetlands embedded within a largely natural landscape to allow for the migration of fauna and flora between wetlands and “Dams” meaning artificial water bodies which may have impacted on wetlands or river systems. These areas may, however, still have a recharge effect on wetlands, groundwater, and river systems.

8.6 SURFACE WATER

In terms of the Department of Water Affairs and Forestry demarcations, Rietkol Colliery is situated in the quaternary catchments B20A, B20B (drains into Olifants River) and C21E (drains into Vaal River). There are several perennial and non-perennial streams flowing in the proposed mining right area. Figure 13 depicts the location of Rietkol Colliery in relation to the quaternary drainage regions within the Rietkol Colliery

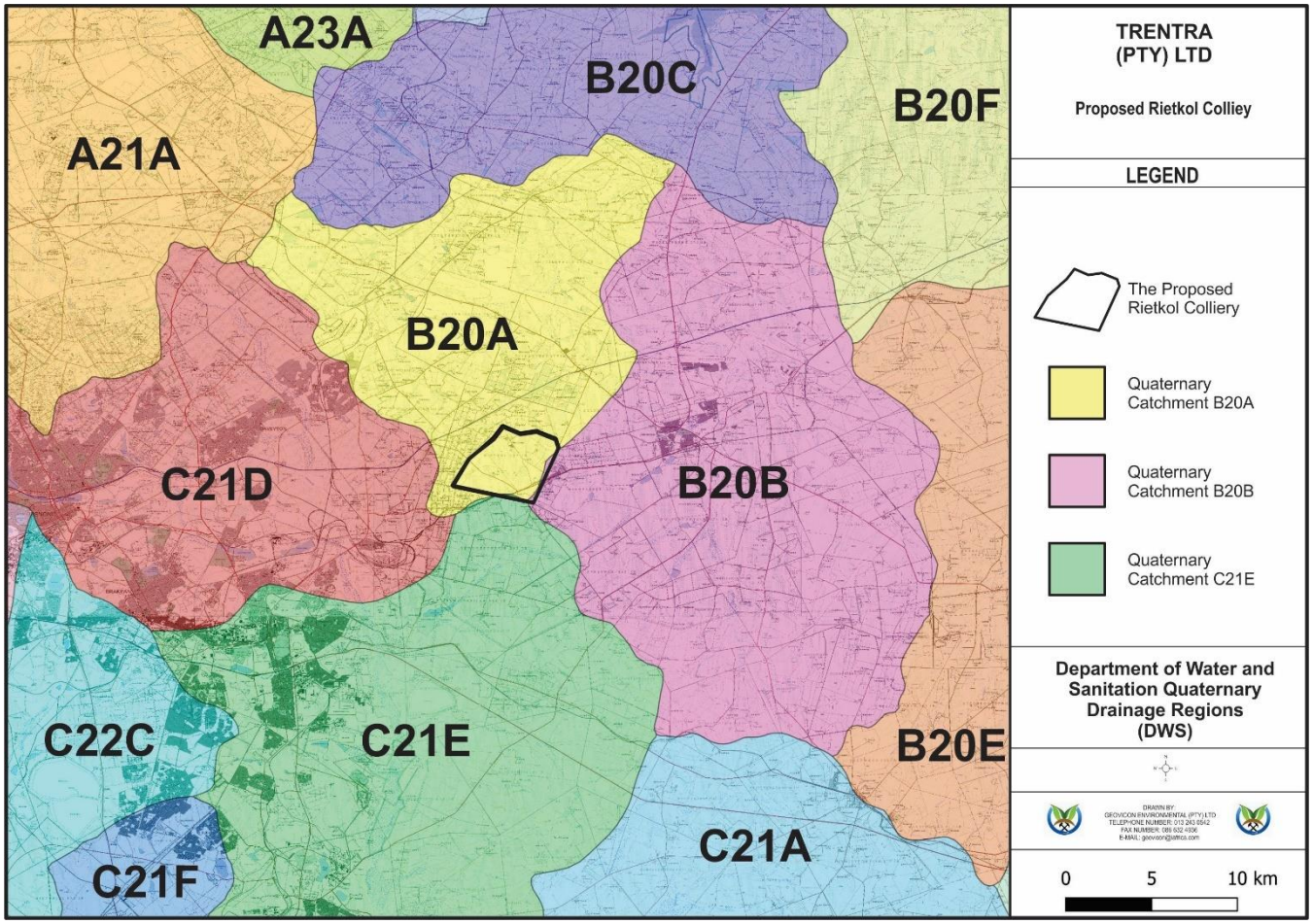


Figure 12: Quaternary catchment areas of the proposed Rietkol Colliery

Table 6: Summary of the Quaternary Catchments associated with the proposed Rietkol Colliery

Quaternary Catchment	B20A	B20B	C21E
Drains into	Olifants River	Olifants River	Vaal River

Size in km²	577	323	631
Mean annual precipitation (mm)	661,40	666,40	690,60
Evaporation (mm)	2088,70	2102,10	2089,40
Mean annual surface runoff (mm)	34,30	40,60	25,70

River diversions
No river diversions are planned for the prospecting activities covered by this report.

Water Use

The likely downstream users were determined by examining aerial photography and literature surveys.

The downstream users were therefore considered in the stream. The downstream usage classes are evaluated below:

- Domestic users –local inhabitants may consume this river water and will likely also use the water for laundry.
- Recreational users – it is likely that local inhabitants will swim in the streams.
- Aquatic users – fishing.
- Irrigation users – the river water is might to be used for small-scale or informal irrigation.
- Livestock – the river water is likely to be used for drinking by livestock.

Water Authority

The catchment area is government water-controlled catchment. The authority in charge is the Department of Water and Sanitation (Mpumalanga Regional Office).

8.7 GROUNDWATER

Aquifer classification

According to literature the Karoo Supergroup sediments typically act as secondary aquifers (intergranular and fractured rock aquifers). However, the multi-layered weathering system present on these rocks could prove to have up to two aquifer systems present in the form of a shallow, regolith aquifer with a weathered, intergranular soft rock base associated with the contact of fresh bedrock and the weathering zone; and a fractured bedrock aquifer. These aquifer systems are discussed below.

Saturated Zone

In the saturated zone, at least four aquifer types may be inferred from knowledge of the geology of the area:

- A shallow aquifer formed in the weathered zone, perched on the fresh bedrock.
- An intermediate aquifer formed by fracturing of the Karoo sediments.
- Aquifers formed within the more permeable coal seams and sandstone layers.
- Aquifers associated with the contact zones of the dolerite intrusives.

Although these aquifers vary considerably regarding geohydrological characteristics, they are seldom observed as isolated units. Usually, they would be highly interconnected by means of fractures and intrusions. Groundwater will thus flow through the system by means of the path of least resistance in a complicated manner that might include any of these components.

Shallow perched aquifer

A near surface weathered zone is comprised of transported colluvium and *in-situ* weathered sediments and is underlain by consolidated sedimentary rocks (sandstone, shale and coal). Groundwater flow patterns usually follow the topography, often coming very close to surface in topographic lows, sometimes even forming natural springs. Experience of Karoo geohydrology indicates that recharge to the perched groundwater aquifer is relatively high, up to 3% of the Mean Annual Precipitation (MAP).

Fractured Karoo rock aquifers

The host geology of the area consists of consolidated sediments of the Karoo Supergroup and consists mainly of sandstone, shale and coal beds of the Vryheid Formation of the Ecca Group. Most of the groundwater flow will be along the fracture zones that occur in the relatively competent host rock. The geology map does not indicate any major fractures zones in this area, but from experience it can be assumed that numerous major and minor fractures do exist in the host rock. These conductive zones effectively interconnect the strata of the Karoo sediments, both vertically and horizontally into a single, but highly heterogeneous and anisotropic unit.

Aquifers associated with coal seams

The coal seam forms a layered sequence within the hard rock sedimentary units. The margins of coal seams or plastic partings within coal seams are often associated with groundwater. The coal itself tends to act as an aquitard allowing the flow of groundwater at the margins.

Aquifers associated with dolerite intrusives

Dolerite intrusions in the form of dykes and sills are common in the Karoo Supergroup, and are often encountered in this area. These intrusions can serve both as aquifers and aquifuges. Thick, unbroken dykes inhibit the flow of water, while the baked and cracked contact zones can be highly conductive. These conductive zones effectively interconnect the strata of the Ecca sediments both vertically and horizontally into a single, but highly heterogeneous and anisotropic unit on the scale of mining. These structures thus tend to dominate the flow of groundwater. Unfortunately, their location and properties are rather unpredictable. Their influence on the flow of groundwater is incorporated by using higher than usual flow parameters for the sedimentary rocks of the aquifer.

Unsaturated zone

Although a detailed characterization of the unsaturated zone is beyond the scope of this study, a brief description thereof is supplied.

The unsaturated zone in the proposed mining area is in the order of between 1 and 20 meters thick and consists of

colluvial sediments at the top, underlain by residual sandstone/siltstone/mudstone of the Ecca Group that becomes less weathered with depth.

According to the Parsons Classification system, the aquifer could be regarded as a minor aquifer system, but also a sole aquifer system in some cases where groundwater is the only source of domestic water.

8.8 SENSITIVE LANDSCAPE

Wetlands are sensitive landscapes under statuary protection, and such must not be cultivated, overgrazed or mined. The presence of wetlands within the proposed mining area needs to be assessed and their status determined which will give the applicant and the authorities the pre-mining conditions of the wetlands. To this extent, a wetland specialist will be appointed to conduct a wetland assessment for the proposed project area.

8.9 AIR QUALITY

Potentially air pollution from human activities may arise as a result of particulates entering the atmosphere. The sources of air pollution from human activities comprise of three broad categories i.e., stationary sources (agriculture, mining, quarrying, manufacturing, mineral products, industries and power generation), community sources (homes or buildings, municipal waste and sewage sludge incinerators, fireplaces, cooking facilities, laundry services and cleaning plants) and mobile sources combustion-engine vehicles and fugitive emissions from vehicle traffic). Air pollutants are generally classified into suspended particulate matter (dust, fumes, mists and smokes), gaseous pollutants (gases and vapours) and odours.

Assessment of the proposed mining right area has determined that all three categories of air pollution sources are found at the proposed area.

8.10 SITES OF ARCHAEOLOGICAL AND CULTURAL INTEREST

A study will be conducted by a suitably qualified specialist to confirm if there are any sites of archaeological and cultural interest found within the proposed mining area.

8.11 SOCIO-ECONOMIC STRUCTURE

The proposed project is situated in the Victor Khanye Local Municipality part of the Nkangala District Municipality, which is one of the three districts in Mpumalanga province. The Victor Khanye Local Municipality is situated in Mpumalanga province, within the Nkangala District Municipality. It is in the Western Highveld of the Nkangala District Municipality.

Population density, growth and location

The total population of Victor Khanye Local Municipality is approximately 75 452 persons, which amounts to 5,8% of the total Nkangala District Municipality population of 1 308 129 and 1,8% of the Mpumalanga province population of 4039 939.

The Victor Khanye Local Municipality has a growth rate of 2,92%.

The racial make up of the above-mentioned local municipality is as follows: Black Africans Constitutes of 82,3% of the total population, whereas White people constitute of 16% of the total population in the Municipality, with Coloured people and Indian or Asian people constituting of the remaining percentage that make-up the entire racial composition

Major economic activities and sources of employment

Farming is the most dominant economic activity in Victor Khanye Local Municipality, occupying approximately 60% of the total physical area. However, in terms of output and proportional contribution

to the local economy, the largest sector is trade, followed by agriculture and mining sectors. (Stats SA, 2011).

9 DESCRIPTION OF ENVIRONMENTAL ISSUES AND POTENTIAL IMPACTS

This section will only highlight anticipated impacts from the proposed Rietkol Colliery. This impact assessment is informed by the typical known impacts from the area and for the type of activities that will be undertaken. A more detailed impact assessment for the preferred site layout will be outlined in the draft EIR and EMPr. Potential impacts will arise during and after the operation of the proposed project activities, which include the four phases of mining i.e., Construction phase, Operational phase, Decommissioning phase and Closure phase (Residual Impacts).

The following positive and negative environmental impacts that are likely to be caused by the proposed mining and associated surface infrastructures for the proposed Rietkol Colliery were identified.

9.1 CONSTRUCTION PHASE

During the construction phase, the following activities, which are likely to have a detrimental effect on the environmental, social and cultural aspects will be conducted:

- Construction of mine surface infrastructure (offices, workshops, access/haul roads, and other related mining infrastructure);
- Construction of crushing and screening plant
- Excavation of an initial box-cut;
- Preparation and formation of the topsoil, subsoil and overburden stockpiling areas;
- Preparation of R.O.M. stockpiling area;
- Construction of water management facilities

Topography

The construction of the mine surface infrastructure, R.O.M. and overburden stockpiles and pollution control dam and the excavation of the initial box cut will form topographical highpoints and topographical voids, which will have an impact on the topography of the proposed mining area. This will change the drainage patterns of the affected areas.

Soils

All construction phase activities will result in the stripping of the topsoil, which will result in the disruption of the soil profile within the mining areas. The stockpiling of the topsoil may result in the topsoil being leached out. The stockpiling of overburden material will result in the compaction of the topsoil layer, which will affect the fertility of the soil on which the stockpiles are placed.

Land Use

As described above, the area is predominantly used for crop production and limited grazing. All construction phase activities will result in the land use changing from the above-mentioned land uses

to the mining land use. Note that the impacts during the construction phase will be limited to the initial box cut and infrastructure areas, hence will be less when compared to the operational phase. The construction phase may have impacts on the surrounding land uses, which will be determined during the EIA phase.

Land capability

All construction phase activities will result in the reduction of the land capability through disruption of soil profile.

Natural vegetation

The stockpiling of topsoil may result in the covering of the natural vegetation, which will in turn result in the loss of the vegetation. The construction phase activities on virgin ground will result in the removal of the topsoil layer, which will result in removal of vegetation cover. All mining activities will result in the removal of soils, which in turn, will result in loss of vegetation cover.

Animal Life

All construction phase activities will result in the migration of animals away from the proposed mining area. Disruption of the topsoil profile may also lead to loss of animal burrows/microhabitats.

Surface water

The activities undertaken during the construction phase will result in the formation of voids, which will decrease surface water runoff within the mine-affected catchments. Exposure of soils may lead to increased silt loads in surface water runoff. Rainfall captured within the pit will be exposed to carbonaceous material, resulting in elevation of some chemical components of the water. This water may impact negatively on the surface water of streams, if released.

Groundwater

Note that during the construction phase no extensive mining operations and related activities will be undertaken, hence the mining operation will not have a significant influence on the groundwater. Oil and diesel spillages from earthmoving equipment/diesel tanks/workshop areas may contaminate groundwater. It is however not expected that the activities would impact on the groundwater significantly. In view of the above no significant impacts on groundwater are predicted during the construction phase.

Air Quality

Movement of mining machinery will generate dust and diesel fumes. Dust will be generated by wind blowing over exposed soils. Blasting will also generate dust. This dust may have high concentration of coal, which may be harmful to employees, nearby residents, vegetation and may affect the land use

of adjacent properties. These activities will have an impact on the air quality within and around the proposed mining area.

Visual Aspects

The mine activities will be visible from the surrounding farms and the nearby roads. The visibility of the mine may have visual impacts on the surrounding properties.

Noise

Machine operators in close proximity to mine machinery will be exposed to noise levels in excess of 85 dBA. Noise generated from the site may affect the neighbouring property owners and occupiers.

Social Aspects

Commencement of mining activities may result in the following i.e., Creation of jobs in the Delmas and surrounding areas, Development of mine employees in terms of skills and career development, injection of capital into the local/regional economy, support of the infrastructure development, community development and poverty eradication projects. It must however be noted that the social well-being of the community within and adjacent to the proposed mining area will be affected by the commencement of the mine.

9.2 OPERATIONAL PHASE

The following activities, which may impact on the health of people and the environment, will occur at the proposed Rietkol Colliery during the operational phase:

- Systematic removal of the coal seams by means of opencast mining method;
- Crushing and screening of coal
- Stockpiling and transporting of R.O.M material;
- Disposal of mine affected water into the pollution control facilities; *and*
- Use of the mine surface infrastructure.

The activities listed above are likely to have a detrimental effect on the following environmental/social aspects:

Topography

Removal of coal by the opencast mining method and the stockpiling of coal at the coal stockpile area will result in the formation of voids and highpoints which will impact on the topography of the proposed mining area and its surrounds. The presence of the overburden stockpiles and the mine surface infrastructure will change the topographical features within and around the proposed mining area.

Soils

Removal of the target coal during the operational phase will require that the overburden, which includes the top, subsoil and hards layers, be removed for access to the coal. The above, will result in the disturbance of above-mentioned layers, which will have an impact on the physical and chemical structure of the soil layers, which will in turn have impacts on the animal life and vegetation cover of the affected area. The use of mine machinery may have impacts on the soils due to leaking hydrocarbon fluids. Spillages of coal from the tipper and haulage trucks will cause areas not affected by the mining operation to be contaminated, resulting in the contamination of the soils within those areas.

Land capability

All operational phase activities will result in the reduction of land capability as a result of disruption of soil profiles.

Land Use

As described in the construction phase, the land use will change from crop production, residential, livestock drinking and grazing to mining. Except for the area demarcated for mining, no additional areas will be impacted on by the proposed mining operation.

Natural Vegetation

The systematic removal of the coal by opencast mining methods will result in the removal of soil layers, which will in turn result in loss of vegetation. The above will have an impact on the natural vegetation over the opencast mining areas and indirectly to the animal life, if any, within the affected areas.

Animal Life

The removal of the coal by opencast mining methods will result in the loss of animal burrows/microhabitats due to disruption of the soil profile and stripping of vegetation. This will result in the migration of animals away from the proposed mining area.

Surface water

Removal of coal by opencast mining methods will result in the formation of a void, which will result in loss of MAR within the streams draining from the proposed mining area. Runoff from the upslope area may enter the opencast workings and other dirty water areas, giving rise to an increased loss of potential surface water runoff.

Sensitive landscapes

The erosion and/or sedimentation of the seasonal wetland as a result of poor storm water management. This may result in alien vegetation encroachment within the surrounding wetland.

Groundwater

Seepage from the pollution control dam may enter the groundwater table, resulting in pollution of the aquifer.

Note however, that a Geohydrological study will be undertaken to determine the extent of the anticipated impacts on groundwater.

Air Quality

During the operational phase of the proposed mining operation, mine machinery movement may result in air pollution due to dust and diesel fumes generated. These air pollutants will have a tendency to travel towards the prevailing wind direction, which may cause settling of dust particles on the surrounding properties. Operators close to the mine machinery may also be affected by the dust generated. Note however that dust and fuel particulates tend to attenuate within approximately 500 meters. This situation may however differ in situations where wind speed is stronger than usual.

Dust will also be generated during blasting and will travel a longer distance compared to dust generated by blowing winds and machinery movements, hence the impact on air quality will cover a larger area.

Depending on the prevailing wind direction the landing of dust and fuel particulates on the surrounding properties may affect the vegetation of the land, which may include the cultivated lands.

Wind blowing over exposed soils will generate dust. These activities will have an impact on the air quality within and around the proposed mining area.

Noise

Noise will be generated from mine machinery and blasting, which may be a nuisance to the nearby residents. Noises generated by mine machinery tend to attenuate to allowable levels within approximately five hundred meters. Operators close to the mine machinery may also be affected by the noise generated.

Visual Aspects

All surface activities will be visible from a certain distance from the mine. Dust generated from the mine may be visible from a certain distance from the mine. The potential visual impact sites will include the nearby town Delmas and several roads. All potential visual impact sites will be identified and discussed in the EIA report.

Regional Socio-Economic Structure

The commencement of the proposed Rietkol Colliery will have a positive impact on the socio-economic structure by creating employment both directly and indirectly through the multiplier effect and by uplifting the economic levels of the surrounding areas through the implementation of the local economic development projects (Social and Labour Plan).

Interested and Affected Parties

All interested and affected persons will be identified and consulted during the environmental impact assessment. Through this consultation all concerns will be recorded and measures to address the concerns identified. During the operational phase the mine will continue to apply an open-door policy with the public, hence the public will have access to the mine and documentation through relevant channels. Any concerns/complaints raised by any Interested and Affected Party will be considered and suitably addressed in a prompt manner.

9.3 DECOMMISSIONING PHASE

The decommissioning phase is taken to begin once all economically exploitable coal reserves have been extracted. The following activities, which may impact on the health of people and the environment

and are associated with the proposed project, will occur at the proposed Rietkol Colliery during the decommissioning phase:

- Removal of all mining related infrastructure;
- Ripping of all infrastructure areas;
- Demolition of crushing and screening plant
- Filling of the final void and final shaping of the rehabilitated opencast pit;
- Rehabilitation of all R.O.M/product coal stockpiling area and haul/access roads;
- Rehabilitation of the dirty water management facilities; and
- Seeding of ripped and rehabilitated surfaces.

The activities listed above are likely to have a detrimental effect on the following environmental/social aspects:

Topography

The removal of infrastructure and filling of voids will re-instate the topography of the area, hence a positive impact will result.

Soils, land capability and use

Removal of the carbonaceous layer from the R.O.M stockpiling area, ripping and rehabilitating of all haul roads and seeding of ripped and rehabilitated surfaces will re-instate the soils, land use and land capability. The above will result in a positive impact.

Natural vegetation

Seeding of ripped and rehabilitated surfaces will re-instate the natural vegetation of the area, hence a positive impact will result.

Animal life

Depending on the final land use, the general rehabilitation of the disturbed areas will see animal life migrating back to the area.

Surface water

Rehabilitation and shaping of the disturbed areas and removing of the pollution control facilities and diversion trenches/berms will result in the re-establishing of the surface water run-off patterns.

Groundwater

No additional impacts on the groundwater of the study area other than the impacts discussed in the operational phase are expected during the decommissioning phase of the project.

Air quality

Removal of the carbonaceous layer from the R.O.M stockpiling area, ripping and rehabilitating of all haul roads and seeding of ripped and rehabilitated surfaces will result in the generation of dust. Wind blowing over exposed areas will also result in the generation of dust. In view of this, the generation of dust during the decommissioning phase will impact on the air quality of the area.

Noise

Movement of mining machinery during this phase of mining due to the rehabilitation work being conducted will generate noise. Machine operators and other employees in close proximity to mine machinery will be exposed to noise levels in excess of 85 dBA.

Visual aspects

All mine surface activities during this phase of mining will be visible from a certain distance from the mine. Dust generated from the mine may be visible from a certain distance from the mine. The potential visual impact sites will include the nearby town and several farm roads.

I**nterested and affected parties**

All interested and affected persons would have been identified and consulted during the environmental impact assessment. Through this consultation all concerns will be recorded and measures to address the concerns identified. During the decommissioning phase the mine will continue to apply an open-door policy with the public, hence the public will have access to the mine and documentation through relevant channels. Any concerns/complaints raised will be addressed promptly.

9.4 DESCRIPTION OF THE PROPOSED METHOD OF ASSESSING THE ENVIRONMENTAL ASPECTS

The following prediction and evaluation of impacts is based on the proposed activities to be conducted at the proposed development area.

The evaluation distinguishes between significantly adverse and beneficial impacts and allocates significance against national regulations, standards and quality objectives governing:

- Health & Safety;
- Protection of Environmentally Sensitive Areas;
- Land use; and
- Pollution levels.

Irreversible impacts are also identified.

The significance of the impacts is determined through the consideration of the following criteria:

Probability	:	likelihood of the impact occurring
Area (Extent)	:	the extent over which the impact will be experienced.
Duration	:	the period over which the impact will be experienced.
Intensity	:	the degree to which the impact affects the health and welfare of humans and the environment (includes the consideration of unknown risks, reversibility of the impact, violation of laws, precedents for future actions and cumulative effects).

The above criteria are expressed for each impact in tabular form according to the following definitions:

Probability (P)	Definition
Low	There is a slight possibility (0 – 30%) that the impact will occur.
Medium	There is a 30 –70% possibility that the impact will occur.
High	The impact is definitely expected to occur (70% +) or is already occurring.
Area/Extent (E)	**Definition**
Small	0 – 40 ha
Medium	40 – 200 ha
Large	200 + ha
Duration (D)	**Definition**
Short	0 – 5 years
Medium	6 – 25 years
Long	26 – 100 years or impact cease after operational life of project
Permanent	101 + years
Intensity (I)	**Definition**
Low	Does not contravene any laws. Is within environmental quality standards, thresholds, targets or objectives. Will not constitute a precedent for future actions. Effects observable and is reversible with time without human intervention. Will not result in the loss of irreplaceable resources or will result in the loss of least concerned resourced. Will have a slight impact on the health and welfare of humans or the environment.
Medium	Does not contravene any laws. Will not constitute a precedent for future actions. Is not within environmental quality standards, thresholds, targets or objectives. Effects observable and is reversible through rehabilitation or human intervention. Will result in the loss of irreplaceable resources (Vulnerable and Near Threatened).

	Will have a moderate impact on the health and welfare of humans or the environment.
High	Contravene laws. May constitute a precedent for future actions. Is not within environmental quality standards, thresholds, targets or objectives. Extensive effects – irreversible alteration to the environment. Will result in the loss of irreplaceable resources (Endangered or critically endangered). Will have a significant impact on the health and welfare of humans or the environment.

Significance and Risk Category (S)	Definition
Negligible	The impact/risk is insubstantial and does not require management
Low	The impact/risk is of little importance, but requires management
Medium	The impact/risk is important; management is required to reduce negative impacts to acceptable levels
High	The impact/risk is of great importance, negative impacts could render options or the entire project unacceptable if they cannot be reduced or counteracted by significantly positive impacts, and management of these impacts is essential
Positive (No risk identified)	The impact, although having no significant negative impacts, may in fact contribute to environmental or economical health

9.5 POSITIVE AND NEGATIVE IMPACTS FROM THE PROPOSED ACTIVITY

See section 9.1 for the description of impacts from the proposed activity, which include impacts from the alternative site.

9.6 POSSIBLE MITIGATION MEASURES THAT COULD BE APPLIED

Mitigation measures that could be applied have been detailed in section 9.1 under the impact assessment.

10 PLAN OF STUDY

10.1 DESCRIPTION OF ALTERNATIVES TO BE CONSIDERED AS PART OF THE ENVIRONMENTAL IMPACT ASSESSMENT

Based on the outcomes of the alternatives measured in the draft Scoping Report, no alternatives will be considered as part of the Environmental Impact Assessment.

The option of not proceeding with the proposed Rietkol Colliery was assessed in this draft Scoping Report. However, during the EIA phase, consultation with Interested and Affected Parties and studies undertaken will be considered when investigating the option of not proceeding with the proposed project.

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

The purpose of an EIA is to provide adequate and appropriate information about the potential positive and negative impacts of a proposed development and associated management actions. This process cannot be undertaken by the EAP alone. The use of relevant specialists in the environmental assessment process adds value into the process and ensures that enough information is supplied, which will assist in addressing key issues and concerns, and allows for an informed decision-making for the proposed project.

Through the pre-application planning, screening and scoping for the proposed project, all issues that may arise from the proposed project were identified. Based on the issues, identified data must be obtained in order to determine whether the issues will affect the environment and what measures must be undertaken to manage the issues. In view of the above, specialist studies were identified in order to address the above. In addition to the above and since it is a requirement for the submission of the NEMA IEA application, an Environmental Screening Tool Report for the proposed project was generated from the national web based Environmental Screening Tool, which identified environmental sensitivities for the proposed project area, refer to **Appendix D**. Based on the identified environmental sensitivities of the project area, a list of specialist assessments was identified for inclusion in the environmental impact assessment.

Based on the environmental screening tool report, a list specialist assessment must be undertaken for the proposed project. Note that the specialist assessments identified were based on a very high and high environmental sensitivities. Below is the list of the specialist assessments that were identified i.e.:

- Agricultural Impact Assessment
- Landscape/Visual Impact Assessment
- Archaeological and Cultural Heritage Impact Assessment
- Palaeontology Impact Assessment
- Terrestrial Biodiversity Impact Assessment

- Aquatic Biodiversity Impact Assessment
- Hydrology Assessment
- Noise Impact Assessment
- Traffic Impact Assessment
- Geotechnical Assessment
- Climate Impact Assessment
- Socio-Economic Assessment
- Ambient Air Quality Impact Assessment
- Plant Species Assessment
- Animal Species Assessment
- Radioactivity Impact Assessment
- Health Impact Assessment

10.3 DESCRIPTION OF THE PROPOSED METHOD OF ASSESSING THE ENVIRONMENTAL ASPECTS

The methods for assessing environmental aspects as detailed under section 9.4 of this report will be used during the environmental impacts phase of the proposed project.

10.4 STAGES AT WHICH THE COMPETENT AUTHORITY WILL BE CONSULTED

The competent authority will be consulted on submission of the draft and final SR, which will be submitted to include comments received from I&APs. On acceptance of the final SR, a draft EIR/EMPr will be compiled. After consultation with I&APs, including the competent authority, the final EIR/EMPr will then be submitted to the competent authority including comments (if any) received from I&APs.

10.5 PARTICULARS OF PUBLIC PARTICIPATION PROCESS TO BE FOLLOWED WITH REGARD TO THE ENVIRONMENTAL IMPACT ASSESSMENT

10.5.1 Details of Engagement Process to be followed

The draft EIR/EMPr will be made available for comment to all registered and potential I&APs during the EIA phase of the proposed Rietkol Colliery.

The following methods of notification will be used to notify the registered and potential I&APs of the opportunity to comment on the draft EIR/EMPr during the public participation process for the proposed project:

- Written notices inviting comments on the draft EIR/EMPr will be sent to all I&APs.
- Advertisements inviting potential I&APs to comment on the draft EIR/EMPr will be placed in

Streeknuus News.

- The draft EIR/EMPr will be submitted to commenting authorities.
- A copy of the draft EIR/EMPr will be placed at Delmas public library

10.5.2 Description of Information to be provide to the Interested and Affected Parties

The following information will be provided to the I&APs:

- The site plan (mining and surface layout plan for the proposed project);
- List of activities to be authorised. This will include the scale and extent of activities to be authorised;
- Typical impacts of activities to be authorised. Environmental studies have been undertaken and will be revised where necessary to include comments from the I&APs. These studies were and will be used for the compilation of the SR and the EIR/EMPr, respectively. These reports, which will determine the predicted impacts associated with the proposed project on the environmental aspects will be provide to the I&APs;
- The duration of the activity applied for will be provided; and
- Sufficient detail of the intended operation to enable the I&APs to assess what impact the proposed project will have on them will be provided to the I&APs.

10.6 Description of the Tasks to be Undertaken During the Environmental Impact Assessment Process

10.6.1 Approach to Environmental Impact Assessment

The term 'environment' is used in the broadest sense in an EIA. It covers the physical, biological, social, economic, cultural, historical, institutional and political environments.

An EIA is a good planning tool. It identifies the environmental consequences of a proposed project from the beginning and helps to ensure that the project, over its life cycle, will be environmentally acceptable and integrated into the surrounding environment in a sustainable way.

10.6.2 Environmental Impact Assessment Process Followed

Under Section 24 of the NEMA, the Minister promulgated the regulations pertaining to environmental impact assessments (EIA Regulations, 2014) under Government Notice R326 in Government Gazette 38282 of 4 December 2014. These EIA regulations repealed the 2010 EIA regulations and therefore any process relating to environmental authorisations must be undertaken under the EIA Regulations, 2014.

Chapter 4 of the EIA Regulations, 2014 deals with the provisions for application for environmental authorisation. In view of the above, Trentra (Pty) Limited is obliged to comply with provisions of Chapter 4 for the intended IEA application for the identified activities of the proposed Rietkol Colliery.

Part 3 of Chapter 4 of the EIA Regulations, 2014, contemplate process to be undertaken for the application for IEA for the proposed Rietkol Colliery, which is the S & EIR process. The process to be followed is describe below.

Application to the Competent Authority

In terms of section 24 of the National Environmental Management Act, 1998 (Act 107 of 1998), the Minister responsible for mineral resources and energy is the competent authority for environmental matters relating to mining and associated activities. In view of the above, the application for the IEA for the proposed Rietkol Colliery was submitted to the DMRE, eMalahleni Regional Office for their consideration and decision making.

Scoping Phase

According to Regulation 21 of the EIA Regulations, 2014, a SR must be submitted to the competent authority within 44 days after the submission of the IEA application. The 44 days period from the date of submission of the IEA application will expire on the 10th of November 2021. On submission, the competent authority will evaluate and accept or reject the SR.

As part of the public participation, the draft SR was made available to the competent authority, potential and registered I&APs for their comment from the 27th of January 2023 to 27th of February 2023 for thirty (30) days.

EIA Phase

In compliance with Regulation 23 of the EIA Regulations, 2014, an EIR/EMPr will be submitted to the competent authority within 106 days after the acceptance of the SR.

As part of the public participation, the draft EIR/EMPr will be made available to the competent authority, potential and registered I&APs for their comment for a period of not less than 30 days during the EIA phase.

Decision on the S&EIR application

In compliance with Regulation 24 of the EIA Regulations, 2014, the competent authority will within 107 days of receipt of the EIR/EMPr grant or refuse the environmental authorisation.

Information Gathering

Environmental baseline data has been obtained through various agencies, pertaining to surface water quantities and qualities, geohydrological data and modelling, topographical analyses, soil surveys, vegetation surveys, wetland surveys, heritage, climate and geological conditions. Historic land use was determined through available data and by visual observations made during various field studies. The data accumulated and analysed is sufficient to gain a baseline indication of the present state of the environment. The use of this baseline study for impact assessments is thus justified and reliable conclusions could be made.

The specialist studies will be conducted and will be referenced during the compilation of the EIR/ EMPr

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

Please refer to section 9.1 for the typical measures that will be undertaken to reduce the severity of the predicted impacts on the environmental aspects. Please note that more detailed measures to avoid, reverse, mitigate or manage the impacts to be identified during the EIA phase will be provided in the draft and final EIR/EMPr for the proposed Rietkol Colliery.

11.UNDERTAKING

Herewith I, the person whose full names is stated below, confirm that I am the EAP authorised to act as representative of Geovicon Environmental (Pty) Limited, the company commissioned by the applicant in terms of Regulation 12 of the EIA Regulations, 2014 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), and confirm that:

- The above report is compiled with all relevant available information pertaining to the proposed project.
- All relevant stakeholders and I&APs were consulted and any comments received were included in the compilation of this report.
- Any responses provided to I&APs by the EAP is included in this report.
- The plan of study for the proposed project is included in this report and was provided to all I&APs to ensure that they are aware and agree to the plan of study for undertaking the Environmental Impact Assessment.

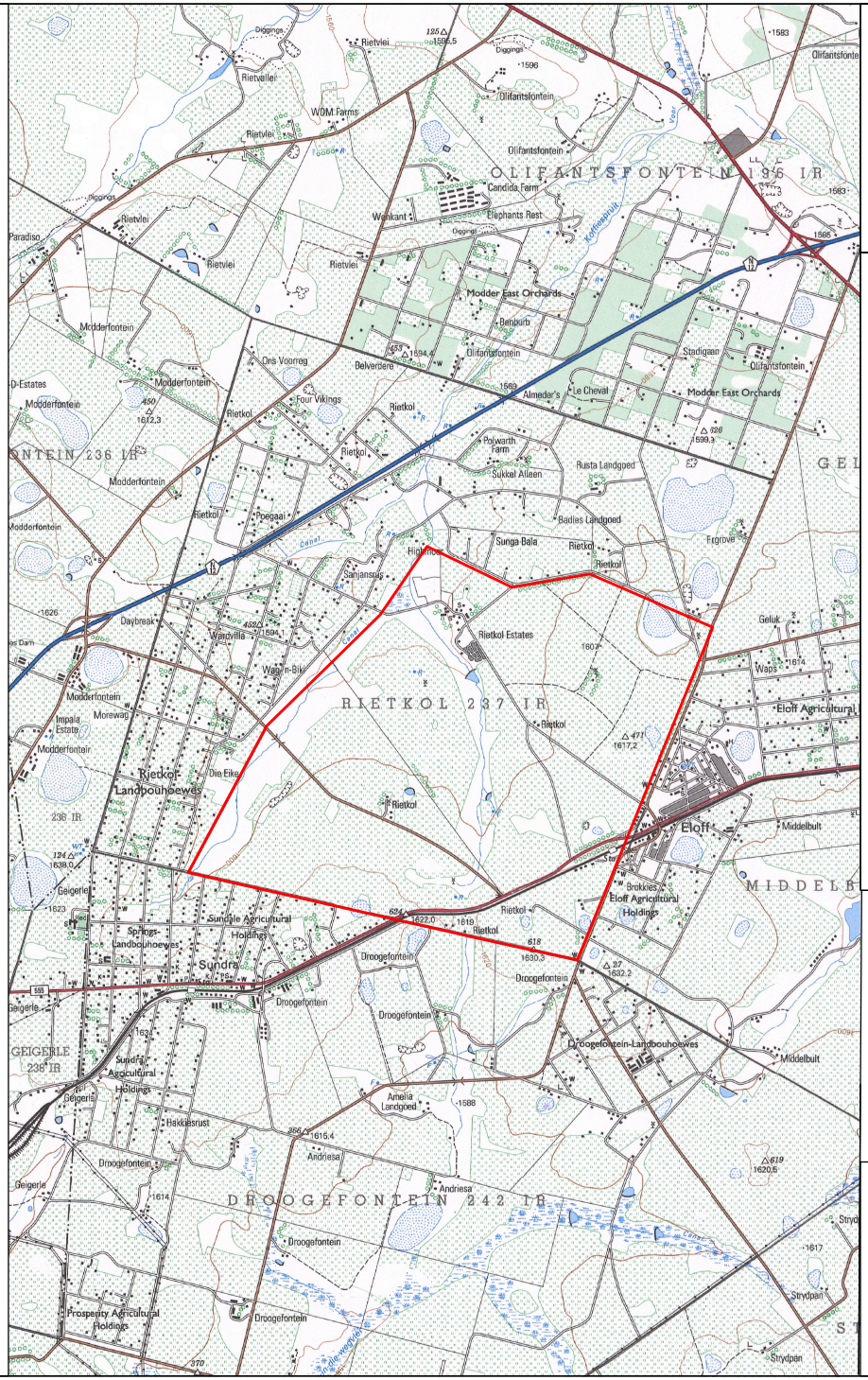
Full Names and Surname	Tshepo Ornassis Shakwane
Date	27/01/2023
Signature	

Appendix A

Regulation 2 (2) plan

MINING RIGHT CO-ORDINATES WG 29°

POINTS	LAT/LONG
1	26,1745495°S; 28,546076°E
2	26,1585496°S; 28,5556571°E
3	26,1518098°S; 28,5633388°E
4	26,1464349°S; 28,5694662°E
5	26,1389728°S; 28,5751769°E
6	26,143473°S; 28,5854825°E
7	26,1420329°S; 28,5948908°E
8	26,1479081°S; 28,6097805°E
9	26,1775162°S; 28,5963002°E
10	26,1815249°S; 28,5944711°E
11	26,1824309°S; 28,5940585°E
12	26,1842601°S; 28,5932258°E
13	26,1828961°S; 28,586542°E
14	26,1815561°S; 28,5798323°E
15	26,1814484°S; 28,5794407°E
16	26,1799204°S; 28,5719517°E
1	26,1745495°S; 28,546076°E



TRENTRA (PTY) LTD
REG NO. 2017/540167/07

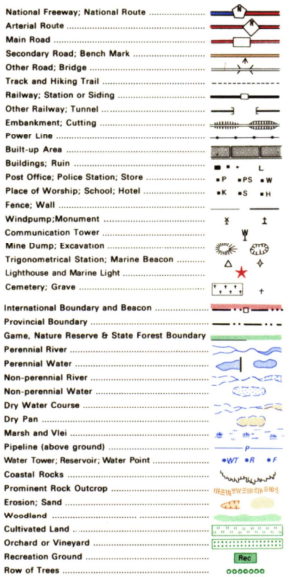
APPLICATION FOR MINING RIGHT

Plan compiled in accordance with
Regulation 2(2) of the Mineral & Pretroleum
Resources Development Act 2002
(ACT 28 of 2002)

Scale 1 : 2 200

LEGEND

MINING RIGHT AREA



The figure lettered 1-15 AND 1 represent a Mining Rights area in extent
of approximately 2741.49ha, comprising of portion 5,6,9,85,87,90,99
and Remaining extent
of the farm RIETKOL 237 IR, in the Magisterial
district of DELMAS for which TRENTRA (PTY) LTD REG NO. 2017/540167/07
has applied for a mining right in terms of Section 16 of the
Mineral and Petroleum Resources
Development Act, 2002, (Act 28 of 2002),
but subject to Regulation 17 of the Mine Health and Safety Act, 1996
(Act 29 of1996), excluding any area within 100 meters
of any public road, railway, cemetery, residential area or public area.

SIGNED: .....
REGIONAL MANAGER
MPUMALANGA PROVINCE

SIGNED: .....
TRENTRA (PTY) LTD
REG NO. 2017/540167/07

XAKWA
TECHNICAL SERVICES

Contact : 012 472 0328
Email : info@xakwa.com
tiisetso@xakwa.com

Address : 175 Corobay
Waterkloof Glen
0010

Appendix B

EAP’s curriculum vitae

CURRICULUM VITAE

ORNASSIS TSHEPO SHAKWANE (TSHEPO)

PERSONAL DETAIL

ID: 7207085407082

ADDRESS: **68 Pongola Drive**
Aerorand West, Middelburg
Mpumalanga

CONTACT: 013 243 0542 / 082 498 1847

E-MAIL: tshepo@geovicon.co.za

CAREER SUMMERY

2004 TO CURRENT: Geovicon Environmental (Pty) Ltd previously Geovicon (Pty) Ltd – Environmental Assessment Practitioner, Owner and Managing Director

As an environmental assessment practitioner I assist my clients to ensure that their operations complies with the external (international, national and local government) and internal environmental requirements. The following are the responsibilities of an environmental manager: developing and implementing environmental strategies and action plans that ensure compliance with the environmental laws; coordinating all aspects of pollution control, waste management, recycling, environmental management, conservation and renewable energy; ensuring the implementation of environmental policies and practices; ensuring compliance with environmental legislation and keeping up to date with new regulations and legislation; liaising with relevant bodies such as state authorities and the public; auditing, analysing and reporting environmental performance to internal personnel and regulatory bodies; development of applications for enviroenntal authorisations, water use licences, waste management licences and atmospheric air emissions licences; carrying out impact assessments to identify, assess and reduce the mine's environmental risks and financial cost; promoting and raising awareness of the impact of environmental issues; developing and implementing environmental management systems to continually improve the impact of the organisation on the environment; coordinating public meetings and consultations on environmental matters; managing relations with clients (board of directors, senior management and internal staff); training staff at all levels in environmental issues and responsibilities; writing environmental reports.

2004: Department of Minerals and Energy, eMalahleni Regional Office - Assistant Director

Evaluate Environmental Impact Assessment reports, Basic Assessment reports, Scoping reports, Environmental Management Programmes/Plans, Closure plans and other technical and Environmental documents. Recommend approval of the Environmental Management Programmes Conduct comprehensive environmental Inspection and environmental audits in line with Minerals Act, 1991 and related regulations. Identify environmental liabilities for mining operations and ensure evaluation of adequacy of financial provision. Investigate and resolve mine environmental related issues, attend to environmental related queries and complaints in mines. Assist public clients through promotion of administrative justice, Environmental, enforcement and investigate illegal mining. Participate in Environmental related forums and meetings. Supervision and management of the subordinates

2002 – 2003: Department of Water Affairs and Forestry (Gauteng Regional Office), Pretoria - Senior Water Pollution Control Officer

Managing Water Quality issue in the Vaal River catchment area; Managing both industrial and mining impacts; reviewing Environmental Impact Assessments, Environmental Management Programmes and Integrated Water Use Licence Applications. Managing junior officers and being involved in policy making processes. Establishment of water quality monitoring network, water quality sampling, environmental compliance inspections, drafting of Water Use License Reports, Making recommendations on decisions to be taken on Environmental Impact Assessments, Environmental Management Programmes and Integrated Water Use Licence Applications and other technical reports.

2001 – 2002: Department of Agriculture, Conservation, Environment and Land Administration (Gauteng Provincial Office), Johannesburg - Environmental Control Officer

Managing the Environmental Impact Assessment authorization processes for industrial and urban development in the Gauteng province; conducting compliance monitoring in accordance with the environmental laws, attending to pollution incidents and investigating public complaints; providing technical support to the directorate during Policy formulation.

2000 – 2001: Department of Water Affairs and Forestry (Mpumalanga Regional Office), Nelspruit - Water Pollution Control Officer

Managing Water Quality issue in the Olifants River catchment area; Managing both industrial and mining impacts; reviewing Environmental Impact Assessments, Environmental Management Programmes and Integrated Water Use Licence Applications.

EDUCATION AND QUALIFICATIONS

B. Sc. (Hons): 1995

University of Durban-Westville

B. Sc.: 1994

University of Durban-Westville

MATRIC: 1991

Imemeza High school, Waterval Boven

PROFESSIONAL DEVELOPMENT

- Environmental Law for Environmental Management
- Environmental Impact Assessment for Practitioners
- Environmental Risk Assessment for Practitioners

PROFESSIONAL REGISTRATIONS

SOUTH AFRICAN COUNCIL FOR NATURAL SCIENTIFIC PROFESSIONS (SACNASP)

(117080)

INTERNATIONAL ASSOCIATION FOR IMPACT ASSESSORS SOUTH AFRICA (IAIASA)

(IAIASA 3847)

SKILLS

- Compilation of Integrated Water Use Licence Application
- Compilation of Integrated Water and Waste Management Plan
- Determination of Financial Provisions for Mines
- Compilation of Basic Assessment Reports
- Compilation of Scoping Reports
- Compilation of Environmental Impact/Risk Assessment Reports
- Compilation of Environmental Management Programme
- Compilation of Mine Closure Plans
- Compilation of Waste Management Plans and Procedures
- Compilation of Water Quality Reports
- Microsoft Word
- Microsoft Excel
- Microsoft PowerPoint
- Internet
- Email

Appendix C

Deeds Lists of the Direct Surface Owner

WinDeed Database D/O Property - List

IR, 237, A, PRETORIA

Lexis® WinDeed

Any personal information obtained from this search will only be used as per the Terms and Conditions agreed to and in accordance with applicable data protection laws including the Protection of Personal Information Act, 2013 (POPI), and shall not be used for marketing purposes.

SEARCH CRITERIA			
Search Date	2023/01/24 12:10	Farm Number	237
Reference	-	Registration Division	IR
Report Print Date	2023/01/24 12:11	Portion Number	A
Farm Name	-	Remaining Extent	NO
Deeds Office	Pretoria	Search Source	WinDeed Database

PORTION LIST

Portion	Owner	Title Deed	Registration Date	Purchase Price (R)
0	RIETKOL FARMING CO PTY LTD	T126131/2001	2001/11/08	2 000 000
1	TRANSNET LTD	T18846/1920	1920/12/28	-
2	RUSTIG LANDGOED PTY LTD	T14165/1960	1960/05/30	-
3	RIETKOL SMALL HOLDINGS PTY LTD	T4547/1940	1940/03/30	-
4	KATBOSCHFONTEIN VENTURES PTY LTD	T165662/2006	2006/12/08	290 000
5	UYS FRANCINA	T41254/1996	1996/05/20	ESTATE
6	BROOKFIELD INV 1 PTY LTD	T64452/1999	1999/06/08	650 000
7	GOUVEIA ELIAS HOMEM DE	T30521/1977	1977/10/20	-
8	LOFDAL TRUST	T17171/1998	1998/02/23	3 500
9	ROSSGRO BELEGGINGS 4 PTY LTD	T3182/2003	2003/01/17	2 300 000
10	** FOR INFO REFER TO REGISTRAR OF DEEDS **	REPLACED	-	-
11	** FOR INFO REFER TO REGISTRAR OF DEEDS **	REPLACED	-	-
12	PAVEMENT PROP PTY LTD	T115000/2007	2007/07/10	750 000
13	ROUX HERMANUS JOHANNES	T108087/2005	2005/08/25	250 000
14	VERMEULEN ANNA CECILIA	T57828/1988	1988/08/31	ESTATE
15	SNYMAN GERHARD	T83426/1995	1995/10/05	100 000
16	PRETORIUS PHILIP JACOB	T56804/1993	1993/07/26	80 000

PORTION LIST				
Portion	Owner	Title Deed	Registration Date	Purchase Price (R)
17	OU OPSTAL FAMILIE TRUST	T141993/2003	2003/10/28	280 000
18	OU OPSTAL FAMILIE TRUST	T141993/2003	2003/10/28	280 000
19	FOURIE MATTHYS JACOBUS	T156961/2006	2006/11/23	420 000
20	SMITH RODNEY	T87135/2005	2005/07/11	115 500
21	SNYMAN MARINDA	T1181/1992	1992/01/10	210 000
22	MEYER ERIC	T87444/2002	2002/07/24	145 000
23	FOUCHE GERHARD	T42970/1994	1994/06/17	110 000
24	NEL EDWIN	T137851/1997	1997/12/22	85 000
25	GREATOREX JAMES ROYDEN	T67667/1989	1989/10/04	55 000
26	MOSTERT NORMAN JIM	T96358/2004	2004/07/22	230 000
27	REID FARMING PROP CC	T14342/1989	1989/03/06	265 000
28	REID MARGARET ANNE	T17618/1978	1978/06/30	-
29	REID IVOR CLARENCE	T16494/1978	1978/06/23	-
30	HARVEY DEONIE NAOMIE	T81598/2003	2003/07/04	84 000
31	ROSSOUW CHRISTIAAN LE CORDEUR	T16617/1993	1993/03/02	275 000
32	BOTHA CORNELIUS JOHANNES	T31848/1989	1989/05/19	40 000
33	ANNANDALE PHILLIPUS JACOBUS	T133241/2003	2003/10/10	130 000
34	BLOM WILLIAM MORRIS	T829/1986	1986/01/10	72 000
35	LOUMAN FARM PROP CC	T1657/2004	2004/01/08	400 000
36	LOUMAN FARM PROP CC	T1657/2004	2004/01/08	400 000
37	TERBLANCHE PETRUS DIEDERICK	T148225/2003	2003/11/06	200 000
38	LOUMAN FARM PROP CC	T1657/2004	2004/01/08	400 000
39	PRETORIUS JAN CHRISTOFFEL	T22314/2006	2006/02/28	190 000
40	RUSTIG LANDGOED PTY LTD	T14165/1960	1960/05/30	-
41	RUSTIG LANDGOED PTY LTD	T14165/1960	1960/05/30	-
42	RUSTIG LANDGOED PTY LTD	T14165/1960	1960/05/30	-
43	BADENHORST ANNA JACOBA	T33186/1993	1993/05/04	40 000

PORTION LIST				
Portion	Owner	Title Deed	Registration Date	Purchase Price (R)
44	MATHIESON ERIC WILLIAM	T126587/2006	2006/09/29	1 380 000
45	LANGKILDE STANLEY	T110702/2007	2007/08/16	530 000
46	** FOR INFO REFER TO REGISTRAR OF DEEDS **	REPLACED	-	-
47	BLOM WILLIAM MORRIS	T829/1986	1986/01/10	72 000
48	LOUMAN FARM PROP CC	T1657/2004	2004/01/08	400 000
49	SOUSA MANUEL PEREIRA DE	T56073/1986	1986/12/05	75 000
50	HERBST ANDRIES JOZEFUS	T130693/2006	2006/10/06	220 000
51	SOUSA MANUEL PEREIRA DE	T45176/2003	2003/04/22	30 000
52	MOSTERT NORMAN JIM	T96359/2004	2004/07/22	100 000
53	MERWE HENDRIK LODEWYK VAN DER	T102944/2005	2005/08/15	85 000
54	NAUDE ELIZABETH JOHANNA	T49984/1989	1989/07/26	95 000
55	VILLA SANTO AMARO PROP CC	T74360/1998	1998/07/08	240 000
56	LOUMAN FARM PROP CC	T83549/1992	1992/09/09	110 000
57	POTGIETER ANNA JACOBA	T87644/2001	2001/08/16	140 000
58	BORRAGEIRO JOAO LUIS CONCALVES	T53264/1989	1989/08/07	40 000
59	BADENHORST ANNA JACOBA	T48338/1985	1985/11/28	25 000
60	LOUMAN FARM PROP CC	T69096/1994	1994/09/02	180 000
61	BADENHORST ANNA JACOBA	T48338/1985	1985/11/28	25 000
62	LOUMAN FARM PROP CC	T66831/1996	1996/07/26	350 000
63	LOUMAN FARM PROP CC	T66831/1996	1996/07/26	350 000
64	LOUMAN FARM PROP CC	T66831/1996	1996/07/26	350 000
65	SCORPIO FARMING CC	T83830/1994	1994/10/21	140 000
66	LOUMAN FARM PROP CC	T70909/2002	2002/06/14	140 000
67	** FOR INFO REFER TO REGISTRAR OF DEEDS **	REPLACED	-	-
68	** FOR INFO REFER TO REGISTRAR OF DEEDS **	REPLACED	-	-
69	SCHALKWYK GEORGE ERNEST VAN	T40419/1994	1994/06/09	250 000

PORTION LIST				
Portion	Owner	Title Deed	Registration Date	Purchase Price (R)
70	TRANSNET LTD	T13877/1971	1971/04/29	-
71	FOURIE JOSEPHUS	T10348/1979	1979/03/28	-
72	PLESSIS MARIA JOHANNA MARGARITA DU	T7086/1975	1975/03/05	-
73	** FOR INFO REFER TO REGISTRAR OF DEEDS **	REPLACED	-	-
74	GREEFF JOHANNES CHRISTOFFEL	T82090/1988	1988/11/30	170 000
76	UYS DANIEL ADRIAAN	T31212/2007	2007/03/08	485 000
77	TRANSNET LTD	T61907/1991	1991/09/17	EXPROPRIATION
78	TRANSNET LTD	T1933/1992	1992/01/16	EXPROPRIATION
81	STEYN ANNA JOHANNA SUSANNA	T32101/1997	1997/04/09	70 000
82	** FOR INFO REFER TO REGISTRAR OF DEEDS **	REPLACED	-	-
83	HERBST ANDRIES JOZEFUS	T87360/1998	1998/08/04	65 000
85	EVELEIGH FARMS CC	T34470/1999	1999/03/31	190 000
90	CHRIS ROSSOUW FAMILIE BELEGGINGS PTY LTD	T126130/2001	2001/11/08	4 250 000
91	RIETKOL FARMING CO PTY LTD	T126131/2001	2001/11/08	2 000 000
92	SINATRA PROP PTY LTD	T167608/2003	2003/12/10	1 170 000
93	SOUTH AFRICAN NATIONAL ROADS AGENCY LTD	T25289/2002	2002/03/07	EXPROPRIATION
95	SOUTH AFRICAN NATIONAL ROADS AGENCY LTD	T4135/2002	2002/01/16	-
97	SOUTH AFRICAN NATIONAL ROADS AGENCY LTD	T50833/2002	2002/05/07	VESTING
99	WEIDEMAN JACOB PHILIP	T2887/2007	2007/01/09	495 000

Appendix D

National Web Based Environmental Screening Tool Report

SCREENING REPORT FOR AN ENVIRONMENTAL AUTHORIZATION AS REQUIRED BY THE 2014 EIA REGULATIONS – PROPOSED SITE ENVIRONMENTAL SENSITIVITY

EIA Reference number: MP 30/5/1/2/2/10370 MR

Project name: Rietkol Colliery Scoping Report

Project title: Rietkol Colliery Scoping Report

Date screening report generated: 26/01/2023 07:06:18

Applicant: Trentra (Pty) Limited

Compiler: Geovicon Environmental (Pty) Limited

Compiler signature:

.....

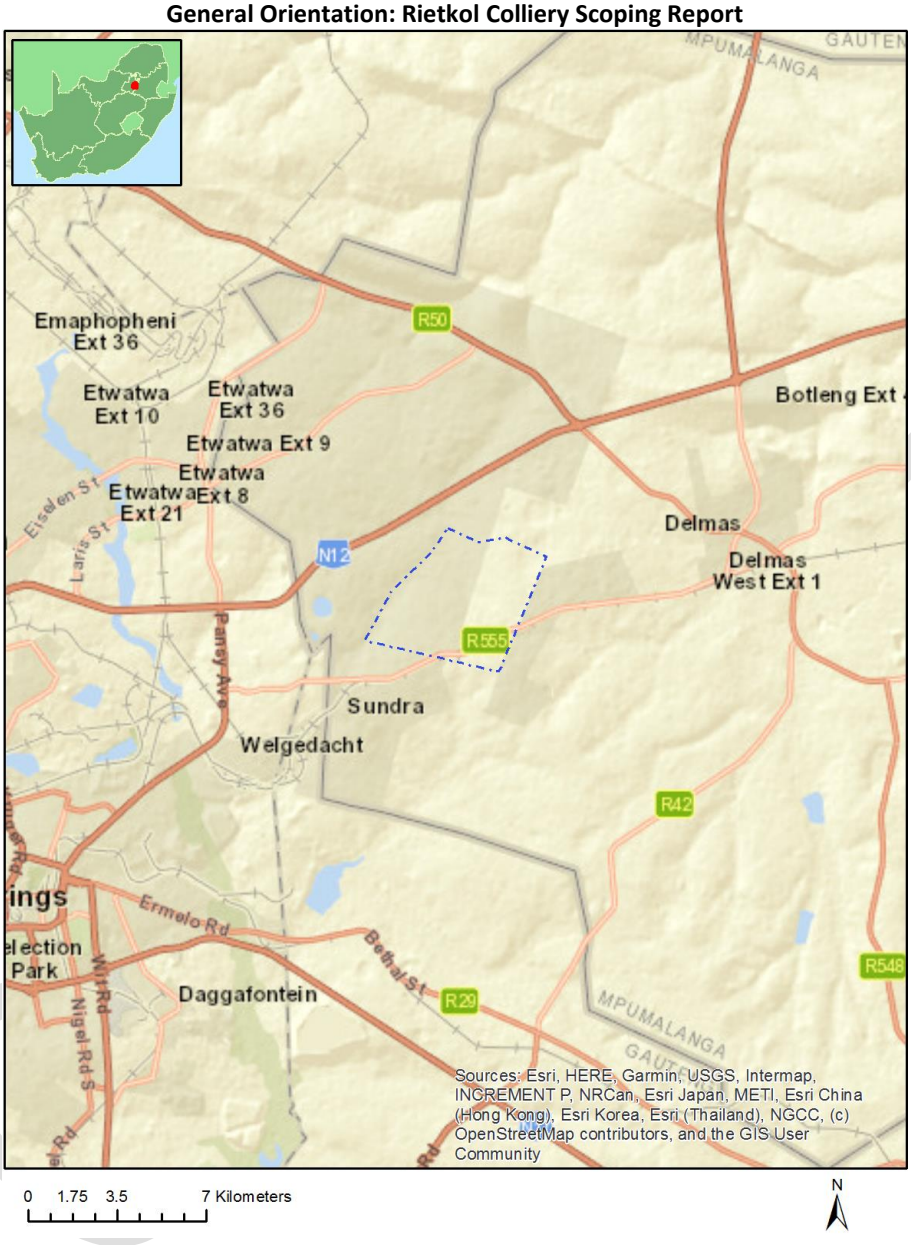
Application Category: Mining|Mining Right

Table of Contents

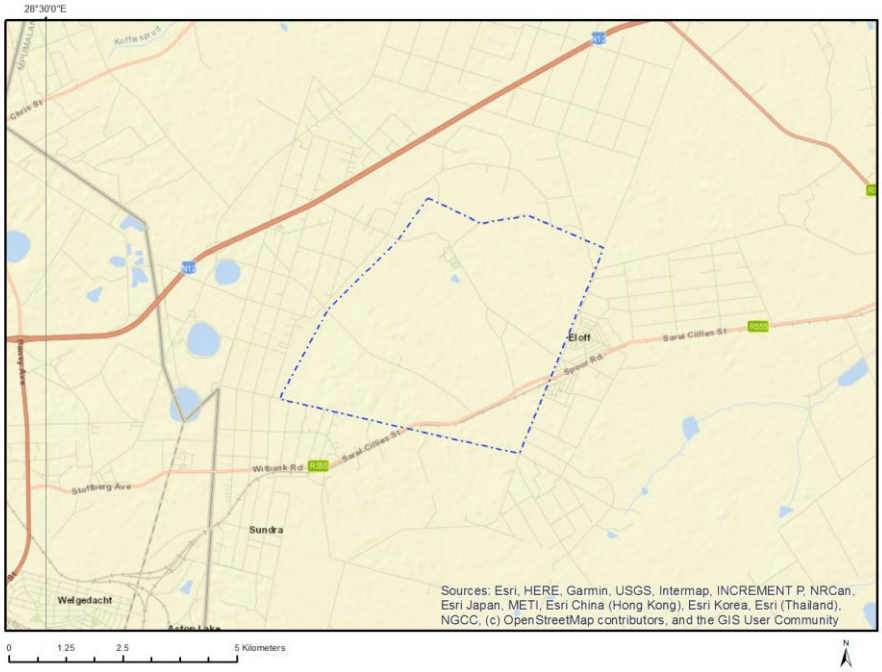
Proposed Project Location

Orientation map 1: General location

General Orientation: Rietkol Colliery Scoping Report



Map of proposed site and relevant area(s)



Cadastral details of the proposed site

Property details:

No	Farm Name	Farm/ Erf No	Portion	Latitude	Longitude	Property Type
1	ELOFF	13	0	26°9'39.89S	28°36'14.33E	Erven
2	ELOFF	19	0	26°9'43.31S	28°36'12.77E	Erven
3	ELOFF	64	0	26°10'11.05S	28°36'0.15E	Erven
4	ELOFF	15	0	26°9'41.03S	28°36'13.8E	Erven
5	ELOFF	53	0	26°10'4.76S	28°36'2.99E	Erven
6	ELOFF	61	0	26°10'9.28S	28°36'0.91E	Erven
7	ELOFF	14	0	26°9'40.46S	28°36'14.07E	Erven
8	ELOFF	54	0	26°10'5.35S	28°36'2.75E	Erven
9	ELOFF	58	0	26°10'7.57S	28°36'1.71E	Erven
10	ELOFF	60	0	26°10'8.71S	28°36'1.18E	Erven
11	ELOFF	62	0	26°10'9.86S	28°36'0.65E	Erven
12	ELOFF	65	0	26°10'11.52S	28°35'59.48E	Erven
13	ELOFF	12	0	26°9'39.33S	28°36'14.57E	Erven
14	ELOFF	17	0	26°9'42.17S	28°36'13.29E	Erven
15	ELOFF	18	0	26°9'42.74S	28°36'13.03E	Erven
16	ELOFF	52	0	26°10'4.19S	28°36'3.28E	Erven
17	ELOFF	20	0	26°9'43.87S	28°36'12.51E	Erven
18	ELOFF	59	0	26°10'8.14S	28°36'1.44E	Erven
19	ELOFF	63	0	26°10'10.41S	28°36'0.39E	Erven
20	ELOFF	21	0	26°9'44.44S	28°36'12.25E	Erven
21	ELOFF	56	0	26°10'6.45S	28°36'2.22E	Erven
22	ELOFF	11	0	26°9'38.76S	28°36'14.83E	Erven
23	ELOFF	16	0	26°9'41.6S	28°36'13.54E	Erven
24	ELOFF	55	0	26°10'5.88S	28°36'2.48E	Erven
25	ELOFF	57	0	26°10'7.01S	28°36'1.95E	Erven
26	ELOFF	700	0	26°9'54.02S	28°36'7.84E	Erven
27	ELOFF	684	0	26°10'1.84S	28°36'4.33E	Erven
28	ELOFF	706	0	26°9'59.59S	28°36'5.32E	Erven

29	RIETKOL	237	0	26°9'0.67S	28°34'27.5E	Farm
30	MIDDELBULT	235	0	26°10'24.26S	28°37'52.35E	Farm
31	RIETKOL	237	27	26°8'25.27S	28°34'18.38E	Farm Portion
32	RIETKOL	237	3	26°8'48.62S	28°33'7.74E	Farm Portion
33	RIETKOL	237	26	26°8'19.4S	28°34'24.08E	Farm Portion
34	RIETKOL	237	90	26°9'27.53S	28°35'36.59E	Farm Portion
35	RIETKOL	237	5	26°10'51.08S	28°35'14.24E	Farm Portion
36	RIETKOL	237	0	26°9'17.25S	28°34'35.13E	Farm Portion
37	RIETKOL	237	9	26°10'7.5S	28°33'51.96E	Farm Portion
38	RIETKOL	237	29	26°8'40.77S	28°34'9.25E	Farm Portion
39	RIETKOL	237	31	26°8'16.98S	28°36'21.47E	Farm Portion
40	RIETKOL	237	77	26°10'44.51S	28°34'39.68E	Farm Portion
41	RIETKOL	237	103	26°8'54.98S	28°36'30.13E	Farm Portion
42	RIETKOL	237	85	26°10'45.05S	28°35'39.37E	Farm Portion
43	RIETKOL	237	99	26°10'54.5S	28°35'37.38E	Farm Portion
44	RIETKOL	237	1	26°10'21.33S	28°35'47.28E	Farm Portion
45	RIETKOL	237	6	26°10'48.43S	28°34'38.29E	Farm Portion
46	RIETKOL	237	28	26°8'32.46S	28°34'14.39E	Farm Portion
47	RIETKOL	237	70	26°10'28.45S	28°35'34.93E	Farm Portion
48	RIETKOL	237	78	26°10'33S	28°35'19.38E	Farm Portion
49	RIETKOL	237	87	26°10'35.92S	28°35'33.24E	Farm Portion
50	ELOFF SH	210	0	26°9'19.75S	28°36'23.48E	Agri Holding
51	ELOFF SH	209	0	26°9'28.44S	28°36'19.5E	Agri Holding

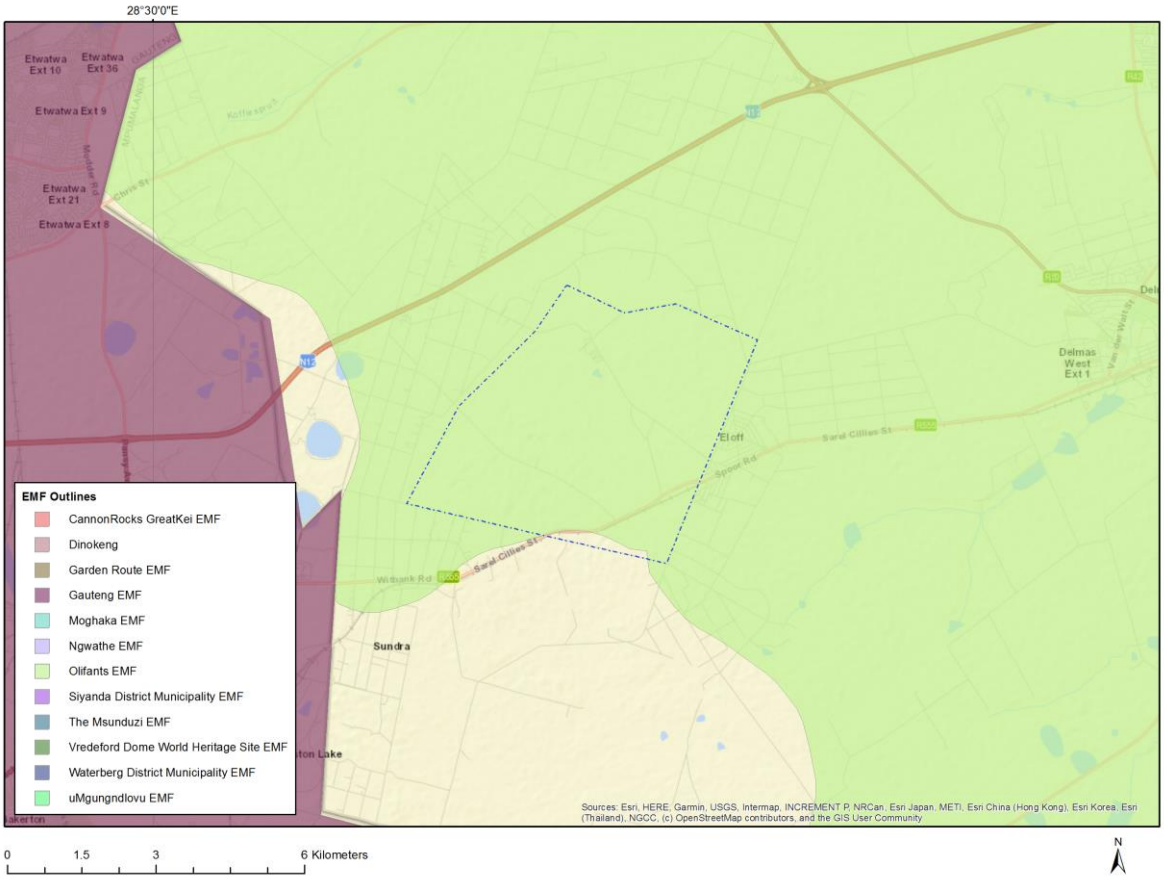
Development footprint[1] vertices:
No development footprint(s) specified.

Wind and Solar developments with an approved Environmental Authorisation or applications under consideration within 30 km of the proposed area

No	EIA Reference No	Classification	Status of application	Distance from proposed area (km)
1	12/12/20/1923/2	Solar PV	Approved	29.5
2	14/12/16/3/3/2/706	Solar CSP	Approved	19.7

[1] "development footprint", means the area within the site on which the development will take place and incudes all ancillary developments for example roads, power lines, boundary walls, paving etc. which require vegetation clearance or which will be disturbed and for which the application has been submitted.

Environmental Management Frameworks relevant to the application



Environmental Management Framework	LINK
Olifants EMF	https://screening.environment.gov.za/ScreeningDownloads/EMF/Zone_46,_67,_78,_80,_92,_103,_122,_129.pdf

Environmental screening results and assessment outcomes

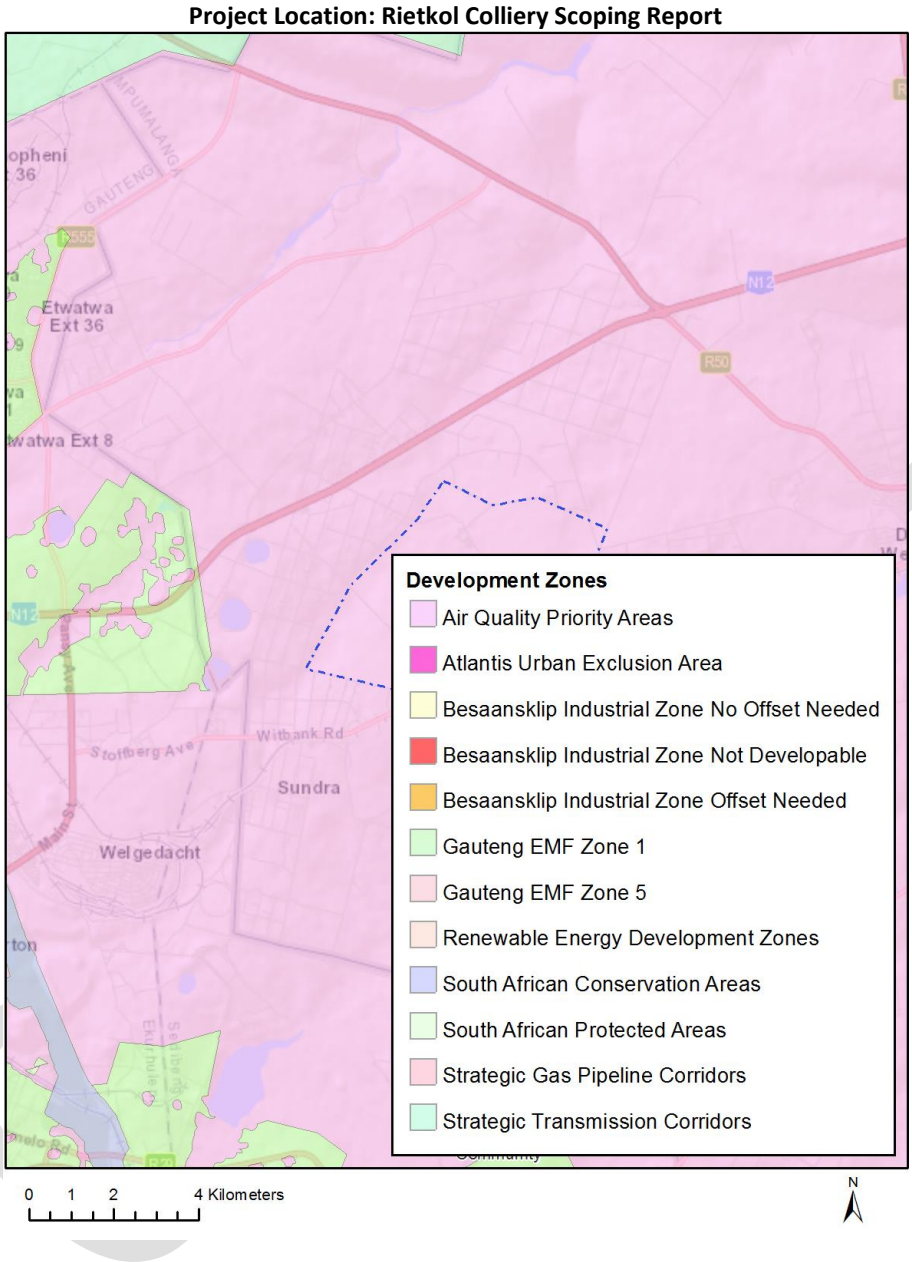
The following sections contain a summary of any development incentives, restrictions, exclusions or prohibitions that apply to the proposed development site as well as the most environmental sensitive features on the site based on the site sensitivity screening results for the application classification that was selected. The application classification selected for this report is: **Mining|Mining Right**.

Relevant development incentives, restrictions, exclusions or prohibitions

The following development incentives, restrictions, exclusions or prohibitions and their implications that apply to this site are indicated below.

Incentive, restriction or prohibition	Implication
Strategic Transmission Corridor-Central corridor	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/Combined_EGI.pdf
Air Quality-Highveld Priority Area	https://screening.environment.gov.za/ScreeningDownloads/DevelopmentZones/HIGHVELD_PRIORITY_AREA_AQMP.pdf

Map indicating proposed development footprint within applicable development incentive, restriction, exclusion or prohibition zones



Proposed Development Area Environmental Sensitivity

The following summary of the development site environmental sensitivities is identified. Only the highest environmental sensitivity is indicated. The footprint environmental sensitivities for the proposed development footprint as identified, are indicative only and must be verified on site by a suitably qualified person before the specialist assessments identified below can be confirmed.

Theme	Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
Agriculture Theme	X			
Animal Species Theme		X		

Aquatic Biodiversity Theme	X			
Archaeological and Cultural Heritage Theme				X
Civil Aviation Theme		X		
Defence Theme	X			
Paleontology Theme	X			
Plant Species Theme			X	
Terrestrial Biodiversity Theme	X			

Specialist assessments identified

Based on the selected classification, and the environmental sensitivities of the proposed development footprint, the following list of specialist assessments have been identified for inclusion in the assessment report. It is the responsibility of the EAP to confirm this list and to motivate in the assessment report, the reason for not including any of the identified specialist study including the provision of photographic evidence of the site situation.

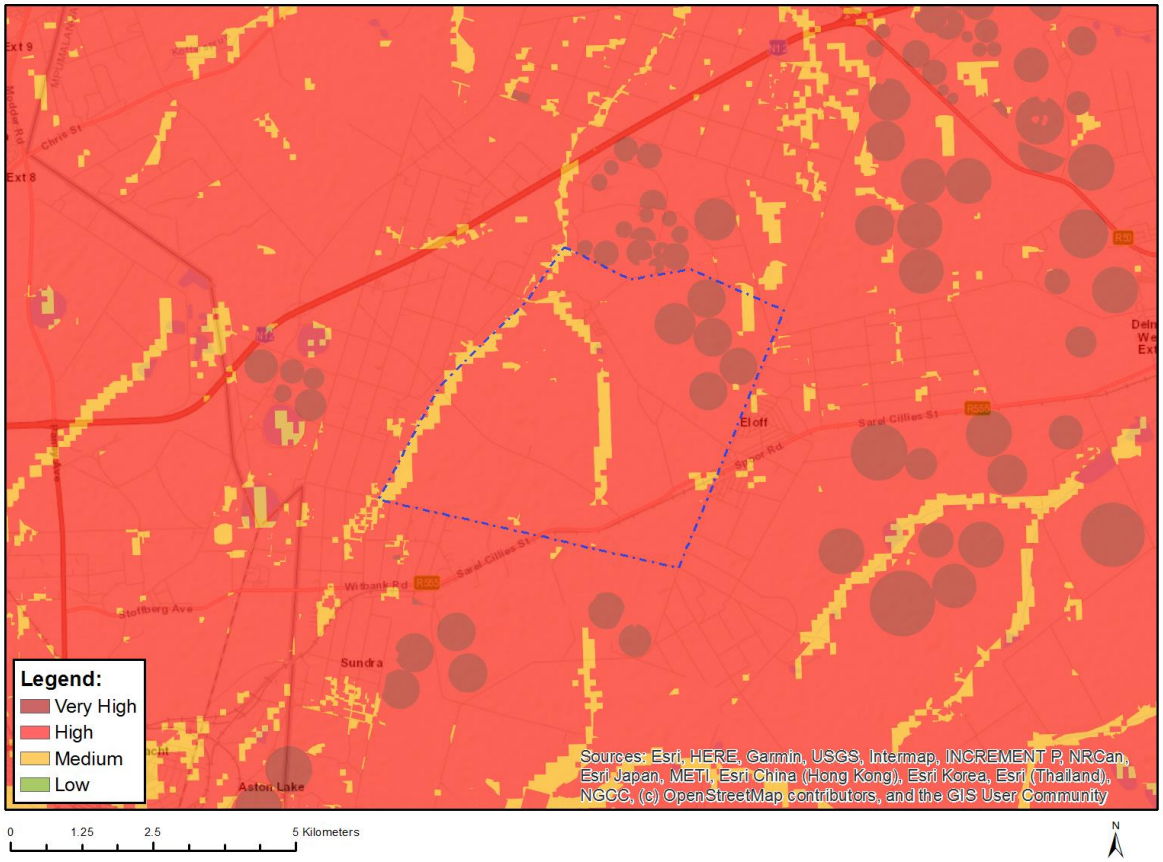
No	Specialist assessment	Assessment Protocol
1	Agricultural Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Agriculture_Assessment_Protocols.pdf
2	Landscape/Visual Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
3	Archaeological and Cultural Heritage Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
4	Palaeontology Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
5	Terrestrial Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Terrestrial_Biodiversity_Assessment_Protocols.pdf
6	Aquatic Biodiversity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Aquatic_Biodiversity_Assessment_Protocols.pdf
7	Hydrology	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols

	Assessment	/Gazetted_General_Requirement_Assessment_Protocols.pdf
8	Noise Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Noise_Impacts_Assessment_Protocol.pdf
9	Radioactivity Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
10	Traffic Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
11	Geotechnical Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
12	Climate Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
13	Health Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
14	Socio-Economic Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
15	Ambient Air Quality Impact Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
16	Seismicity Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_General_Requirement_Assessment_Protocols.pdf
17	Plant Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Plant_Species_Assessment_Protocols.pdf
18	Animal Species Assessment	https://screening.environment.gov.za/ScreeningDownloads/AssessmentProtocols/Gazetted_Animal_Species_Assessment_Protocols.pdf

Results of the environmental sensitivity of the proposed area.

The following section represents the results of the screening for environmental sensitivity of the proposed site for relevant environmental themes associated with the project classification. It is the duty of the EAP to ensure that the environmental themes provided by the screening tool are comprehensive and complete for the project. Refer to the disclaimer.

MAP OF RELATIVE AGRICULTURE THEME SENSITIVITY



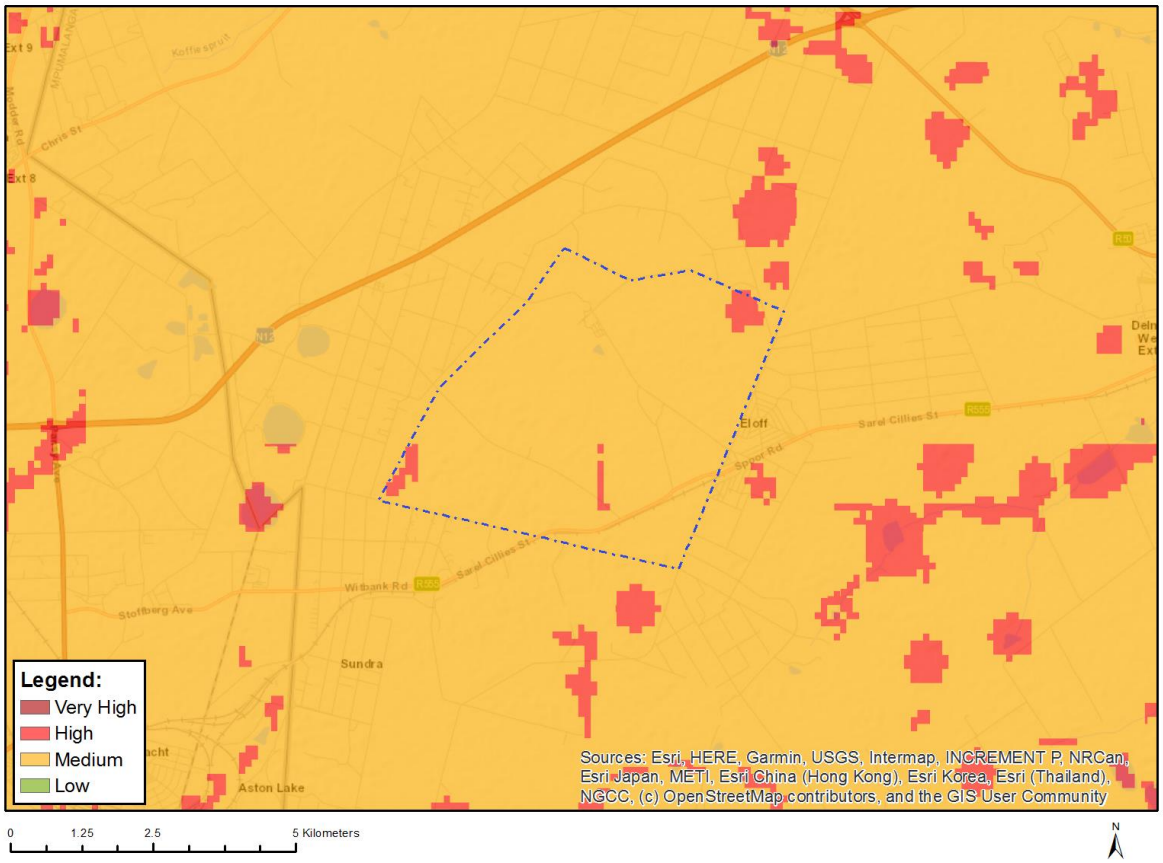
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
High	Land capability;09. Moderate-High/10. Moderate-High
High	Small Holdings;Land capability;09. Moderate-High/10. Moderate-High
High	Small Holdings;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;09. Moderate-High/10. Moderate-High
High	Annual Crop Cultivation / Planted Pastures Rotation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
High	Old Fields;Land capability;09. Moderate-High/10. Moderate-High
High	Old Fields;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate
Medium	Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

Very High	Pivot Irrigation;Land capability;09. Moderate-High/10. Moderate-High
Very High	Pivot Irrigation;Land capability;06. Low-Moderate/07. Low-Moderate/08. Moderate

MAP OF RELATIVE ANIMAL SPECIES THEME SENSITIVITY



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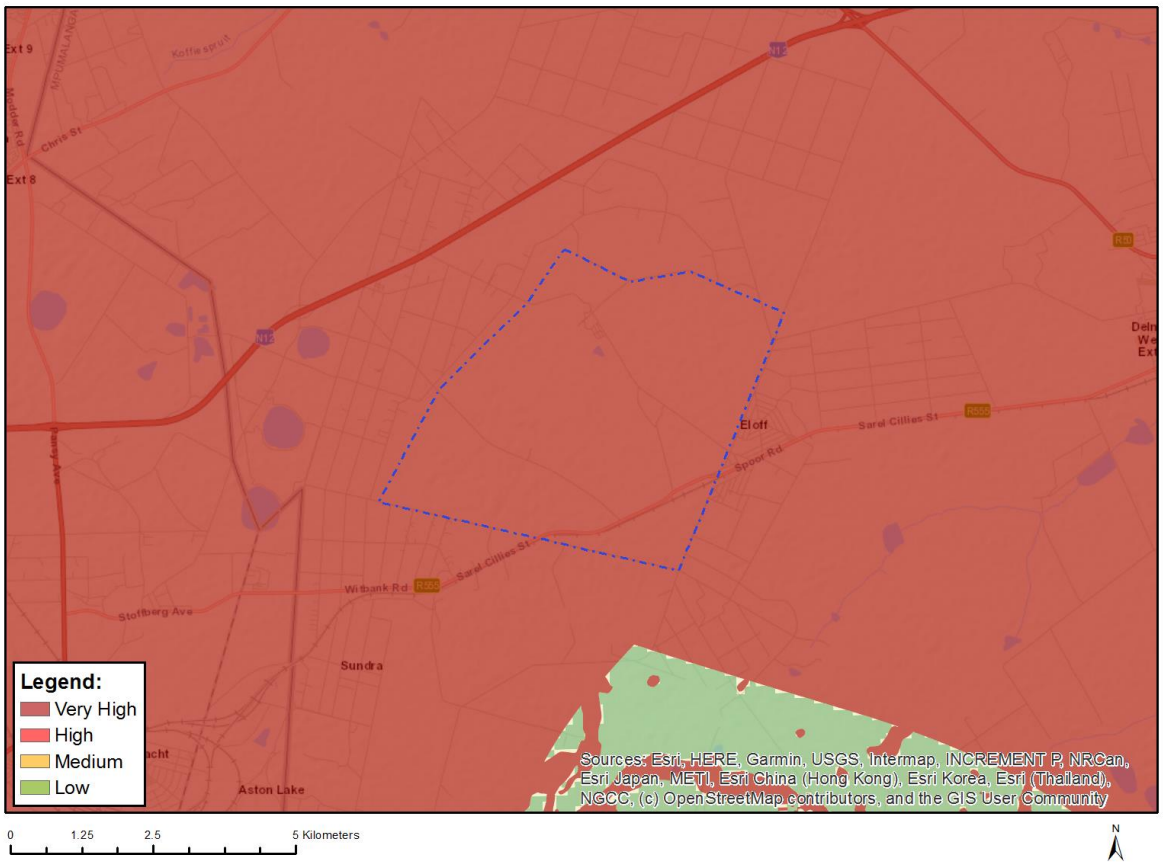
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Aves-Circus ranivorus
High	Aves-Eupodotis senegalensis
Medium	Aves-Circus ranivorus
Medium	Aves-Hydroprogne caspia
Medium	Aves-Eupodotis senegalensis
Medium	Mammalia-Chrysospalax villosus
Medium	Mammalia-Crocidura maquassiensis
Medium	Mammalia-Dasymys robertsii
Medium	Mammalia-Hydrictis maculicollis
Medium	Mammalia-Ourebia ourebi ourebi

Medium	Invertebrate-Clonia uvarovi

MAP OF RELATIVE AQUATIC BIODIVERSITY THEME SENSITIVITY

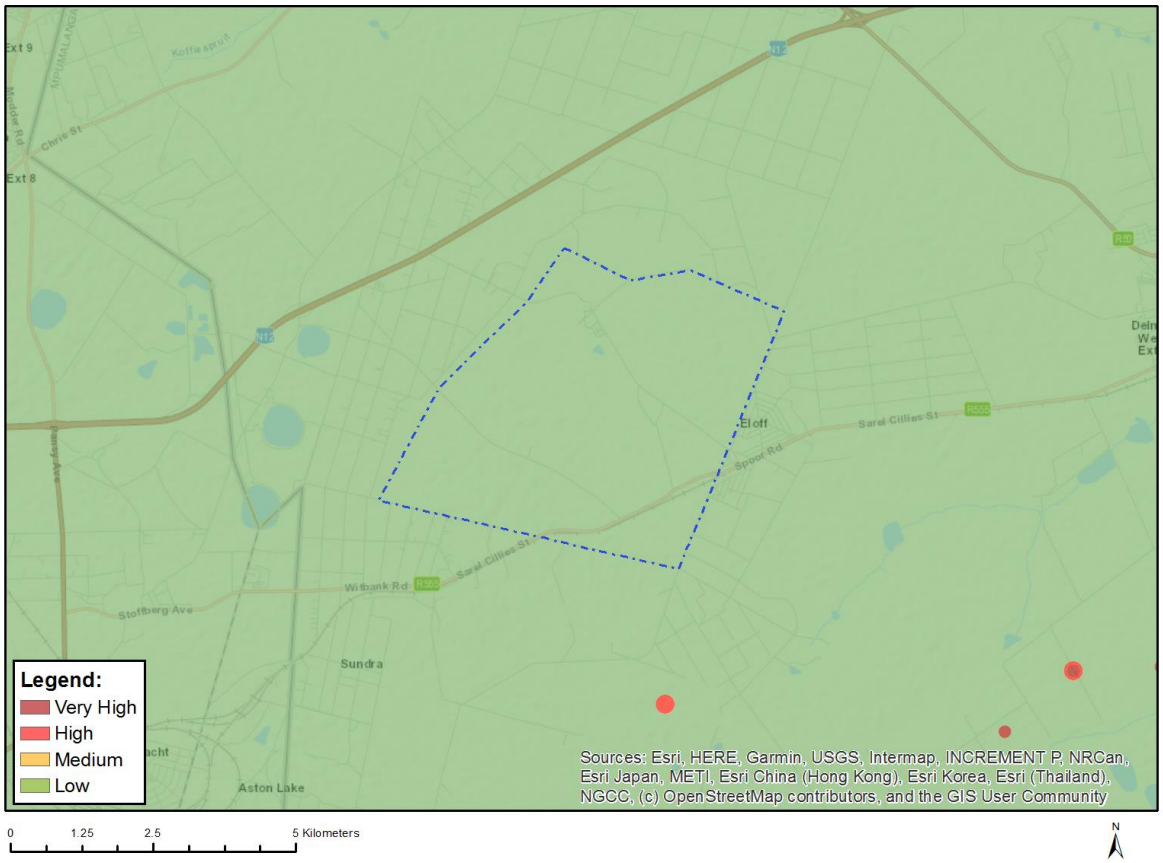


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Strategic water source area
Very High	Wetlands and Estuaries

MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

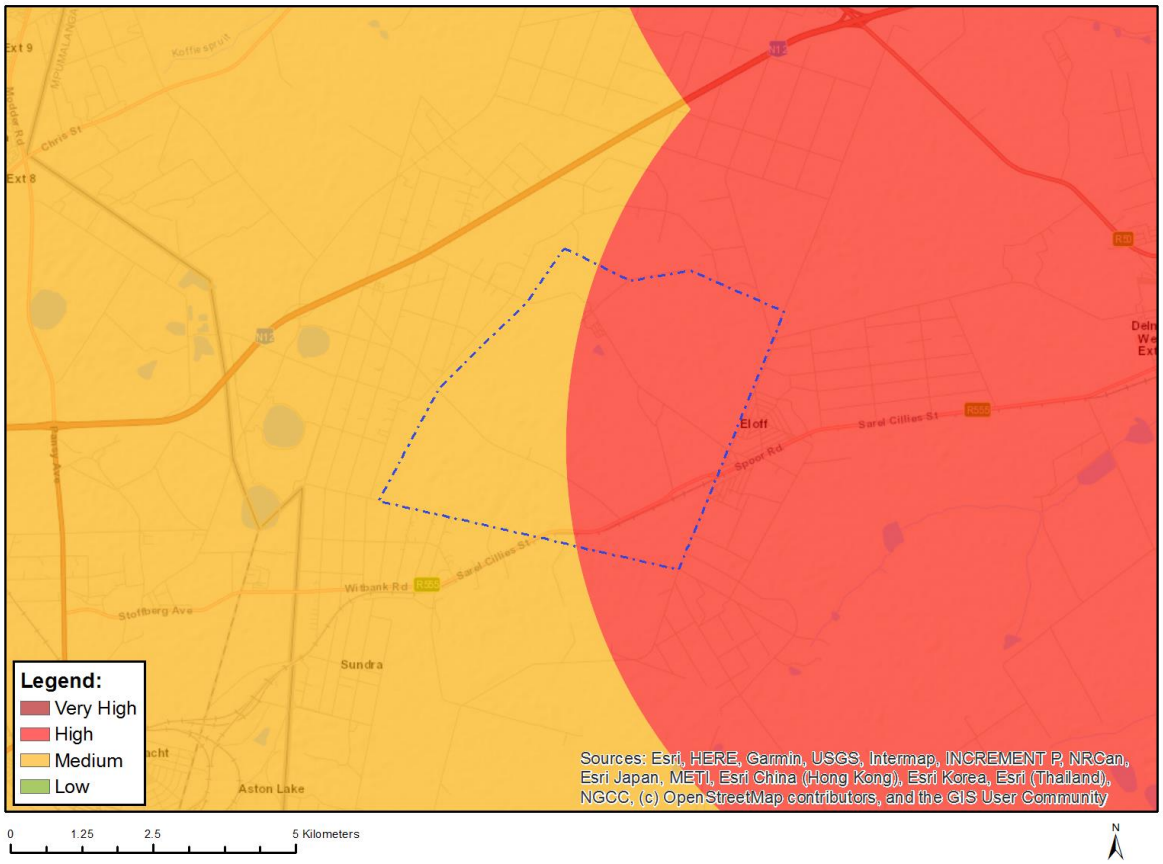


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
			X

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low sensitivity

MAP OF RELATIVE CIVIL AVIATION THEME SENSITIVITY

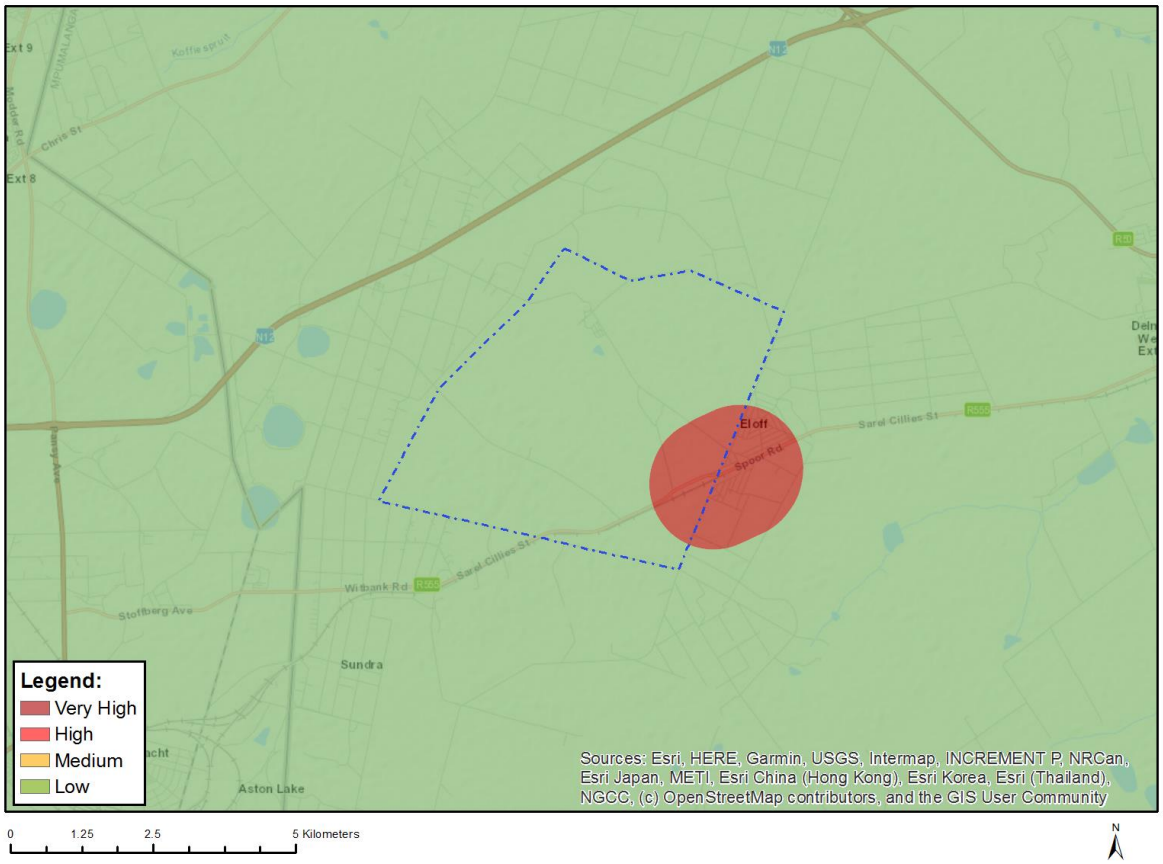


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
	X		

Sensitivity Features:

Sensitivity	Feature(s)
High	Within 8 km of other civil aviation aerodrome
Medium	Between 15 and 35 km from a civil aviation radar
Medium	Between 15 and 35 km from a major civil aviation aerodrome
Medium	Between 8 and 15 km of other civil aviation aerodrome

MAP OF RELATIVE DEFENCE THEME SENSITIVITY

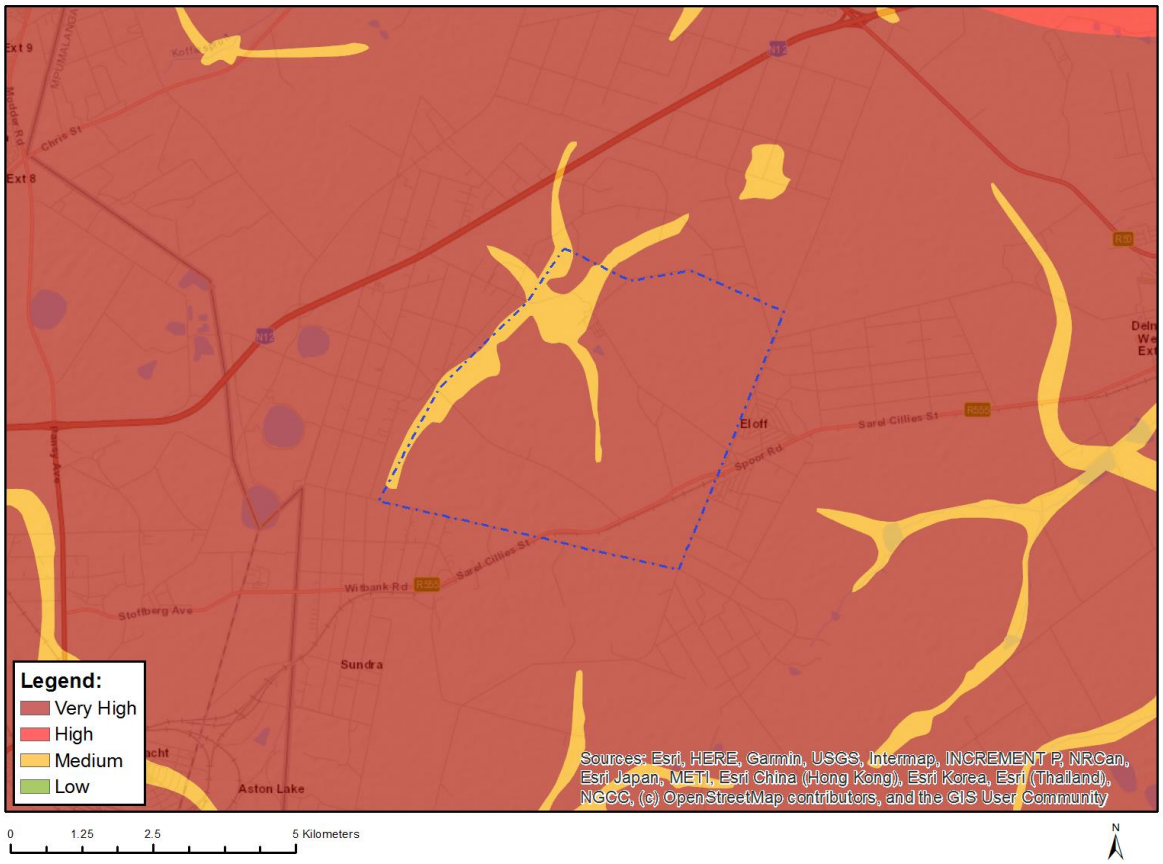


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Very High	Military and Defence Site

MAP OF RELATIVE PALEONTOLOGY THEME SENSITIVITY

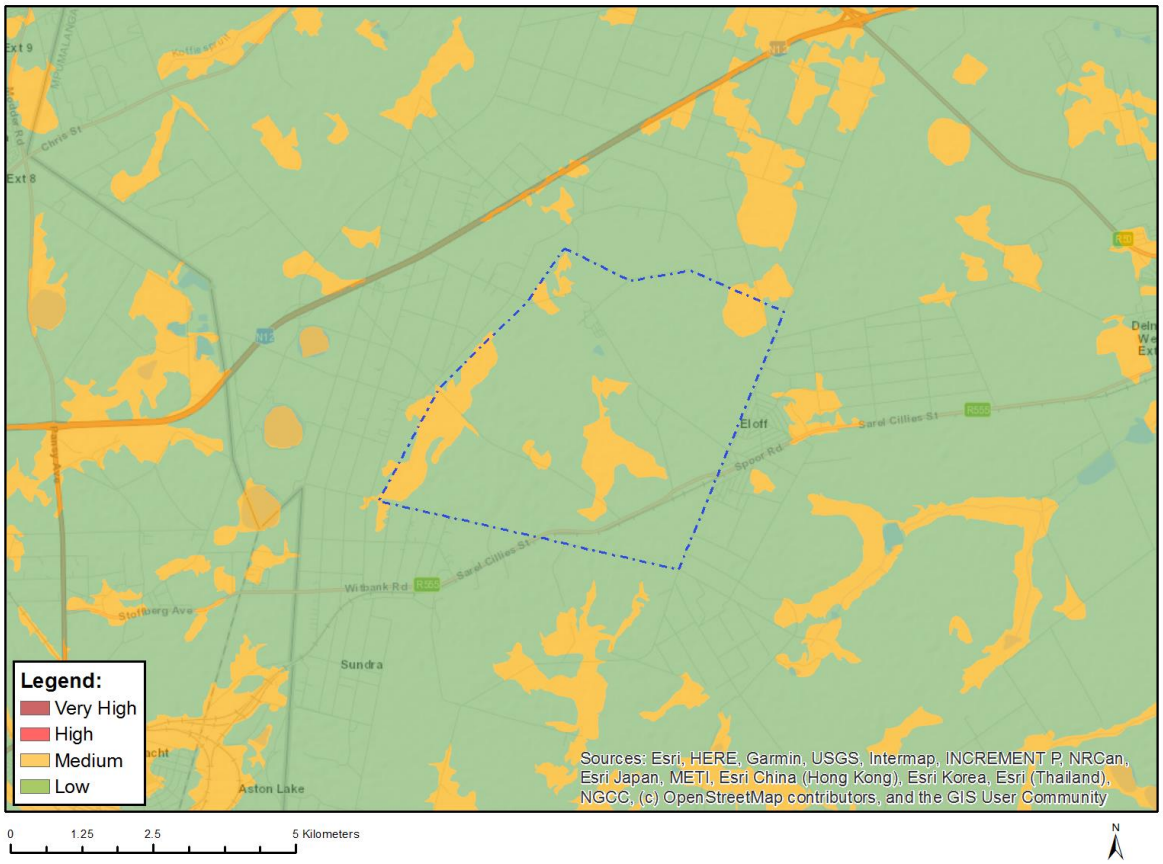


Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Medium	Features with a Medium paleontological sensitivity
Very High	Features with a Very High paleontological sensitivity

MAP OF RELATIVE PLANT SPECIES THEME SENSITIVITY



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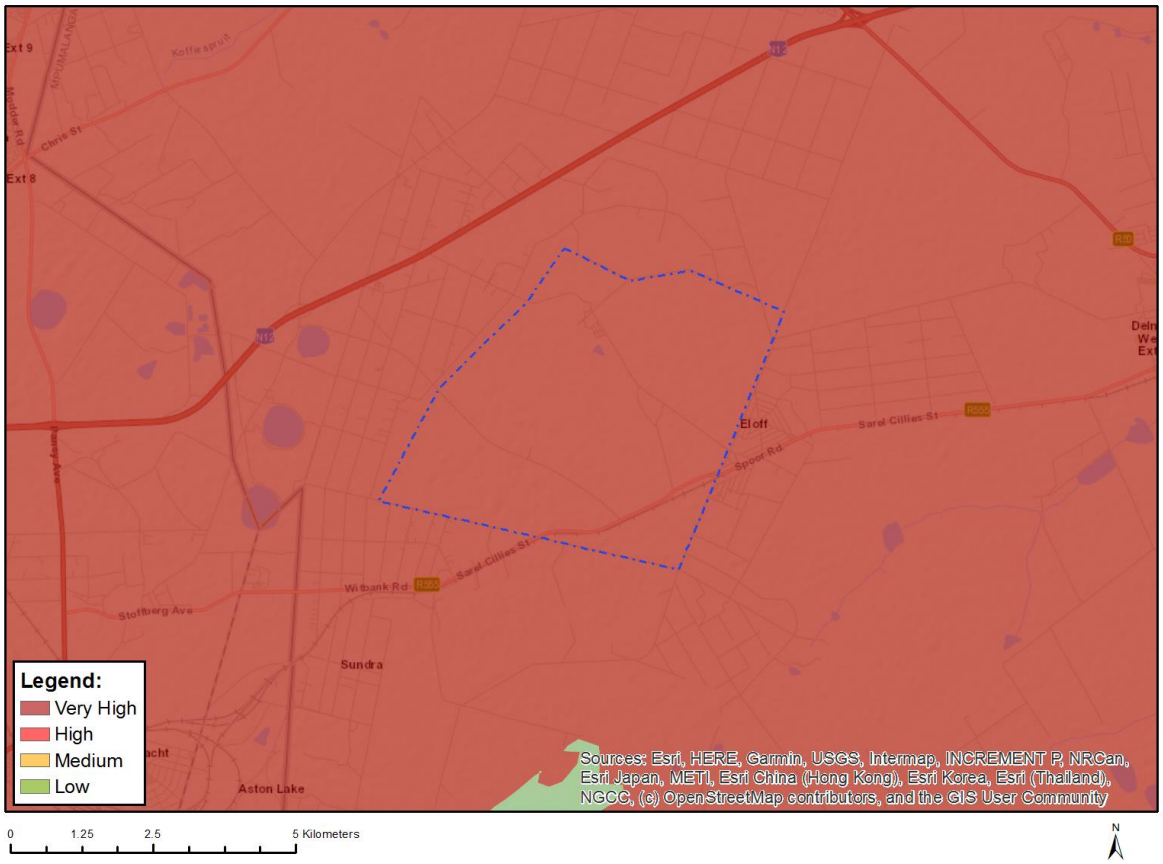
Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
		X	

Sensitivity Features:

Sensitivity	Feature(s)
Low	Low Sensitivity
Medium	Sensitive species 691
Medium	Pachycarpus suaveolens
Medium	Brachycorythis conica subsp. transvaalensis

MAP OF RELATIVE TERRESTRIAL BIODIVERSITY THEME SENSITIVITY



Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Critical biodiveristy area 2
Very High	Vulnerable ecosystem