mineral resources

Department:
Mineral Resources
REPUBLIC OF SOUTH AFRICA

ENVIRONMENTAL SCOPING REPORT FOR LISTED ACTIVITIES ASSOCIATED WITH A MINING RIGHT

SUBMITTED FOR AN ENVIRONMENTAL AUTHORISATION LODGED IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT 107 0F 1998) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT 28 OF 2002) READ WITH REGULATION 21 OF THE ENVIRONMENTAL IMPACT ASSESSMENT REGULATIONS

NAME OF APPLICANT: IMERYS REFRACTORY MINERALS SOUTH AFRICA (PTY) LTD BUFFELSHOEK MINE
DMRE REFERENCE NUMBER: TO BE ALLOCATED
MINING RIGHT NUMBER: LP 166 MR
APPLICATION PROPERTIES: PORTION 4 OF THE FARM BUFFELSHOEK 351 KQ, THE REMAINING EXTENT OF THE FARM BUFFELSHOEK 351 KQ AND THE REMAINING EXTENT OF PORTION 1 OF THE FARM GROOTFONTEIN 352 KQ, SITUATED IN THE WATERBERG DISTRICT MUNICIPALITY AND THE THABAZIMBI LOCAL MUNICIPALITY OF THE LIMPOPO PROVINCE

May 2023

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

IMPORTANT NOTICE

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

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

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

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

1 Objective of the scoping process

The objective of the scoping process is to, through a consultative process—

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

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ABBREVIATIONS

AEL	Atmospheric Emission License
AMD	Acid Mine Drainage
CBA	Critical Biodiversity Area
DALRRD	Department of Agriculture Land Reform and Rural Development
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
ECA	Environmental Conservation Act 73 of 1989 as amended
EIA	Environmental Impact Assessment
EIAR/EMP	Environmental Impact Assessment/Environmental Management Programme Report

EIS	Ecological Importance and Sensitivity
ESR	Environmental scoping report
HCS	Hazardous Chemical Substances
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
IWUL	Integrated Water Use License
IWULA	Integrated Water Use License Application
LED	Local Economic Development
LEDET	Limpopo Department of Economic Development, Environment and Tourism
LIA	Late Iron Age
LoM	Life of Mine
mbgl	metres below ground level
MA	Minerals Act no 50 of 1991 (as amended)
MPRDA	Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended)
MPRDR	Mineral and Petroleum Resources Development Regulations, GN 527 of 2004 (as amended) i.t.o. the Mineral and Petroleum Resources Development Act No 28 of 2002 (as amended)
MR	Mining Right
MSA	Middle Stone Age
MSDSs	Material Safety Data Sheets
MWP	Mining works programme
NEMA	National Environmental Management Act No 107 of 1998 (as amended)
NEMBA	National Environmental Management Biodiversity Act No 10 of 2004 (as amended)
NEMWA	National Environmental Management Waste Act 59 of 2009 (as amended)
NFA	National Forest Act No 84 of 1998
NHRA	National Heritage Resources Act No 25 of 1999
NWA	National Water Act no 36 of 1998 (as amended)
PCB	Polychlorinated biphenyl
SLP	Social and Labour Plan
TLM	Thabazimbi Local Municipality

Executive summary

Applicant

BECS Environmental has been appointed by Imerys Refractory Minerals South Africa (Pty) Ltd to apply for an Environmental Authorisation (EA) in terms of the National Environmental Management Act no 107 of 1998 (as amended) (NEMA) in respect of listed activities that have been triggered by applications in terms of the Mineral and Petroleum Resources Development Act no 28 of 2002 (as amended) (MPRDA) as well as an Integrated Water Use License License Application (IWULA) in terms of the National Water Act no 36 of 1998 (as amended) (NWA). The Department of Mineral Resources and Energy (DMRE) is still to give confirmation of receipt of the application for environmental authorisation.

Project description

The proposed activities are as follows:

- Removal /stripping of the topsoil layer,
- Stockpiling of topsoil,
- Extraction of Andalusite ore (excavation activities),
- Loading of Andalusite ore,
- Transporting of Andalusite ore via trucks to Rhino Andalusite Mine Processing Plant,
- Dust suppression on access roads as well as in the pit area,
- Possible construction of additional access roads,
- Use of chemical toilets,
- Use of machinery for mining as well as transporting activities,
- Generation of domestic waste,
- Generation of hazardous waste,
- Sloping of the pit area,
- Deposition of overburden into pit as part of roll-over mining, and
- Re-vegetation of disturbed areas.

Legal requirements

According to Section 24(2) and 24(5) of the NEMA:

'The Minister, or an MEC with the concurrence of the Minister, may identify (a) activities which may not commence without EA from the competent authority; (b) geographical areas based on environmental attributes, and as specified in spatial development tools adopted in the prescribed manner by the Minister or MEC, with the concurrence of the Minister, in which specified activities may not commence without EA from the competent authority.

The Minister, or an MEC with the concurrence of the Minister, may make regulations consistent with subsection (4) laying down the procedure to be followed in applying for, the issuing of and monitoring compliance with EAs.'

Two processes are conducted simultaneously to obtain all the necessary authorisations for the mining operations. These are the application for EA in terms of NEMA and an IWULA in terms of the NWA.

Document layout

The layout of this scoping report is based on the requirements under Appendix 2 of the NEMA Environmental Impact Assessment (EIA) Regulations. Table 1 below indicates where the information has been provided/will be provided.

Table 1: Layout of document

EIA Regulations section	Description	Section in report
Appendix 2(a)	Details of - (i) the Environmental Assessment Practitioner (EAP) who prepared the report; and (ii) the expertise of the EAP, including a curriculum vitae;	Section 1.2 & Addendum 2A & 2B
Appendix 2(b)	The location of the activity, including - (i) the 21 digit Surveyor General code of each cadastral land parcel; (ii) where available, the physical address and farm name; (iii) where the required information in items (i) and (ii) is not available, the coordinates of the boundary of the property or properties;	Section 1.3
Appendix 2(c)	A plan which locates the proposed activity or activities applied for at an appropriate scale, or, if it is - (i) a linear activity, a description and coordinates of the corridor in which the proposed activity or activities is to be undertaken; or (ii) on land where the property has not been defined, the coordinates within which the activity is to be undertaken;	Section 1.4
Appendix 2(d)	A description of the scope of the proposed activity, including - (i) all listed and specified activities triggered; (ii) a description of the activities to be undertaken, including associated structures and infrastructure;	Section 2.1 & 2.2
Appendix 2(e)	A description of the policy and legislative context within which the development is proposed including an identification of all legislation, policies, plans, guidelines, spatial tools, municipal development planning frameworks and instruments that are applicable to this activity and are to be considered in the assessment process;	Section 3
Appendix 2(f)	A motivation for the need and desirability for the proposed development including the need and desirability of the activity in the context of the preferred location;	Section 4
Appendix 2(h)	A full description of the process followed to reach the proposed preferred activity, site and location within the site, including - (i) details of all the alternatives considered; (ii) details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs; (iii) a summary of the issues raised by interested and affected parties, and an indication of the manner in which the issues were incorporated, or the reasons for not including them; (iv) the environmental attributes associated with the alternatives focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects;	Section 5

EIA Regulations section	Description	Section in report
	(v) the impacts and risks identified for each alternative, including the nature, significance, consequence, extent, duration and probability of the impacts, including the degree to which these impacts - (aa) can be reversed; (bb) may cause irreplaceable loss of resources; and (cc) can be avoided, managed or mitigated; (vi) the methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks associated with the alternatives; (vii) positive and negative impacts that the proposed activity and alternatives will have on the environment and on the community that may be affected focusing on the geographical, physical, biological, social, economic, heritage and cultural aspects; (viii) the possible mitigation measures that could be applied and level of residual risk; (ix) the outcome of the site selection matrix; (x) if no alternatives, including alternative locations for the activity were investigated, the motivation for not considering such and (xi) a concluding statement indicating the preferred alternatives, including preferred location of the activity;	
Appendix 2 (i)	A plan of study for undertaking the environmental impact assessment process to be undertaken, including - (i) a description of the alternatives to be considered and assessed within the preferred site, including the option of not proceeding with the activity; (ii) a description of the aspects to be assessed as part of the environmental impact assessment process; (iii) aspects to be assessed by specialists; (iv) a description of the proposed method of assessing the environmental aspects, including a description of the proposed method of assessing the environmental aspects including aspects to be assessed by specialists; (v) a description of the proposed method of assessing duration and significance; (vi) an indication of the stages at which the competent authority will be consulted; (vii) particulars of the public participation process that will be conducted during the environmental impact assessment process; and (viii) a description of the tasks that will be undertaken as part of the environmental impact assessment process;	Section 6

EIA Regulations section	Description	Section in report
	(ix) identify suitable measures to avoid, reverse, mitigate or manage identified impacts and to determine the extent of the residual risks that need to be managed and monitored.	
Appendix 2 (j)	an undertaking under oath or affirmation by the EAP in relation to - (i) the correctness of the information provided in the report; (ii) the inclusion of comments and inputs from stakeholders and interested and affected parties; and (iii) any information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested or affected parties.	Section 7, Addendum 4G
Appendix 2 (k)	An undertaking under oath or affirmation by the EAP in relation to the level of agreement between the EAP and interested and affected parties on the plan of study for undertaking the environmental impact assessment.	Section 7
Appendix 2 (l)	Where applicable, any specific information required by the competent authority; and	Section 7
Appendix 2 (m)	Any other matter required in terms of section 24(4)(a) and (b) of the Act.	Section 7

SECTION 1: INTRODUCTION

1.1 Applicant details

Refer to Table 2 below for a description of the applicant.

Table 2: Description of the applicant

Project applicant	Imerys Refractory Minerals South Africa (Pty) Ltd
Trading name	Buffelshoek Mine
Contact person	Hendrik Jones
Designation	Operational Director
Telephone number	+27 82 467 4532
E-mail address	hendrik.jones@imerys.com

1.2 Details of the Environmental Assessment Practitioner

BECS Environmental was appointed as an independent consultant (EAP) to meet the requirements as set out in regulation 13 of the EIA Regulations. Refer to Table 3 below for a description of the EAP and refer to Addendum 2 for a detailed CV of the EAP, which includes the expertise including qualifications and experience.

Table 3: Description of the EAP

Name of company	BECS Environmental
Postal address	PO Box 72960, Lynnwood Ridge, 0040
Telephone number	012 361 9970
Cell phone number	072 191 6074
Facsimile number	012 361 0645
E-mail address	salome@becsenv.co.za
Name of report reviewer	Salome Beeslaar

Expertise report reviewer	B.Sc Environmental Science (UP[1]), B.Sc Honours Geography (UP), M.Sc Geography (UP)
	Memberships:
	• SACNASP[2] Professional Scientist (Environmental Science)
	  ○ Number 400385/14
	  ○ Date of registration: 10 September 2014
	• Registered EAP[3] (EAPASA[4])
	  ○ Number 2020/846
	  ○ Date of registration: 11 September 2020

[1] University of Pretoria
[2] South African Council for Natural Scientific Professions
[3] Environmental Assessment Practitioner
[4] Environmental Assessment Practitioners Association of South Africa

	• IAIAsa[5] ○ Membership number: 5853 Date of registration: 1 March 2018
Name of report author	Christopher Delport

Expertise of report author	B.Sc Environmental Science (UP), B.Sc Honours Environmental Science and Geography (UP)
	Memberships:
	• SACNASP Candidate Natural Scientist (Environmental Science)
	  ○ Number 144476
	  ○ Date of registration: 3 November 2021
	• Candidate EAP (EAPASA)
	  ○ Number 2022/4844
	  ○ Date of registration: 16 February 2023
	• IAIAsa
	  ○ Membership number: 6643
	  ○ Date of registration: 1 March 2021

I, Christopher Delport (9507265046081), hereby declare that I have no conflict of interest related to the work of this report. Specially, I declare that I have no business, personal, or financial interests in the property and/or environmental authorisation being assessed in this report and that I have no personal or financial connections to the relevant property owners or farm. I declare that the opinions expressed in this report are my own and a true reflection of my professional expertise and that there are no circumstances that may compromise my objectivity in performing such work.

_____

Christopher Delport
BSc Hons– Geography and Environmental Science
May 2023

I, Salome Beeslaar (8310190032081), hereby declare that I have no conflict of interest related to the work of this report. Specially, I declare that I have no business, personal, or financial interests in the property and/or mining right being assessed in this report, and that I have no personal or financial connections to the relevant property owners, or mine. I declare that the opinions expressed in this report

[5] International Association for Impact Assessment South Africa

are my own and a true reflection of my professional expertise and that there are no circumstances that may compromise my objectivity in performing such work.

_____

Salome Beeslaar
M.Sc Geography
May 2023

1.3 Description of the property

Refer to Table 4 below for a description of the properties. A locality map of the farms is provided below in Figure 1.

Table 4: Farm names, 21-Digit Surveyor General codes, and coordinates

	The Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ	**The Remaining Extent of the farm Buffelshoek 351 KQ**	**Portion 4 of the Farm Buffelshoek 351 KQ**
Title deed number	T11130/2019	T11130/2019	T11130/2019
Property owner	Thabazimbi Iron Ore Mine (Pty) Ltd	Thabazimbi Iron Ore Mine (Pty) Ltd	Thabazimbi Iron Ore Mine (Pty) Ltd
21-digit Surveyor General Code and extent for each farm portion	T0KQ00000000035200001 913.6745 ha	T0KQ00000000035100000 1 859.9250 ha	T0KQ00000000035100004 0.8565 ha
Coordinates	S 24.647998, E 27.330386 S 24.650646, E 27.327850 S 24.652739, E 27.323572 S 24.653135, E 27.324982 S 24.657126, E 27.323348 S 24.658084, E 27.325312 S 24.660692, E 27.323104 S 24.665833, E 27.321874 S 24.668662, E 27.321804 S 24.671065, E 27.317660 S 24.676267, E 27.319425 S 24.680731, E 27.324057 S 24.682712, E 27.321443 S 24.684196, E 27.320625 S 24.687481, E 27.320341 S 24.690124, E 27.322355	S 24.670255, E 27.337106 S 24.701259, E 27.346234 S 24.680002, E 27.398262 S 24.675215, E 27.397333 S 24.669351, E 27.395575 S 24.663499, E 27.396761 S 24.663089, E 27.396130 S 24.665026, E 27.387668 S 24.667395, E 27.386663 S 24.668007, E 27.383421 S 24.665631, E 27.384342 S 24.665705, E 27.377884 S 24.664222, E 27.375529 S 24.660936, E 27.375752 S 24.658457, E 27.377536 S 24.660028, E 27.357162	S 24.665274, E 27.373697 S 24.665999, E 27.373072 S 24.666557, E 27.373819 S 24.665871, E 27.374460

	The Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ	The Remaining Extent of the farm Buffelshoek 351 KQ	Portion 4 of the Farm Buffelshoek 351 KQ
	S 24.693120; E 27.321210 S 24.695711, E 27.323428 S 24.699706, E 27.324727 S 24.701278, E 27.345866		

1.4 Locality map

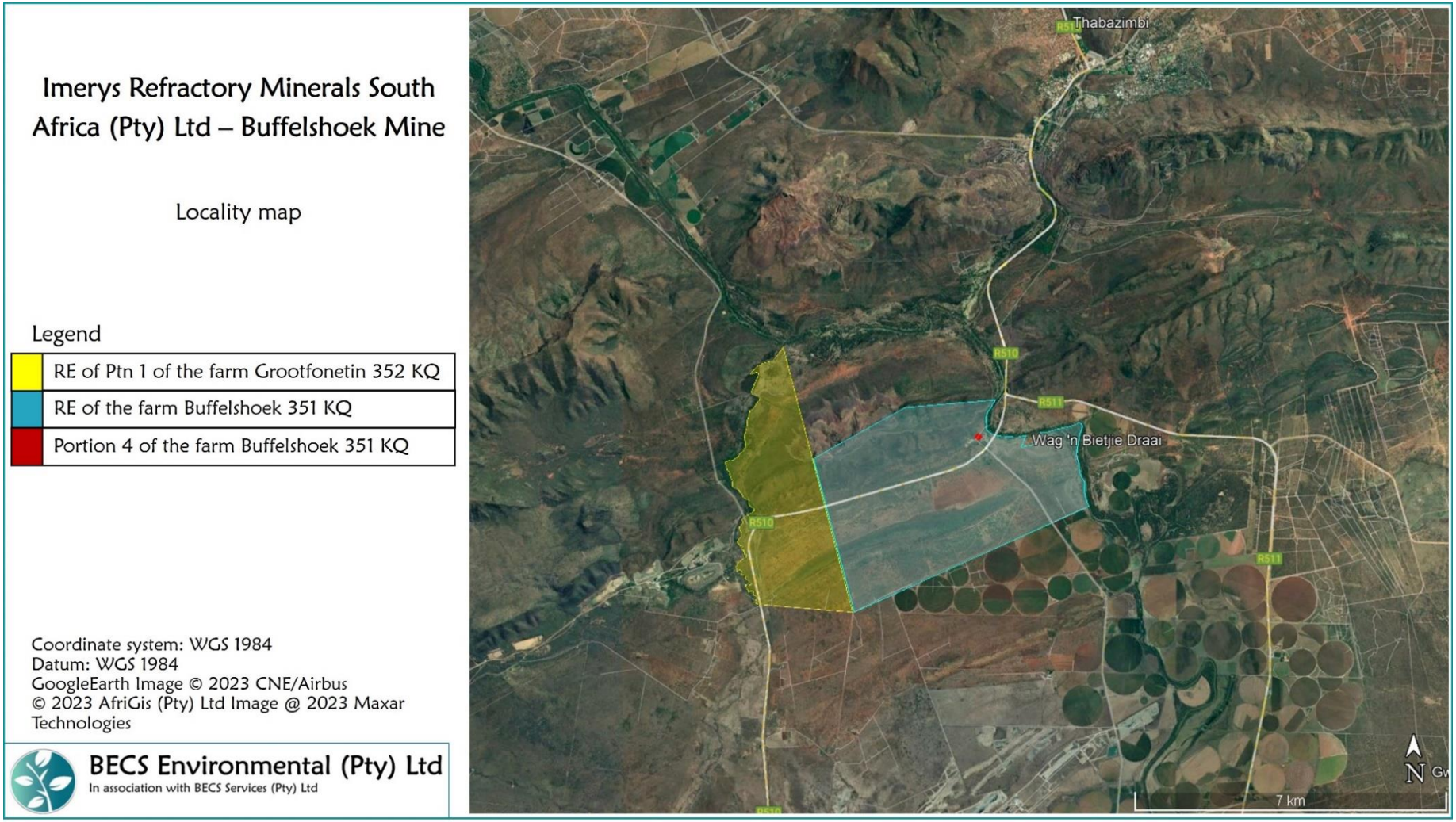

Figure 1: Locality map of Buffelshoek Mine

SECTION 2: DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY

2.1 Listed and specified activities

Refer to Table 5: All listed activitiesTable 5 below for all listed activities applied for.

Table 5: All listed activities

Name of Activity	Listed Activity	Applicable Listing Notice
Any process or activity identified in terms of section 53(1) of the National Environmental Management Biodiversity Act No 10 of 2004 (as amended) (NEMBA).	30	GNR 983 (as amended by GN 327 of 2017, and GN 517 of 2021)
The development of facilities or infrastructure for any process or activity which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution, or effluent.	6	GNR 984 (as amended by GN 325 of 2017, and GN 517 of 2021)
The clearance of an area of 20 hectares or more of indigenous vegetation.	15	GNR 984 (as amended by GN 325 of 2017, and GN 517 of 2021)
The clearance of an area of 300m² 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. e. Limpopo ii. Within critical biodiversity areas identified in bioregional plans	12 (e) (ii)	GNR 985 (as amended by GN 324 of 2017, and GN 517 of 2021)

2.2 Description of the activities to be undertaken

The mine intends to mine Andalusite and is in possession of a Mining Right, approved in terms of the Mineral and Petroleum Resources Development Act, Act no 28 of 2002 (MPRDA. The following activities will be taking place:

- Removal /stripping of the topsoil layer,
- Stockpiling of topsoil,
- Extraction of Andalusite ore (excavation activities),
- Loading of Andalusite ore,
- Transporting of Andalusite ore via trucks to Rhino Andalusite Mine Processing Plant,
- Dust suppression on access roads as well as in the pit area,
- Possible construction of additional access roads,
- Use of chemical toilets,
- Use of machinery for mining as well as transporting activities,

- Generation of domestic waste,
- Generation of hazardous waste,
- Sloping of the pit area,
- Deposition of overburden into pit as part of roll-over mining, and
- Re-vegetation of disturbed areas.

SECTION 3: POLICY AND LEGISLATIVE CONTEXT

Applicable legislation and guidelines used to compile the report	Description of legislation and guidelines used to compile the report	Reference where applied	How does this development comply with and respond to the policy and legislative context
Authorisation applications			
MPRDA	According to the MPRDA, the mine must have a mining right as well as an approved EMP. Due to changes from the Minerals Act no 50 of 1991 (MA) to the MPRDA in 2002, all mining rights had to be converted in 2009 from the old MA to the new MPRDA. Any mining right application submitted after 8 December 2014 must be done in terms of NEMA and not MPRDA.	This ESR.	This is noted. This ESR is not part of a mining right application. However the mine does have a mining right, with file reference number LP 166 MR as well as an approved EMP.
	Any changes in the mining right, EMP, mining works programme (MWP), or EA, must be authorised through a Section 102 (in terms of the MPRDA) amendment.	N/A	No such changes have been made as of yet.
NEMA and the Environmental Conservation Act no 73 of 1989 as amended (ECA)	The first listed activities which required an EA (referred to as a record of decision (RoD) in the past) commenced in 1998. These activities were published in the EIA Regulations of 1998 (GN1183). In 2006, the ECA activities and EIA Regulations were replaced by the first NEMA EIA Regulations. The second set of NEMA EIA activities replaced the first set of NEMA EIA activities in 2010. The third set of NEMA EIA activities commenced on 8 December 2014. According to these listings, a Basic	Section 2.1	A person who wishes to commence, undertake or conduct an Listed Activity under NEMA must undergo scoping and environmental impact reporting process set out in the EIA Regulations made under section 24(5) of NEMA. Furthermore, activities under listing notice 1 and 2 will be triggered as part of the development, and as such a full EIA is required.

Applicable legislation and guidelines used to compile the report	Description of legislation and guidelines used to compile the report	Reference where applied	How does this development comply with and respond to the policy and legislative context
	Assessment should be conducted if an activity on listing notice 1 or 3 is triggered. If an activity on listing notice 2 is triggered, then a full Environmental Impact Assessment (EIA) is required.		
NEMAQA	A list of activities which need an Atmospheric Emission License (AEL) was published in 2010 (GN 248 of 2010 i.t.o. the NEMAQA. This list was updated in 2013 (GN 893 of 2013 i.t.o. NEMAQA). These lists further included compliance timeframes for plant emission standards, whereby new plant had to comply to new plants emission standards on 1 March 2010; existing plants had to comply with existing plant standards on 1 March 2015, and existing plants have to comply with new plants standards on 1 March 2020.	N/A	Thus far no planned activities will trigger an AEL, or require adherence to these standards.
National Water Act No 36 of 1998, (NWA)	Section 21 of the NWA sets out the water uses for which an Integrated Water Use License (IWUL) is required. These water uses commenced in 1 October 1998, and include permissible water uses (water uses for which no licencing or registration is necessary), general authorisations (GA) (water uses for which registration only is required), and water use licences (water used for which both registration and licencing is required). An existing	N/A	The mine is in the process of applying for an IWUL, and the water uses to be licensed are still being confirmed.

Applicable legislation and guidelines used to compile the report	Description of legislation and guidelines used to compile the report	Reference where applied	How does this development comply with and respond to the policy and legislative context
	lawful water use is any water use that commenced 2 years or more prior to the NWA and authorised under the old Act. These water uses are deemed lawful. In 1999, the GN 704 Regulations i.t.o. NWA were published.		
NEMWA, GNR 633, Category B(11)	Waste management permits for certain waste activities were required form 1989 i.t.o. the ECA. These permits were repealed by the publishing of the first listed waste management activities licensing in 2009 (GN 718 of 2009 i.t.o. NEMWA). These listings were replaced by new listings in 2013 (GN 921 of 2013 i.t.o. NEMWA). If a site has a permit under ECA, this is still applicable until the National Department of Environmental Affairs (NDEA) requests an update under the new legislation (NEMWA).	N/A	The mine will conduct roll over mining and therefore will not be required to apply for a Waste Management License under NEMWA.

SECTION 4: NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

As per the Guideline on Needs and Desirability in terms of the EIA Regulations (published 20 October 2014), the following table has been compiled:

Table 6: Need and Desirability of the proposed project

Guideline requirement	Comments on requirement
1. How will this development (and its separate elements/aspects) impact on the ecological integrity of the area?	
1.1 How were the following ecological integrity considerations taken into account?	
1.1.1 Threatened Ecosystems,	The proposed site falls within Critical Biodiversity Area (CBA) 1 and CBA 2. These areas are required to meet the region's biodiversity targets and need to be maintained in a natural condition to safeguard identified biodiversity features. The following is extracted from the project description of the draft flora study (Dimela Eco Consulting, 2023): According to the 2022 Revised National List of Threatened Ecosystems, the Waterberg Mountain Bushveld and the Dwaalboom Thornveld are classified as Least Concern. The project area is not situated within a listed ecosystem. The Waterberg Mountain Bushveld has experienced low rates of natural habitat loss and biotic disruptions, placing this ecosystem at low risk of collapse (Skowno et al, 2019). The remaining extent of this ecosystem is about 93 %, with 16.5% in protected area. Dwaalboom Thornveld has experienced low rates of natural habitat loss and biotic disruptions, placing this ecosystem at low risk of collapse. About 79% of the Dwaalboom Thornveld is still intact, with 15.2% within protected areas. The aquatic ecosystem delineation, and fauna and flora assessments are currently being finalised These assessments will investigate the impact on the ecological integrity of the area and put forward management measures. Ecological drivers will be identified in the aquatic ecosystem delineation, fauna and flora report and conservation targets will be established to ensure
1.1.2 Sensitive, vulnerable, highly dynamic or stressed ecosystems, such as coastal shores, estuaries, wetlands, and similar systems require specific attention in management and planning procedures, especially where they are subject to significant human resource usage and development pressure,	
1.1.3 CBAs and Ecological Support Areas (ESAs),	
1.1.4 Conservation targets,	
1.1.5 Ecological drivers of the ecosystem,	
1.1.6 Environmental Management Framework,	
1.1.7 Spatial Development Framework, and	
1.1.8 Global and international responsibilities relating to the environment (e.g. RAMSAR sites, Climate Change, etc.).	
1.2 How will this development disturb or enhance ecosystems and/or result in the loss or protection of biological diversity? What measures were explored to firstly avoid these negative impacts, and where these negative impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	
1.3 How will this development pollute and/or degrade the biophysical environment? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	

Guideline requirement	Comments on requirement
	that the development does not cause significant alteration to the surrounding environment. A risk assessment methodology will be used to assess the the impact that the development has on the region to ensure that the development does not cause significant alteration to the surrounding environment.
1.4 What waste will be generated by this development? What measures were explored to firstly avoid waste, and where waste could not be avoided altogether, what measures were explored to minimise, reuse and/or recycle the waste? What measures have been explored to safely treat and/or dispose of unavoidable waste?	As part of the mining process, the generation of waste is inevitable, however, minimum waste generation is the aim. There wll be no on-site contractor camps or accommodation.
1.5 How will this development disturb or enhance landscapes and/or sites that constitute the nation's cultural heritage? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Refer to section 5.2.13 for the heritage of the study site and section 5.3.2.8 for an assessment of impacts and management measures associated with the heritage findings. If any heritage resources are found, that specific area will be isolated and the respective authorities will be contacted.
1.6 How will this development use and/or impact on non-renewable natural resources? What measures were explored to ensure responsible and equitable use of the resources? How have the consequences of the depletion of the non-renewable natural resources been considered? What measures were explored to firstly avoid these impacts, and where impacts could not be avoided altogether, what measures were explored to minimise and remedy (including offsetting) the impacts? What measures were explored to enhance positive impacts?	Non-renewable resources include: Earth minerals; fossil fuels, nuclear fuels; land surface; and soil. No additional earth minerals will be extracted other than andalusite. Roll over mining and concurrent rehabilitation will be conducted to ensure that negative impacts are minimised. Fossil fuel energy will be used during mining and transportation of the mined materials.
1.7 How will this development use and/or impact on renewable natural resources and the ecosystem of which they are part? Will the use of the resources and/or impact on the ecosystem jeopardise the integrity of the resource and/or system taking into account carrying capacity restrictions, limits of acceptable change, and thresholds? What measures were explored to firstly avoid the use of resources, or if avoidance is not possible, to minimise the use of resources? What measures were taken to ensure	Roll-over mining will aid in rehabilitation of the land surface, thus mitigating the impact on surface topography. Renewable resources include: Water; fauna and flora; and air.

Guideline requirement	Comments on requirement
responsible and equitable use of the resources? What measures were explored to enhance positive impacts?	The use of water resources on the mine will be monitored, and the mine intends to engage in water conservation and employ emerging technologies to reduce water consumption. Concurrent rehabilitation will take place, wich will allow revegetation which will, in turn increase animal presence on site. Dust suppression will take place on haul roads to minimise the impact on air quality.
1.7.1 Does the proposed development exacerbate the increased dependency on increased use of resources to maintain economic growth or does it reduce resource dependency (i.e. de-materialised growth)? (note: sustainability requires that settlements reduce their ecological footprint by using less material and energy demands and reduce the amount of waste they generate, without compromising their quest to improve their quality of life)	
1.7.2 Does the proposed use of natural resources constitute the best use thereof? Is the use justifiable when considering intra- and intergenerational equity, and are there more important priorities for which the resources should be used (i.e. what are the opportunity costs of using these resources this the proposed development alternative?)	
1.7.3 Do the proposed location, type and scale of development promote a reduced dependency on resources?	
1.8 How were a risk-averse and cautious approach applied in terms of ecological impacts?	Specialist studies are being finalised and included into this process. Once the specialist studies are complete, the limits of current knowledge, gaps, uncertainties and assumptions will be included and submitted as part of the final report.
1.8.1 What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?	
1.8.2 What is the level of risk associated with the limits of current knowledge?	It is not yet fully clear what the level of risk will be on the surrounding environment as specialist studies are still being finalised.
1.8.3 Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	All risks identified will be evaluated and appropriate mitigation measures and a risk-averse cautious approach will be followed.
1.9 How will the ecological impacts resulting from this development impact on people's environmental right in terms following	Refer to impact assessment for a comprehensive analysis of all potential impacts.
1.9.1 Negative impacts: e.g. access to resources, opportunity costs, loss of amenity (e.g. open space), air and water quality impacts, nuisance (noise, odour, etc.), health impacts, visual impacts, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?	Impact identification and prediction includes a stepwise procedure to identify the direct, indirect and cumulative impacts (relating to both positive and negative impacts) for which a proposed activity and its alternatives will have on the environment as well as the community.

Guideline requirement	Comments on requirement
1.9.2 Positive impacts: e.g. improved access to resources, improved amenity, improved air or water quality, etc. What measures were taken to enhance positive impacts?	This is undertaken by determining the sensitivity of sites and locations as well as the risk of impact of the proposed activity.
1.10 Describe the linkages and dependencies between human wellbeing, livelihoods and ecosystem services applicable to the area in question and how the development's ecological impacts will result in socio-economic impacts (e.g. on livelihoods, loss of heritage site, opportunity costs, etc.)?	Refer to Section 5.2 for a complete description of these environmental attributes. Sources of data to be used for gathering data on the environmental attributes as well as the impacts include; monitoring / sampling data collected and stored, assumptions and actual measurements, published data available from the departments or other stakeholders in the area as well as specialist studies. Likely impacts are described qualitatively and then studied separately in detail. This provides consistent and systematic basis for the comparison and application of judgements.
1.11 Based on all of the above, how will this development positively or negatively impact on ecological integrity objectives/targets/considerations of the area?	
1.12 Considering the need to secure ecological integrity and a healthy biophysical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the "best practicable environmental option" in terms of ecological considerations?	The final decommissioning and rehabilitation will be aimed at an end land use that is sustainable to a post mining environment.
1.13 Describe the positive and negative cumulative ecological/biophysical impacts bearing in mind the size, scale, scope and nature of the project in relation to its location and existing and other planned developments in the area?	Refer to the cumulative impact assessment.
2.1 What is the socio-economic context of the area, based on, amongst other considerations, the following considerations?	Refer to Section 5.2.15 for the socio-economic context of the area. Two of the municipal strategic objectives of TLM under spatial development and Local Economic Development (LED) are: To ensure sustainable spatial development and; To create conducive environment for sustainable local economic development. (Thabazimbi Local Municipality Integrated Development Plan, 2022/23)
2.1.1 The Integrated Development Plan (IDP) (and its sector plans' vision, objectives, strategies, indicators and targets) and any other strategic plans, frameworks of policies applicable to the area,	
2.1.2 Spatial priorities and desired spatial patterns (e.g. need for integrated of segregated communities, need to upgrade informal settlements, need for densification, etc.),	
2.1.3 Spatial characteristics (e.g. existing land uses, planned land uses, cultural landscapes, etc.), and	

Guideline requirement	Comments on requirement
2.1.4 Municipal Local Economic Development Strategy (LED Strategy).	
2.2 Considering the socio-economic context, what will the socio-economic impacts be of the development (and its separate elements/aspects), and specifically also on the socio-economic objectives of the area?	Rhino Andalusite Mine Social and Labour Plan (2024-2028): Imerys Refractory Minerals South Africa (Pty) Ltd is committed to skills development through a focus on education, training and development. The training and development system is geared to facilitating a general increase in the skill levels of all employees. In order to identify employees' skill needs and implement a skills development plan, employees are assessed by accredited and registered assessors. Skills Development Plan includes, Portable Skills Plan, Bursary Plan, Learnership Plan, Internship Plan, Career Progression Plan, Mentorship Plan, Core Mining Skills training, Black Persons in Management and Women in Mining Plan.
2.2.1 Will the development complement the local socio-economic initiatives (such as local economic development (LED) initiatives), or skills development programs?	
2.3 How will this development address the specific physical, psychological, developmental, cultural and social needs and interests of the relevant communities?	
2.4 Will the development result in equitable (intra- and inter-generational) impact distribution, in the short- and long-term? Will the impact be socially and economically sustainable in the short- and long-term?	
2.5 (Not applicable)	
2.6 How were a risk-averse and cautious approach applied in terms of socio-economic impacts?	In order to balance the socio-economic aspect, jobs are created for the mining operation, including the rehabilitation phase. Ensuring that local individuals are employed as far as possible, and ensuring that all impacts of the development are minimised will ensure a risk-adverse and cautious approach in terms of socio-economic impacts. The limits of current knowledge and levels of risk will be outlined in the EIAR/EMP.
2.6.1 What are the limits of current knowledge (note: the gaps, uncertainties and assumptions must be clearly stated)?	
2.6.2 What is the level of risk (note: related to inequality, social fabric, livelihoods, vulnerable communities, critical resources, economic vulnerability and sustainability) associated with the limits of current knowledge?	
2.6.3 Based on the limits of knowledge and the level of risk, how and to what extent was a risk-averse and cautious approach applied to the development?	
2.7 How will the socio-economic impacts resulting from this development impact on people's environmental right in terms following:	
2.7.1 Negative impacts: e.g. health (e.g. HIV-Aids), safety, social ills, etc. What measures were taken to firstly avoid negative impacts, but if avoidance is not possible, to minimise, manage and remedy negative impacts?	
2.7.2 Positive impacts. What measures were taken to enhance positive impacts?	

Guideline requirement	Comments on requirement
2.8 Considering the linkages and dependencies between human wellbeing, livelihoods and ecosystem services, describe the linkages and dependencies applicable to the area in question and how the development's socioeconomic impacts will result in ecological impacts (e.g. over utilisation of natural resources, etc.)?	Refer to impact assessment. The consultation process will involve communication with the community and all activities are planned taking environmental parameters into account, with specialist advice.
2.9 What measures were taken to pursue the selection of the "best practicable environmental option" in terms of socio-economic considerations?	Refer to the impact assessment in Section 5.3 which includes the environmental objective to be achieved, the phase applicable to management measure, management tools, management timeframe and schedule, monitoring programmes, responsibilities for implementation and long-term maintenance, financial provision for long-term maintenance and/or environmental costs and the mitigation hierarchy.
2.10 What measures were taken to pursue environmental justice so that adverse environmental impacts shall not be distributed in such a manner as to unfairly discriminate against any person, particularly vulnerable and disadvantaged persons (who are the beneficiaries and is the development located appropriately)? Considering the need for social equity and justice, do the alternatives identified, allow the "best practicable environmental option" to be selected, or is there a need for other alternatives to be considered?	
2.11 What measures were taken to pursue equitable access to environmental resources, benefits and services to meet basic human needs and ensure human wellbeing, and what special measures were taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination?	
2.12 What measures were taken to ensure that the responsibility for the environmental health and safety consequences of the development has been addressed throughout the development's life cycle?	
2.13 What measures were taken to:	
2.13.1 ensure the participation of all I&APs,	The process followed adheres to the NEMA - National guideline on minimum information (20180209-GGN-41432-00086) and the 2012, IEM Guideline Series 7, Public participation, GN 807. Below is a summary of the announcement. Formal announcement of the project: The notices as mentioned below include all requirements as per the EIA Regulations.
2.13.2 provide all people with an opportunity to develop the understanding, skills and capacity necessary for achieving equitable and effective participation,	
2.13.3 ensure participation by vulnerable and disadvantaged persons	
2.13.4 promote community wellbeing and empowerment through environmental education, the raising of environmental awareness, the sharing of knowledge and experience and other appropriate means	

Guideline requirement	Comments on requirement
2.13.5 ensure openness and transparency, and access to information in terms of the process 2.13.6 ensure that the interests, needs and values of all I&APs were taken into account, and that adequate recognition were given to all forms of knowledge, including traditional and ordinary knowledge, and 2.13.7 ensure that the vital role of women and youth in environmental management and development were recognised and their full participation therein were be promoted 2.14 Considering the interests, needs and values of all the I&APs, describe how the development will allow for opportunities for all the segments of the community (e.g. a mixture of low-, middle-, and high-income housing opportunities) that is consistent with the priority needs of the local area (or that is proportional to the needs of an area)?	Advertisement: An advertisement was placed in 'Platinum Bushvelder' on the 20th of April 2023. Refer to Addendum 4B for a copy and proof of this advertisement. Site notice: A site notice was placed at the proposed site on the 20th of April 2023. Refer to Addendum 4C for a copy and proof of the site notice as well as Addendum 4D for a map indicating the location of the site notice. Letters: Letters were sent to all stakeholders as well as landowners on the 20th of April 2023. Refer to Addendum 4E for a copy and proof of these letters sent. Public meeting: A key stakeholder engagement meeting was held on 18 May 2023 at Rhino Andalusite Mine. This ESR is sent to DMRE, as well as the registered I&APs and stakeholders. Any issues raised up to this point have been included in the final ESR and any further issues raised will be included in the EIAR/EMP before submission to DMRE. All registered I&APs were given the opportunity to comment on the ESR. This includes any issues that they have with the proposed activity and that they believe may be of significance in the consideration of the application.
2.15 What measures have been taken to ensure that current and/or future workers will be informed of work that potentially might be harmful to human health or the environment or of dangers associated with the work, and what measures have been taken to ensure that the right of workers to refuse such work will be respected and protected?	All contractors, sub-contractors and workers will attend compulsory environmental awareness training and inductions. This training will highlight the dangers associated with the workplace. Procedures relating to environmental risks will also be put in place and will be regularly updated.
2.16 Describe how the development will impact on job creation in terms of, amongst other aspects:	
2.16.1 the number of temporary versus permanent jobs that will be created,	The mine will embark on a detailed skills development process and the skills development

Guideline requirement	Comments on requirement
2.16.2 whether the labour available in the area will be able to take up the job opportunities (i.e. do the required skills match the skills available in the area),	plan will include individual skills development of employees and the evaluation of training and development needs of the geographical area will also be considered.
2.16.3 the distance from where labourers will have to travel,	
2.16.4 the location of jobs opportunities versus the location of impacts (i.e. equitable distribution of costs and benefits), and	
2.16.5 the opportunity costs in terms of job creation (e.g. a mine might create 100 jobs, but impact on 1000 agricultural jobs, etc.).	
2.17 What measures were taken to ensure:	
2.17.1 that there were intergovernmental coordination and harmonisation of policies, legislation and actions relating to the environment, and	A summary of various legislation is included in Section 3 of this report. All organs of state will receive this ESR as well as the EIAR/EMP for review. Any comments from them will be incorporated into the final decision.
2.17.2 that actual or potential conflicts of interest between organs of state were resolved through conflict resolution procedures?	
2.18 What measures were taken to ensure that the environment will be held in public trust for the people, that the beneficial use of environmental resources will serve the public interest, and that the environment will be protected as the people's common heritage?	
2.19 Are the mitigation measures proposed realistic and what long-term environmental legacy and managed burden will be left?	Refer to impact assessment mitigation measures.
2.20 What measures were taken to ensure that the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects will be paid for by those responsible for harming the environment?	There are provisions made to ensure that environmental pollution does not occur.
2.21 Considering the need to secure ecological integrity and a healthy bio-physical environment, describe how the alternatives identified (in terms of all the different elements of the development and all the different impacts being proposed), resulted in the selection of the best practicable environmental option in terms of socio-economic considerations?	Development footprint alternatives (if considered) will be based on input from the various specialist studies and feedback from the public participation process.
2.22 Describe the positive and negative cumulative socio-economic impacts bearing in mind the size, scale,	Refer to the cumulative impact assessment.

Guideline requirement	Comments on requirement
scope and nature of the project in relation to its location and other planned developments in the area?	

4.1 Period for which the environmental authorisation is required

The authorisation will be required for the duration of the Mining Right (until 16th April 2044).

SECTION 5: DESCRIPTION OF THE PROCESS FOLLOWED TO REACH THE PROPOSED PREFERRED SITE

5.1 Public participation

5.1.1 Details of the public participation process undertaken in terms of regulation 41 of the Regulations, including copies of the supporting documents and inputs

According to the Publication of Participation Guideline (NEMA), an I&AP is:
"(a) any person, group or persons or organisations interested in or affected by an activity, and (b) any organ of state that may have jurisdiction over any aspect of the activity".

This definition is more detailed in the Guideline for consultation with communities and I&APs (MPRDA):
"I&APs include, but are not limited to; (i) Host Communities, (ii) Landowners (Traditional and Title Deed owners), (iii) Traditional Authority, (iv) Land Claimants, (v) Lawful land occupier, (vi) The Department of Land Affairs, (vii) Any other person (including on adjacent and non-adjacent properties) whose socio-economic conditions may be directly affected by the proposed prospecting or mining operation (viii) The Local Municipality, (ix) The relevant Government Departments, agencies and institutions responsible for the various aspects of the environment and for infrastructure which may be affected by the proposed project."

5.1.1.1 Identification of interested and affected parties

Refer to Table 7 below for all I&APs and stakeholders identified. All of these I&APs and stakeholders were in fact consulted. Refer to Addendum 4E for a copy and proof of letters sent to all stakeholders and I&APs. Refer to Addendum 4G for comments received. I&APs will be registered if they communicate in any form with regards to this process. Refer to Addendum 4H for the complete stakeholder database.

Table 7: I&APs and stakeholders identified

Interested and Affected Parties	**Date comments received & issues raised**	**EAPs response to issues as mandated by the applicant**	**Section reference in this ESR where issues and or response were incorporated**
Affected parties			
Landowner/s			
Thabazimbi Iron Ore Mine (Pty) Ltd	None	N/A	N/A
Lawful occupier/s of the land			

Interested and Affected Parties	Date comments received & issues raised	EAPs response to issues as mandated by the applicant	Section reference in this ESR where issues and or response were incorporated
Istores Primary School	None	N/A	N/A
Landowners or lawful occupiers on adjacent properties			
Thabazimbi Iron Ore Mine (Pty) Ltd	None	N/A	N/A
Imerys Refractory Minerals South Africa (Pty) Ltd	None	N/A	N/A
Alfafa trust	None	N/A	N/A
Sandrivier familie trust	None	N/A	N/A
Combo braai CC	None	N/A	N/A
J M De Villiers trust	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
	None	N/A	N/A
Thabazimbi Local Municipality Ward 3			
Municipal councillor	None	N/A	N/A
Thabazimbi Local Municipality Ward 6			
Municipal councillor	None	N/A	N/A
Thabazimbi Local Municipality			
Municipal manager	None	N/A	N/A
Waterberg District Municipality			

Interested and Affected Parties	Date comments received & issues raised	EAPs response to issues as mandated by the applicant	Section reference in this ESR where issues and or response were incorporated
Municipal manager	None	N/A	N/A
Organs of state			
DWS Hartebeespoort	None	N/A	N/A
DWS National	None	N/A	N/A
Department of Agriculture Land Reform and Rural Development			
	None	N/A	N/A
Traditional Leaders			
None identified as of yet	None	N/A	N/A
Roads Agency Limpopo			
	None	N/A	N/A
Limpopo Economic Development, Environment and Tourism			
	None	N/A	N/A
Other Competent Authorities affected			
SAHRA	None	N/A	N/A
LIHRA	None	N/A	N/A
DFFE	None	N/A	N/A
DAFF	None	N/A	N/A
DARD Limpopo	None	N/A	N/A
Other affected parties			
Historical disadvantaged communities			
None identified as of yet	None	N/A	N/A
Land claimants			
None identified	None	N/A	N/A
Eskom			
Eskom Land & Rights Negotiator	24 April 2023 - Eskom Land & Rights Negotiator a requested cover letter and locality map including coordinates.	24 April 2023 – The EAP sent the requested documentation and asked to be informed whether additional information was required.	Addendum 4G
Eskom Land & Rights Negotiator	25 April 2023 – Comments were sent to the EAP indicating that Eskom Distribution services are present on the target site and that Eskom has no	22 May 2023 – The EAP sent a response letter acknowledging that the	Addendum 4G

Interested and Affected Parties	Date comments received & issues raised	EAPs response to issues as mandated by the applicant	Section reference in this ESR where issues and or response were incorporated
	objection to the development provided that the listed conditions are adhered to.	listed conditions will be adhered to.	
Eskom	02 May 2023 - Comments were sent to the EAP indicating that Eskom is affected by the proposed development, however Eskom Distribution has no objection to the proposed application, provided that the conditions in the letter are complied with.	22 May 2023 – The EAP sent a response letter acknowledging that the listed conditions will be complied with.	Addendum 4G
Registered Interested and Affected Parties			
Portion 17 of the farm Wachteenbietjesdraai 350 KQ	6 January 2023 – "Goeie naand Chris, ek [redacted] is die eienaar van ged 17 van die plaas Wachteenbietjiesdraai 350 kq. Ek maak ten sterkste beswaar teen die prospekteer vir Andolosiet op my gedeelte. By vootbaat dankie. [redacted] 6Jan 2023" 8 January 2023 – "Skuus my e pos is [redacted]" **Translation:** 6 January 2023 – "Good evening Chris, I [redacted] am the owner of portion 17 of the farm Wachteenbietjiesdraai 350 kq. I strongly object to prospecting for Andalusite on my portion. Thanks in advance. [redacted]. 6Jan 2023"	9 January 2023 – Good morning sir, My apologies for the delayed response. Thank you very much for your what'sapp. It is duly noted. Thank you for your contact details as well. Kind regards	This table.

Interested and Affected Parties	Date comments received & issues raised	EAPs response to issues as mandated by the applicant	Section reference in this ESR where issues and or response were incorporated
	8 January 2023 – "Sorry, my e-mail is [redacted]"		
Portion 32 of the farm Wachteenbietjesdraai 350 KQ	8 January 2023 – "Goeie naand Chris. Ek is [redacted] Vruggebruiker op Wachteenbietjesdraai nr 32. Ek teken as geaffekteerde inwoner beswaar aan teen die voorgenome prospekteer aksie op die aangrensende geteeltes van die plaas Wachteenbietjesdraai. Ek versoek derhalwe dat my beswaar aangeteken sal word en dat ek op hoogte gehou sal word van verwikkelinge. Baie dankie. Mooiloop" **Translation:** 8 January 2023 – "Good evening Chris. I am [redacted] Usufructuary on Wachteenbietjesdraai no 32. As an affected resident, I object to the proposed prospecting action on the adjacent portions of the farm Wachteenbietjesdraai. I therefore request that my objection be recorded and that I be kept informed of developments. Thank you very much."	9 January 2023 – "Good morning, Thank you. You will be registered as an interested and affected party. Kindly provide your email address for future correspondence. Kind regards"	This table.

Interested and Affected Parties	Date comments received & issues raised	EAPs response to issues as mandated by the applicant	Section reference in this ESR where issues and or response were incorporated
Portion 32 of the farm Wachteenbietjesdraai 350 KQ	9 January 2023 – "Good morning. Thank you for your reply. My email address is: [redacted] Thank you Blessings"	N/A	This table.
Portion 18 Wachteenbietjesdraai 350 KQ	11 January 2023 – The EAP received a phone call from a person that resides on Portion 18 Wachteenbietjesdraai 350 KQ asking to be added as a registered I&AP. The email address was given to the EAP.	The EAP registered the party and informed the party that they would receive future reports and correspondence.	This table.
JAVAVU Game farm and Lodge	21 April 2023 – The party indicated concern about water levels in boreholes and noise impact as the party is in the Eco-tourism business.	3 May 2023 - The EAP registered the party and informed the party that that groundwater abstraction is not part of the scope of the IWULA which the mine will be applying for and that the EIA report will include will include an impact assessment and mitigation measures that will be incorporated to ensure that noise impacts are minimised.	Addendum 4G
Grootfontein Private Game Reserve	25 April 2023 – The party requested to be added as an I&AP. Two email addresses were given to the EAP.	19 May 2023 - The EAP registered the party and took down the email addresses.	Addendum 4G
Grootfontein Private Game Reserve	2 May 2023 - The party requested to have two individuals added as I&APs.	10 May 2023 - The EAP registered the party and	Addendum 4G

Interested and Affected Parties	Date comments received & issues raised	EAPs response to issues as mandated by the applicant	Section reference in this ESR where issues and or response were incorporated
	It was stated that the Game Reserve has been offering hunting, tourism and accommodation for decades and that the party feels it would be detrimental if mining is carried out on an adjacent farm with possible impact on the water table. The party then enquired about the time of the public meeting scheduled for 18 May 2023.	informed them that the meeting would take place at 9 A.M. on the 18th of May. The EAP then stated that the party's farm is located behind the Iron formation mountains within the Dolomite Geological terrain approximately 3.5km straight line distance. The EAP included that the proposed activities will not intersect the potential aquifer and that historical quarries 1 - 3 are located closer to the party's property than any of the Buffelshoek future operations. Lastly, the EAP stated that there has been no impact from these quarries in the past and that previous Geohydrological Reports state that no significant groundwater level impacts are expected.	
	10 May 2023 - The party asked to confirm the location of the proposed project.	12 May 2023 - The EAP sent the coordinates and a link to the location of the proposed project.	Addendum 4G
	12 May 2023 – Both individuals indicated the they are out of town on	12 May 2023 – The EAP stated that the minutes	Addendum 4G

Interested and Affected Parties	Date comments received & issues raised	EAPs response to issues as mandated by the applicant	Section reference in this ESR where issues and or response were incorporated
	the 18th, and asked that the minutes of the meeting be sent to them.	would be sent to the individuals.	

*NOTE: In accordance with the Protection of Personal Information Act (Act No. 4 of 2013) personal details are blanked out.

5.1.1.2 The details of the first phase (engagement process)

An advertisement was placed in 'Platinum Bushvelder' on the 20th of April 2023. Refer to Addendum 4B for a copy and proof of this advertisement. A site notice was placed at the proposed site on the 20th of April 2023. Refer to Addendum 4C for a copy and proof of the site notice as well as Addendum 4D for a map indicating the location of the site notice.

Letters were sent to all stakeholders as well as landowners on the 20th of April 2023. Refer to Addendum 4E for a copy and proof of these letters sent. A key stakeholder engagement meeting was held on 18 May 2023 at Rhino Andalusite Mine. Two registered I&APs indicated interest in attending the meeting, but could not attend due to other commitments. There were no attendees for the meeting.

5.1.1.3 The details of the second phase (environmental scoping report)

The scoping report was sent to the Limpopo Department of Economic Development, Environment and Tourism (LEDET), the Department of Water and Sanitation (DWS) Lydenburg, the Department of Agriculture, Land Reform and Rural Development (DALRRD), District and Local Municipality for 30 days of comment. DMRE will receive the final ESR on or before the 25th of May 2023. All registered I&APs and stakeholders will also receive an electronic copy on or before the 25th of May 2023.

5.1.2 Summary of issues raised by interested and affected parties and an indication of the manner in which the issues were incorporated, or the reasons for not including them

Eskom has indicated that there is distribution infrastructure on the proposed project area and that there is no obligation to the development provided that the mine complies with the conditions listed in the letters sent to the EAP. Nearby I&APs, Grootfonetin Private Game Reserve and JAVAVU Game Farm and Lodge, have indicated concern regarding noise impacts and groundwater levels. Three individuals have been registered as interested and affected parties. Two of the individuals are opposed to prospcting activities taking place on their properties and the other requested to be included in future communication. The comments and responses are incorporated in table 7 above.

5.2 The Environmental attributes associated with the sites – baseline environment

PLEASE NOTE: The below baseline environmental descriptions are based mainly on draft specialist reports which still need to be finalised. As such the baseline environmental descriptions may still be expanded on in future reports.

5.2.1 Geology

Information for this section was extracted from the draft Geohydrological Study and Impact Assessment (Shangoni AquiScience, 2023).

5.2.1.1 Regional geology

The figure below represents the geology of the area.

The area is underlain by a succession of steeply dipping shales and sandstones and quartzite of the Timeball Hill Formation (Pretoria Group) of the Transvaal Sequence. The Timeball Hill shales and sandstones are bounded to the south by the mafic rocks of the Marginal Zone of the Bushveld Complex. The Andalusite ore body is developed along strike within the alumina-rich shale band developed at the base of the banded ironstone ridge. A number of north-west striking faults are located in immediate vicinity of the study area while north-south dolerite dyke strikes across the study and mineral resource area.

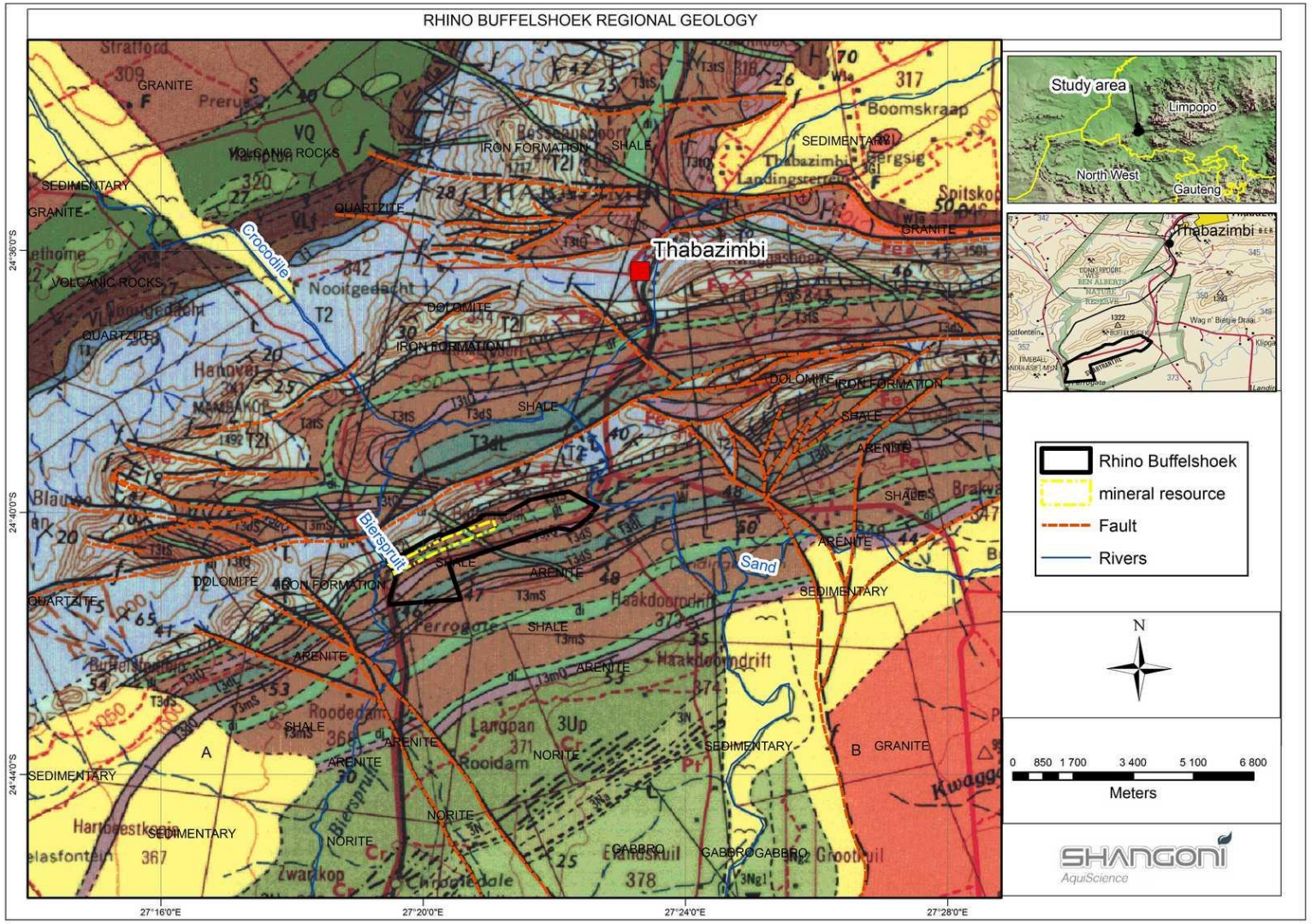

Figure 2: Regional geology (Shangoni AquiScience, 2023)

5.2.1.2 Local geology

The andalusite bearing hornfels occurs within the shales of the Timeball Hill Formation. The boundary between the ore body and the foot wall is gradational and therefore gradually changes from mineralised material to barren over several meters.

The specific geological formation is the andalusite bearing Timeball Hill Formation composed of shales/hornfels of the Pretoria Group, steeply dipping towards the south. It is underlain by a banded iron formation (BIF) and the dolomites of the Malmani Formation to the north.

Elevations of the orebody measured during a test pit excavation is displayed in Figure 3.

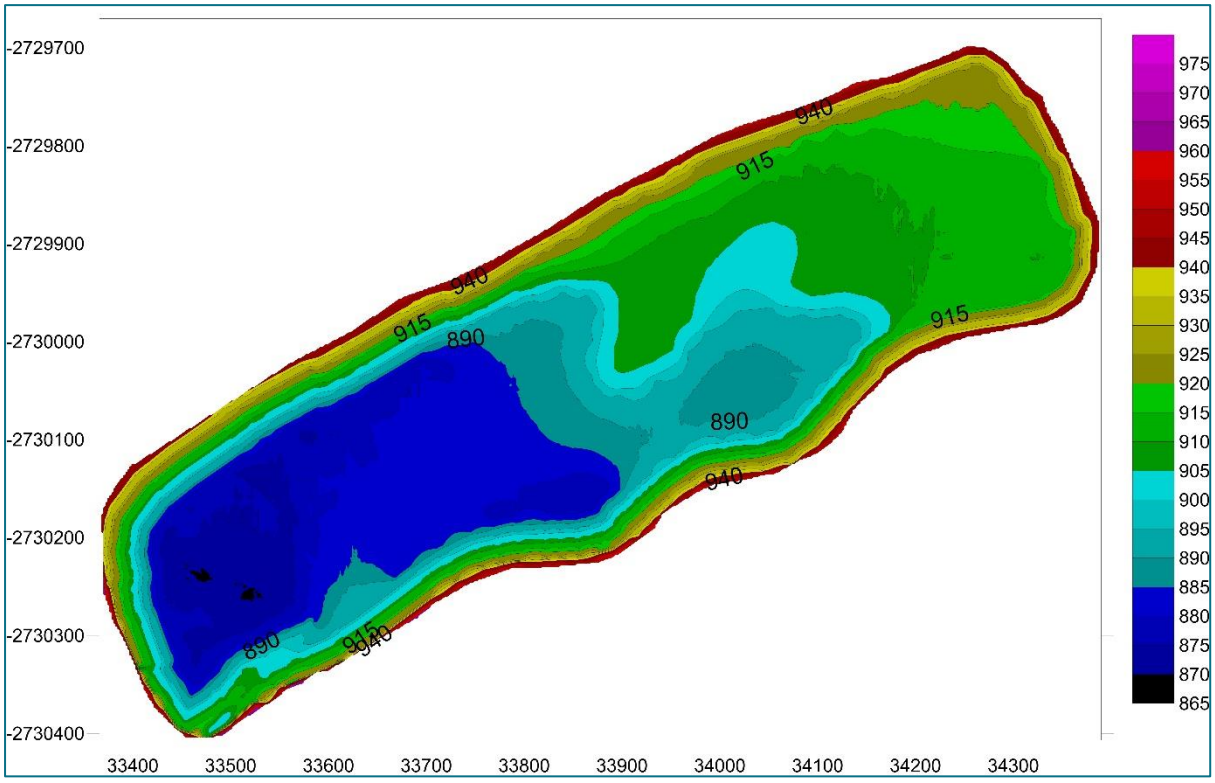

Figure 3: Test pit survey elevations (Shangoni AquiScience, 2023)

5.2.2 Climate

Information for this section was extracted from the Terrestrial Vegetation draft report (Dimela Eco Consulting, 2023) and the draft Storm Water Management Plan (Rational Environmental, 2023).

Thabazimbi is within the summer rainfall area, with dry to very dry winters (Figure 4). Frost is experienced in the higher lying mountainous areas, while frost in lower lying areas between the mountains and on sandy planes are infrequent. The Mean Annual Precipitation ranges from about 500–750 mm (Mucina and Rutherford, 2006).

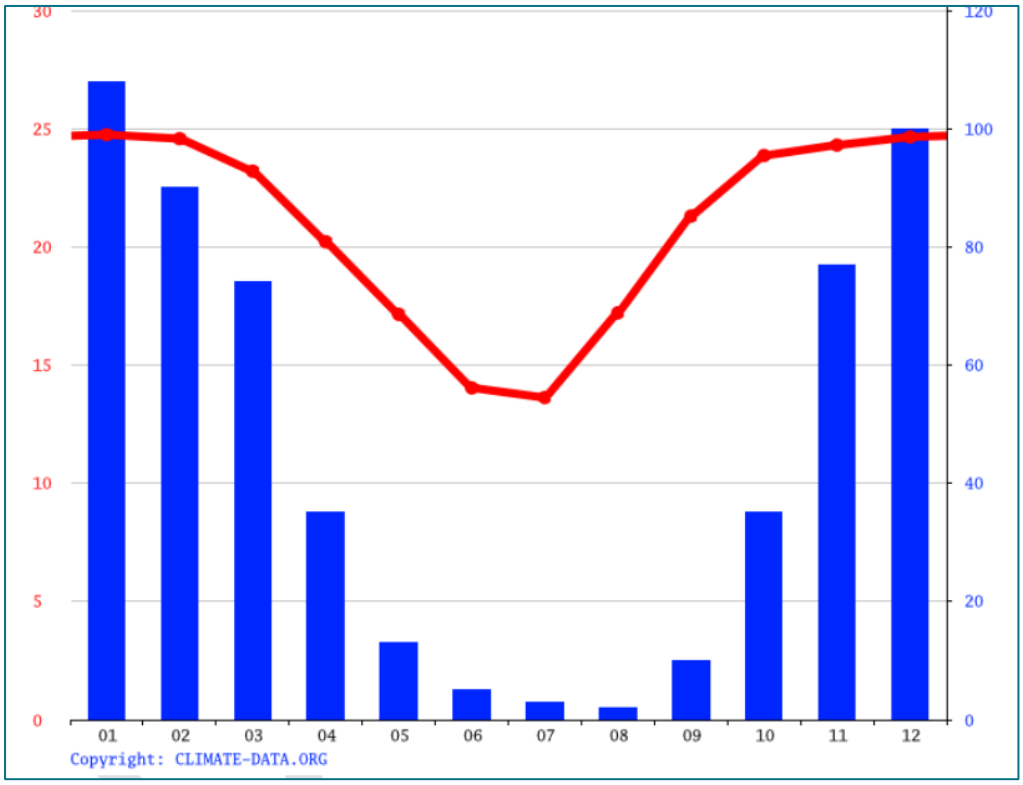

Figure 4: Mean temperature for the Thabazimbi area (climate-data.org)

Rainfall and evaporation data is retrieved from the Nooitgedacht - Bierspruit dam weather station A2E012 located 10km west of the site using data collected over a period of 10 years.

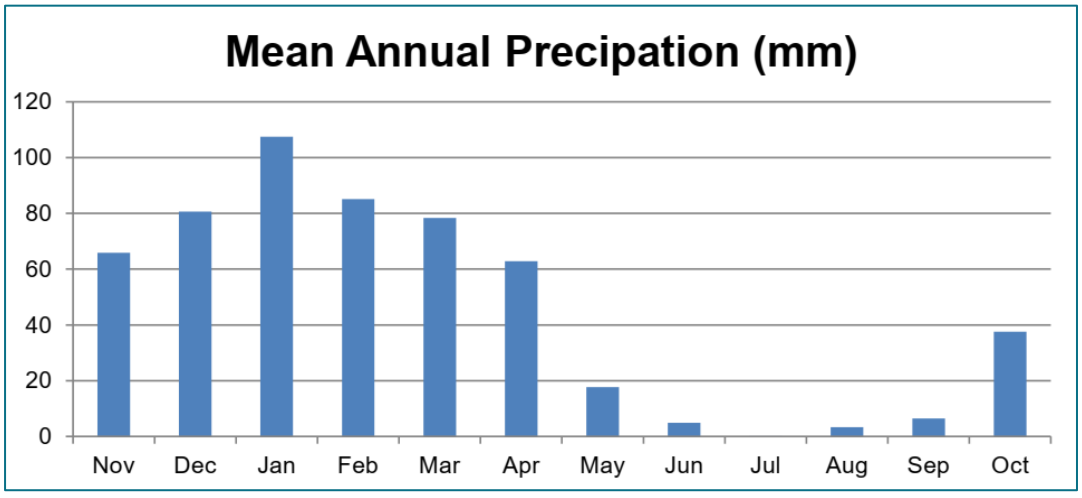

Figure 5: Mean Annual Precipitation (mm) (Rational Environmental, 2023)

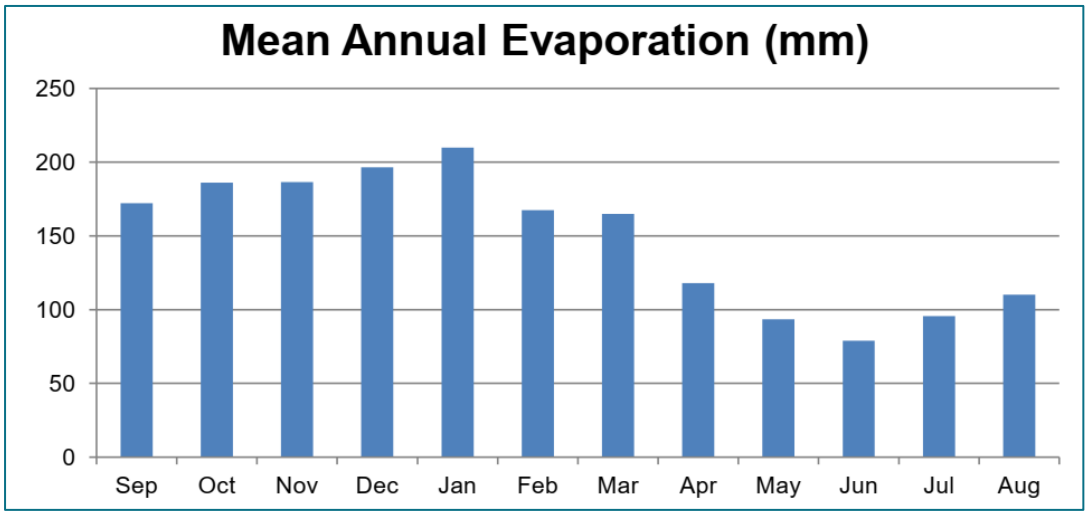

Figure 6: Mean annual evaporation for S-class pan (Rational Environmental, 2023)

5.2.3 Topography

Information for this section was extracted from the draft Storm Water Management Plan (Rational Environmental, 2023):

The distribution of the Andalusite ore results in a mine layout to be stretched out in a linear direction along the southern foot of a mountain range. The general drainage is from the mountain peaks southward and slightly south east towards the Bierspruit in the lowest area, and west towards the Crocodile River. South of the planned infrastructure is relatively flat.

5.2.4 Soil

Information for this section was extracted from the Samrec (Pty) Ltd EMP for Buffelshoek Extension (Shangoni Management Services, 2010):

The soils are, for the most part, stony red soils with a high base status. Reference can be made to Figure 7 for a General Soil Description. Soil is further described in the northern parts as strongly structured cracking soils, mainly dark coloured, dominated by swelling clays (vertic soils). The soils towards the south are further described as red soils with high base status. Some black clay occurs in the low-lying Bierspruit valley and, bordering on these, the red soils tend towards having melanic A-horizons and Pedocutanic B-horizons. There is thus a gradient from the Hutton form to the Bonheim / Valsrivier spectrum to the Arcadia form going down slope. On the dolomites the red soils are lighter textured than on the shales and breccias.

Soils are deep, at places more than 750 mm deep, with high clay content in most topsoil. This clay has a low swelling potential especially towards the southern parts of the site. Soils are also non-calcareous towards the northern part of the site and Eutrophic towards the southern part of the site.

Water-holding capacity towards the north is low (21 – 40 mm) and medium high towards the south (61 – 80 mm). Water erosion potential on the northern part is high whereas water erosion potential towards the southern part is moderate. Due to the more loamy texture of the soil on the northern part of the site, the soils are only moderately susceptible to wind erosion. Soils towards the southern part are more susceptible to wind erosion.

In terms of nutrients, as is the case with most soils under dry climatic conditions, the soils are fertile. Organic carbon content is medium - low of 0.6 – 1 mm. In the undisturbed state the soils are not inherently erodible. There are no signs of erosion except in disturbed sites (along the roadways, etc.) in the area. Although topsoil is present it is not in such thick layers to promote topsoil recovery on most parts of the site. Soils have a neutral pH of 6.5 - 7.4. Soils are somewhat susceptible to acidification are dominant towards the southern part of the site.

Soils are furthermore, on the southern part of the site, structurally favourable for arable land use; however, these soils do not have a beneficiary water retaining layer for root development.

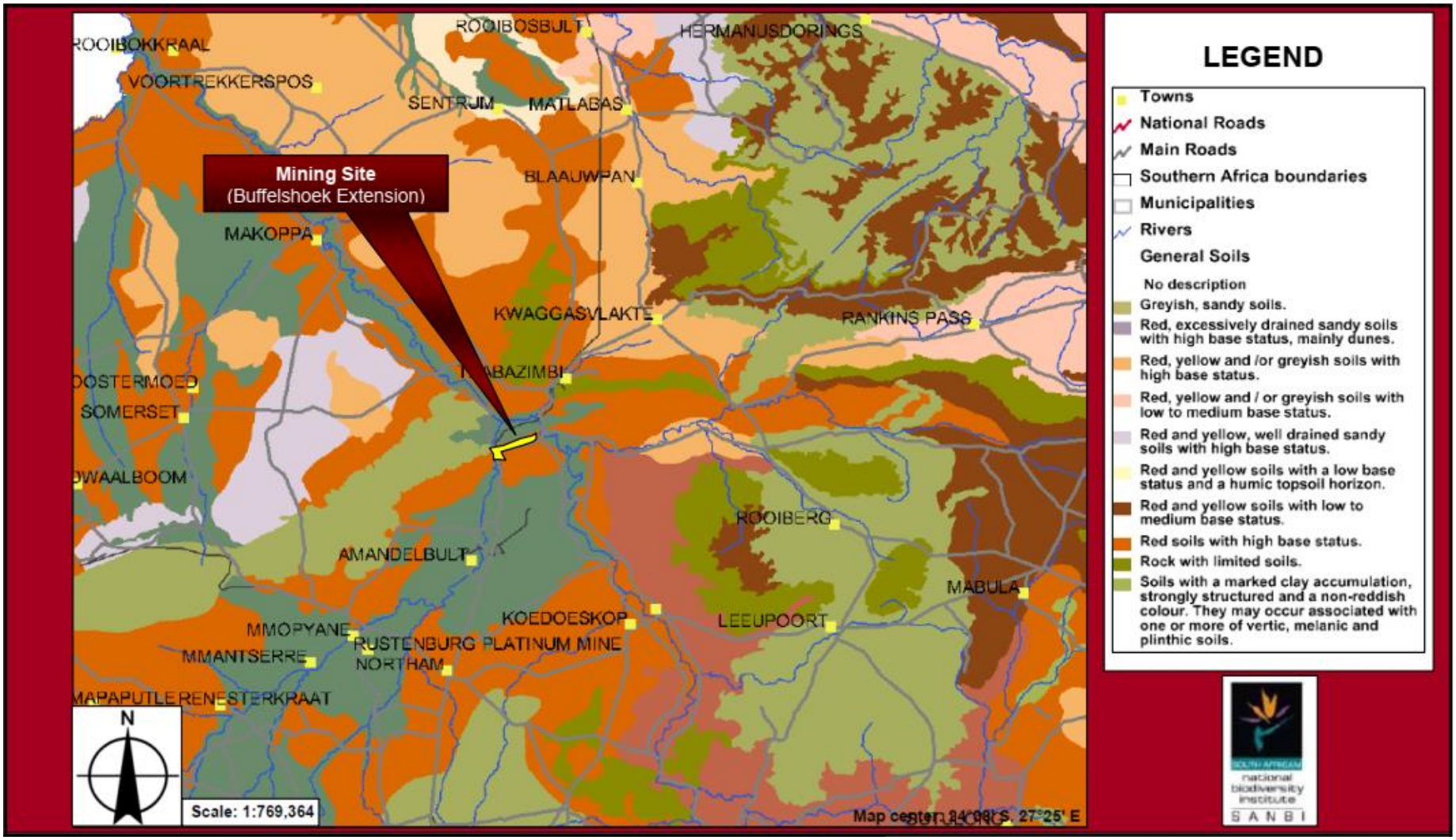

Figure 7: Generalised Soil Description of the Area

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

Information for this section was extracted from the Samrec (Pty) Ltd EMP for Buffelshoek Extension (Shangoni Management Services, 2010):

Historical agricultural production is a possibility and the area has areas of transformed rangelands. The southern part of the site has a marginal potential for arable land due to the soil characteristics. Potential grazing capacity is moderately high with 9 – 10 ha per large stock unit towards the northern part of the site and 7 – 8 ha per large stock unit towards the southern parts of the site. There is a small area of degraded land towards the most southern part of the site.

The site itself has a land use described as vacant or unspecified. There are built-up areas and quarries on the western part of the site. To the north of the site, lies a large mined out area. Rhino Andalusite Mine is situated to the west of the site.

There are some cultivated areas a short distance away towards the south of the site, along the river.

5.2.6 Vegetation

Information for this section was extracted from the Terrestrial Vegetation draft report (Dimela Eco Consulting, 2023):

5.2.6.1 Regional Vegetation Overview

The site falls within the Savanna Biome of South Africa and in specific within the Central Bushveld Bioregion. This biome is the largest biome in southern Africa, occupying over one-third of the surface area of the country (Mucina & Rutherford, 2006). It is characterised by a grassy ground layer and a distinct upper layer of woody plants. Where this upper layer is near the ground the vegetation may be referred to as Shrubveld, where it is dense, as Woodland, and the intermediate stages are commonly known as Bushveld (Mucina & Rutherford, 2006).

The site comprises the Waterberg Mountain Bushveld in the north and the Dwaalboom Thornveld on the lower lying southern areas (Figure 6 of original specialist report). The Waterberg Mountain Bushveld vegetation type occurs on rugged mountains grading from *Faurea saligna – Protea caffra* bushveld on higher slopes through to broad-leaved deciduous bushveld dominated by *Diplorhynchus condylocarpon*, (horingpeultjieboom) to *Burkea africana-Terminalia sericea* savanna in the lower lying valleys and deeper sands. Dwaalboom Thornveld comprises plains with layer of scattered, low to medium high, deciduous microphyllous trees and shrubs with a few broad-leaved tree species. The herbaceous layer is dominated by grass species. Trees such as *Vachellia tortilis* and *Vachellia nilotica* dominate on the medium clays.

5.2.6.2 Listed Ecosystems

According to the 2022 Revised National List of Threatened Ecosystems, the Waterberg Mountain Bushveld and the Dwaalboom Thornveld are classified as Least Concern (Government Gazette 47526, Government Notice 2747, 18 November 2022). The project area is not situated within a listed ecosystem. The Waterberg Mountain Bushveld has experienced low rates of natural habitat loss and biotic disruptions, placing this ecosystem at low risk of collapse (Skowno et al, 2019). The remaining extent of this ecosystem is about 93 %, with 16.5% in protected area. Dwaalboom Thornveld has experienced low rates of natural habitat loss and biotic disruptions, placing this ecosystem at low risk of collapse. About 79% of the Dwaalboom Thornveld is still intact, with 15.2% within protected areas.

5.2.6.3 Limpopo Biodiversity Assessment and Conservation Plan

The Limpopo Province assessed the biodiversity in the province and classified the province in terms of Critical Biodiversity Areas (CBA's) and Ecological Support Areas (ESA's), as well as Protected Areas and areas where No Natural Habitat remain (Desmet et al, 2013).

Critical Biodiversity Areas (CBAs) are the sites that are required to meet the region's biodiversity targets and need to be maintained in a natural condition to safeguard identified biodiversity features. Ecological Support Areas (ESAs) are classified as areas that are important for ensuring persistence and to provide intact mega-pathways for long-term biological movement, and they are selected primarily along river lines and altitude gradients to provide for the natural retreat and advance of plants and animals in response to environmental change.

5.2.7 Animal life

Information for this section was extracted from the Vertebrate fauna draft report (Limnology, 2022):

5.2.7.1 Mammals

5.2.7.1.1 Mammal Habitat Assessment

The local occurrences of mammals are closely dependent on broadly defined habitat types, in particular terrestrial, arboreal (tree-living), rupicolous (rock-dwelling) and wetland-associated vegetation cover. It is thus possible to deduce the presence or absence of mammal species by evaluating the habitat types within the context of global distribution ranges.

From a mammal habitat perspective, it was established that all four major habitats are naturally present on the study site.

Most of the study site consists of pristine Akasia and Broadleaf Bushveld. The site was first transformed for agricultural purposes like grazing by livestock and fields and later by anthropogenic influences such as mining, invasive plants, gravel roads, fences ground clearing, poaching and man-made structures like a trough. The study site can thus be regarded as ecologically disturbed, but only in certain parts.

No moribund termitaria were recorded on the study site. These structures are good indicators of the occurrence of small mammals. Accordingly, it is estimated that the mammal population density for the study site is somewhat lower. At the time of the site visit the basal cover was good in many places after good rain and would provide adequate nourishment and cover for small terrestrial mammals (Figure 8).

Figure 8: Good grass cover on the study site

Many indigenous trees grow on the site, which would provide arboreal habitat for arboreal mammal species (Figure 9). Due to the presence of natural arboreal habitat, many arboreal species like vervet monkey, South African galago and woodland dormouse were added to the species list in Table 8. There are several dead logs, which would provide shelter and food for some mammals.

Figure 9: Arboreal habitat on the study site

There is very good aquatic habitat just west of the site in the form of the Bierspruit (Figure 10) and the Crocodile River east of the site. Permanent and temporary water sources occur on the rest of the study site in the form of artificial water holes and small drainage lines.

Figure 10: The Bierspruit west of the site

There are also important natural rupicolous habitats on the study site in the form of ridges (Figure 9 & Figure 10) and rock-embedded soil (Figure 11). Manmade rupicolous habitat exists in the form of a mine (Figure 12) and manmade structures such as artificial waterpoints. Due to the presence of natural rupicolous habitat, species like eastern rock elephant shrew, klipspringer, mountain reedbuck and grey rhebok, Jameson's red rock rabbit and dassie were added to the species list in Table 8.

Figure 11: Rock-embedded soil on the site

Figure 12: Man-made rupicolous habitat on site

The site has no caves suitable for cave-dwelling bats, although some of the mining areas may act as substitute daytime roosts. It is likely that common bats commute from roosting sites elsewhere to hawk for insects over the Bierspruit, Crocodile River and other wetlands of the study site.

Many of the surrounding properties are currently used for game farming and with the exception of the R510 tar road south of the site and mining activities, connectivity is fairly good. However, game fences inhibit large mammal movement. Real opportunities for migration exist along the Bierspruit and Crocodile River.

Sight records were also used to compile this mammal report.

5.2.7.1.2 Expected and Observed Mammal Species Richness

Many large mammals (such as elephant, African buffalo, hippopotamus, giraffe, tsessebe, roan, blue wildebeest, red hartebeest, eland, southern reedbuck, waterbuck, black and white rhino, lion, wild dog, cheetah and spotted hyena have long since been extirpated for sport and later to favour livestock farming. However, many other large to medium-sized mammals still occur on the site or were introduced, like plain zebra, kudu, impala, bushbuck, vervet monkey, brown hyena, aardwolf, aardvark, warthog, black-backed jackal, common duiker and steenbok.

The species richness is fair to good due to the pristine nature of most parts. Most of the species on the study site are common and widespread (viz. common duiker, scrub hare, vervet monkey, multimammate mouse, pygmy mouse, genet species, mongoose species, tree squirrel and others).

Of 91 mammal species expected to occur on the study site (Table 8), six were confirmed during the site visit. It should be noted that potential occurrences are interpreted as being possible over a period of

time as a result of environmentally induced expansions and contractions of population densities and ranges, which stimulate migration.

Table 8 lists the mammals which are deemed as probable residents on the study site and the 500 metres extended study area. All feral or domesticated mammal species expected to occur on or near the study site (e.g. house mice, house rats, cattle, sheep, dogs and cats) were omitted from Table 8 since these species are normally associated with human settlements.

The bats listed are mostly common in the area wherever they can find daytime roosts in manmade structures. Many bat species commute over considerable distances in search of rich feeding patches, such as insects that are swarming (or may eventually swarm) over wetlands at dusk.

The species richness is good due to the size of the site and the fact that all four habitat types occur on the study site.

Table 8: Mammal species richness. The species observed or deduced to occupy the site. (Systematics and taxonomy as proposed by Skinner & Chimimba [2005], Apps [2012] Stuart & Stuart [2015], and Child. et.al. 2016).

	Scientific Name	English Name
	Order: MACROSCELIDEA	
	Family: Macroschelididae	**Elephant-shrews**
?	*Elephantulus brachyrhynchus*	Short-snouted elephant-shrew
√	*Elephantulus myurus*	Eastern rock elephant-shrew
	Order: TUBULIDENTATA	
	Family: Orycteropodidae	**Aardvark**
√	*Orycteropus afer*	Aardvark
	Order: HYRACOIDEA	
	Family: Procaviidae	**Hyraxes**
√	*Procavia capensis*	Rock hyrax
	Family: Orycteropodidae	
	Order: LAGOMORPHA	
	Family: Leporidae	**Hares, rabbits and rock rabbits**
√	*Lepus saxatilis*	Scrub hare
√	*Pronolagus randensis*	Jameson's red rock rabbit
	Order : RODENTIA	
	Family: Bathyergidae	**Mole rats**
√	*Cryptomys hottentotus*	African mole rat
	Family: Hystricidae	**Porcupines**
√	*Hystrix afriaeaustralis*	Cape porcupine
	Family: Thryonomyidae	**Canerats**

	Scientific Name	English Name
*	*Thryonomys swinderianus*	Greater canerat
	Family: Pedetidae	
√	*Pedetes capensis*	Springhare
	Family: Sciuridae	Squirrels
√	*Paraxerus cepapi*	Tree squirrel
	Family: Myoxidae	**Dormice**
*	*Graphiurus platyops*	Rock dormouse
√	*Graphiurus murinus*	Woodland dormouse
	Family: Muridae	**Rats and mice**
?	*Acomys spinosisimus*	Spiny mouse
*	*Lemniscomys rosalia*	Single-striped grass mouse
*	*Rhabdomys pumelo*	Four-striped grass mouse
?NT	*Dasymys incomtus*	African marsh rat
√	*Mus indutus*	Desert pygmy mouse
?	*Mastomys natalensis*	Natal multimammate mouse
√	*Mastomys coucha*	Southern multimammate mouse
√	*Thallomys paedulcus*	Acacia rat
√	*Aethomys ineptus*	Tete veld rat
√	*Micaelamys namaquensis*	Namaqua rock mouse
?	*Otomys angoniensis*	Angoni vlei rat
√	*Otomys irroratus*	Vlei rat
?	*Gerbillurus paeba*	Hairy-footed gerbil
*	*Tatera leucogaster*	Bushveld gerbil
√	*Tatera brantsii*	Highveld gerbil
*	*Saccostomus campestris*	Pouched mouse
√	*Dendromus melanotis*	Grey pygmy climbing mouse
?	*Dendromus mystacalis*	Chestnut climbing mouse
*	*Steatomys pratensis*	Fat mouse
	Order: PRIMATES	
	Family: Galagidae	**Galagos**
√	*Galago moholi*	South African galago
	Family: Cercopithecidae	Baboons and monkeys
√	*Papio hamadryas*	Chacma baboon
√	*Cercopithecus pygerythrus*	Vervet monkey
	Order: EULIPOTYPHA	
	Family Soricidae	**Shrews**
?	*Suncus lixus*	Greater dwarf shrew
?NT	*Crocidura mariquensis*	Swamp musk shrew
*	*Crocidura fuscomurina*	Tiny musk shrew
*	*Crocidura cyanea*	Reddish-grey musk shrew
?	*Crocidura silacea*	Lesser grey-brown musk shrew

	Scientific Name	English Name
*	*Crocidura hirta*	Lesser red musk shrew
	Family: Erinaceidae	**Hedgehog**
*NT	*Atelerix frontalis*	Southern African hedgehog
	Order: CHIROPTERA	**Bats**
	Family: PTEROPIDAE	**Epauletted fruit bats**
?	*Epomophorus wahlbergi*	Wahlberg's epauletted fruit bat
?	*Eidolon helvum*	Straw-coloured fruit bat
	Family: Embalonuridae	**Sheath-tailed bats**
?	*Taphozous mauritianus*	Mauritian tomb bat
	Family: Molossidae	**Free-tailed bats**
√	*Tadarida aegyptiaca*	Egyptian free-tailed bat
	Family: Vespertilionidae	**Vesper bats**
?	*Miniopterus natalensis*	Natal Long-fingered bat
?	*Pipisterellus rusticus*	Rusty pipistrelle
√	*Neoromicia capensis*	Cape serotine bat
?	*Myotis tricolor*	Temminck's hairy bat
?	*Scotophilus dinganii*	African yellow house bat
	Family: Nycteridae	**Slit-faced bats**
?	*Nysteris thebaica*	Egyptian slit-faced bat
	Family: Rhinolophidae	**Horseshoe bats**
?	*Rhinolophus hildebrandtii*	Hildebrandt's horseshoe bat
?	*Rhinolophus darling*	Darling's horseshoe bat
?NT	*Rhinolophus blasii*	Blasius's horseshoe bat
?	*Rhinolophus simulator*	Bushveld horseshoe bat
	Family: Hipposideridae	Trident bats and leaf-nosed bats
?	*Hipposideros caffer*	Sundevall's roundleaf bat
	Order: PHOLIDOTA	
	Family: Manidae	**Pangolins**
?VU	*Mantis (Smutsia) temminckii*	Ground pangolin
	Order: CARNIVORA	
	Family: Hyaenidae	Hyaenas
*	*Proteles cristatus*	Aardwolf
*NT	*Parahyaena brunnea*	Brown hyaena
	Family: Felidae	**Cats**
?VU	*Panthera pardus*	Leopard
√	*Caracal caracal*	Caracal
√	*Felis silvestris*	African wild cat
?NT	*Leptailurus serval*	Serval
	Family: Viverridae	**Civets and genets**
?	*Civettictis civetta*	African civet
√	*Genetta genetta*	Small-spotted genet

	Scientific Name	English Name
√	*Genetta tigrina*	South African large-spotted genet
	Family: Herpestidae	**Suricates and mongooses**
√	*Cynictis penicillata*	Yellow mongoose
√	*Galerella sanguinea*	Slender mongoose
√	*Ichneumia albicauda*	White-tailed mongoose
√	*Atilax paludinosus*	Marsh mongoose
√	*Mungos mungo*	Banded mongoose
?	*Helogale parvula*	Dwarf mongoose
	Family: Canidae	**Foxes, wild dogs and jackals**
?	*Otocyon megalotis*	Bat-eared fox
√	*Canis mesomelas*	Black-backed jackal
?	*Vulpes chama*	Cape fox
	Family: Mustelidae	**Otters, honey badger, weasel and polecat**
?NT	*Aonyx capensis*	African clawless otter
*****	*Mellivora capensis*	Honey badger
?NT	*Poecilogale albinucha*	African striped weasel
√	*Idonyx striatus*	Striped polecat
	Order: SUIFORMES	
	Family: Suidae	**Pigs**
?	*Potamochoerus larvatus*	Bushpig
√	*Phacochoerus africanus*	Common warthog
	Order: PERISSODACTYLA	
	Family: Equidae	**Zebra**
√	*Equus quagga*	Plains zebra
	Order: RUMINANTIA	
	Family: Bovidae	**Antelopes and buffalo**
√	*Tragelaphus strepsiceros*	Greater kudu
?	*Tragelapus scriptus*	Bushbuck
√	*Sylvicapra grimmia*	Common duiker
***EN**	*Redunca fulvorufula*	Mountain reedbuck
?NT	*Pelea capreolus*	Grey rhebuck
√	*Raphicerus campestris*	Steenbok
√	*Aepyceros melampus*	Impala
√	*Oreotragus oreotragus*	Klipspringer

√ Definitely present or have a high probability to occur;

* Medium probability to occur based on ecological and distributional parameters;

? Low probability to occur based on ecological and distributional parameters.

Red Data species rankings as defined in Friedmann and Daly's S.A. Red Data Book / IUCN (World Conservation Union) (2004) are indicated in the first column: CR= Critically Endangered, En = Endangered, Vu = Vulnerable, LR/cd = Lower risk conservation dependent, LR/nt = Lower Risk near threatened, DD = Data Deficient. All other species are deemed of Least Concern.

Table 9: Mammal species positively confirmed on the study site, observed indicators and habitat.

Scientific Name	English Name	Observation Indicator	Habitat
Papio hamadryas	Chacma baboon	Scat & Vocalisation	Terrestrial, Rupicolous & Arboreal
Cercopithecus pygerythrus	Vervet monkey	Sight record	Terrestrial & Arboreal
Phacochoerus africanus	Common warthog	Spoor and feeding signs	Terrestrial
Equus quagga	Plains zebra	Scat	Terrestrial
Tragelaphus strepsiceros	Greater kudu	Spoor	Terrestrial
Aepyceros melampus	Impala	Sight record	Terrestrial

The Chacma baboon, vervet monkey, common warthog, plains zebra, greater kudu and impala, listed in Table 9, should be common or fairly common on the study site and elsewhere in its range.

5.2.8 Surface water

Information from this section was extracted from the draft Aquatic Ecosystem Delineation (Limnology, 2023).

5.2.8.1 Catchment description

The site is bisected by the A24F and A24H quaternary catchments. The catchments form part of the Crocodile River drainage system with the Bierspruit on the western boundary and the Crocodile River on the eastern. See Figure 13 below for the Google Earth description of the site, as provided by the Department of Water Affair's Resource Quality Services (RQS) department.

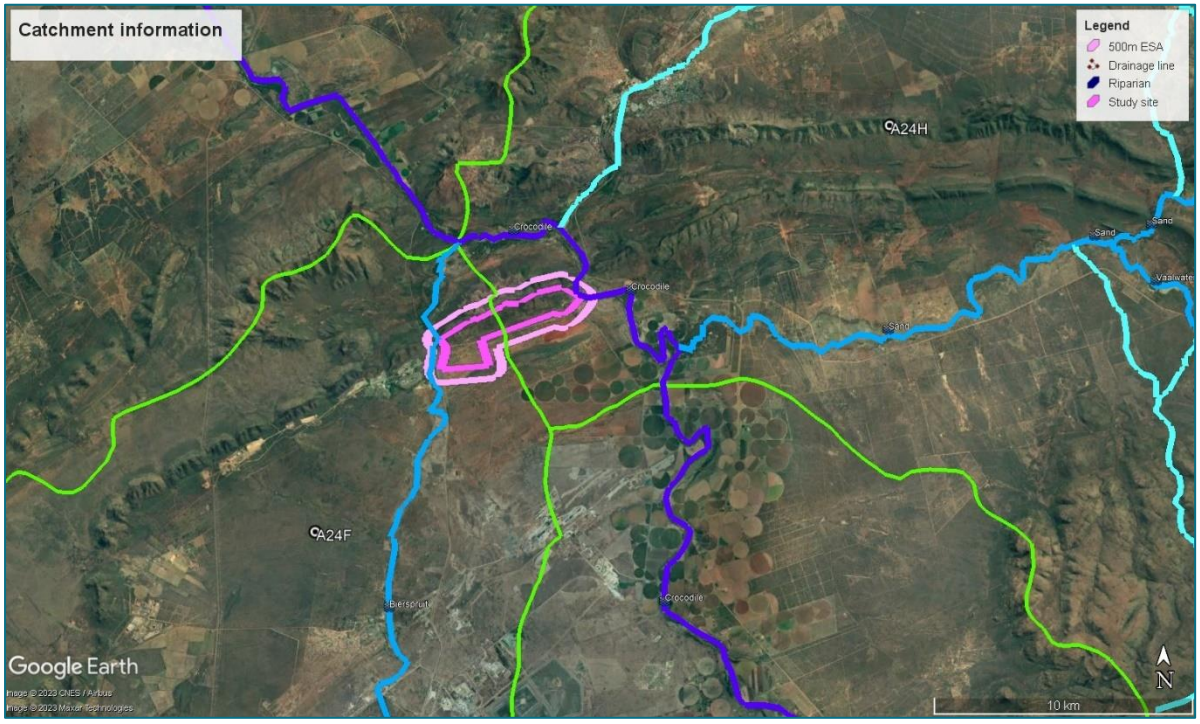

Figure 13: The catchment and hydrological data (Limnology, 2023)

5.2.9 Groundwater

Information from this section was extracted from the draft Geohydrological Study and Impact Assessment (Shangoni AquiScience, 2023).

5.2.9.1 Acid generation capacity

Mineral waste material, mostly from coal and gold mines, contain sulphidic material (mostly pyrite) which may oxidise to produce acid mine drainage ("AMD"). The result is sulphuric acid generation which acidifies water it comes into contact with. This has several negative consequences and most notably includes the solubilisation of a variety of trace metals and metalloids. A number of factors control the generation of AMD, but the most important are the relative abundance of acid producing minerals (generally the sulphides) and acid consuming minerals (generally carbonates), moisture content/ ingress and exposure to air. As AMD has the potential to impact significantly on surface and groundwater quality, it is necessary to also quantify the potential of waste to generate acid.
Acid base accounting conducted during previous groundwater related studies (Geo Pollution Technologies, 2010) revealed that both the rock and tailings material contain very low concentrations of sulphur and is non-acid forming.

5.2.9.2 Hydrogeology

5.2.9.2.1 Unsaturated zone (vadose zone)

The characteristics of vadose zone vulnerability dominating factors are closely related to the migration and transformation mechanisms of contaminants in the vadose zone, which directly affect the state of the contaminants percolating to the groundwater. The permeability and thickness of the unsaturated zone are some of the main factors determining the infiltration rate, the amount of runoff and consequently the effective recharge percentage of rainfall to the aquifer. The type of material forming the unsaturated zone as well as the permeability and texture will significantly influence the mass transport of surface contamination to the underlying aquifer(s). Factors like ion exchange, retardation, biodegradation and dispersion all play a role in the unsaturated zone.

The thickness of the unsaturated zone was determined by subtracting the undisturbed static water levels in the study area from the topography. Water level measurements showed that the depth to water level, and thus the unsaturated zone, generally varies between 6- and 45 meters below ground level (mbgl).

5.9.2.2 Saturated zone

On a regional scale, six (6) different geohydrological regions are distinguished in the greater Thabazimbi area and can be grouped as:

- Crocodile River primary aquifer;
- Quartzite, shale and andesite aquifer;
- Penge banded iron formation aquifer;

- Malmani Subgroup dolomite aquifer;
- Breccia Basin aquifer; and
- Bushveld Igneous Complex aquifer.

Two types of aquifers can generally be associated of these regions, a weathered semi-confined to unconfined aquifer and a confined fractured aquifer.

The weathered aquifer can be described as an intergranular water table aquifer that may be laterally connected to alluvial aquifers associated with river systems. The average depth of weathering is between 20 and 30 mbs while average water levels are between <10 and 40 mbs. Drilling in the project area indicated the presence of significant scree deposits, which are restricted to the lower lying areas. Yields in this aquifer are generally low (less than 0.5 l/s) and the aquifer is usually not fit for supplying groundwater on a sustainable basis. Consideration of the shallow aquifer system becomes important during seepage estimations from pollution sources to receiving groundwater and surface water systems (Groundwater Complete, 2016).

The second aquifer system is the deeper secondary fractured rock aquifer. Groundwater yields, although more heterogeneous, can be higher. This aquifer system usually displays semi-confined or confined characteristics with piezometric heads often significantly higher than the water-bearing fracture position. Fractures may occur in any of the co-existing host rocks due to different tectonic, structural and genetic processes. Drilling results indicated an absence of significant water yielding fractures within the secondary fractured rock aquifer.

The most important geohydrological region is the dolomite aquifer. The Malmani sub-group dolomite of the Chuniespoort Group outcrops to the north of the project area. Dolomite is capable of forming major aquifers, especially where widespread karst formation occurred. However, previously conducted groundwater studies found no signs of significant karst development within the immediate vicinity of the project area – the dolomite is estimated to underlie the mining area at a substantial depth and is therefore not significant to this study.

5.2.9.3 Hydraulic conductivity

Groundwater Complete (2016) conducted pumping tests on two boreholes during the Tygerkloof Project. A summary of their test results is provided in Table 10.

Table 10: Borehole information and aquifer test results

Borehole ID	Latitude	Longitude	SWL (mbs)	Borehole Depth (m)	Pump rate (l/s)	Max drawdown (mbs)	Transmissivity (m^2/d)
FerdieBotha2	-24.73134	-24.73134	19.1	97	0.30	25	~0.4

TKBH02	-24.38794	30.23865	33.6	47	0.35	10.3	~0.4

mbs – metres below surface

The average transmissivity of the aquifer matrix (between fracture zones) in the project area is approximately 0.4 m²/d, which is equal to an average hydraulic conductivity of ± 0.02 m/d. The average transmissivity of fractures in the area is ± 2.9 m²/d or a hydraulic conductivity of 0.15 m/d. These values are consistent with literature values.

5.2.9.4 Groundwater levels

Groundwater levels were measured during the hydrocensus survey that was conducted in October 2022. Groundwater levels including other details captured can be viewed in Table 11 below. Several boreholes were located in a ~5 km radius from the mine boundary but none nearer than ~1 km. Twenty-eight boreholes were located of which 25 are used for either domestic, irrigation and/or livestock use while nine are unequipped and not in use. Most boreholes are equipped with electrical submersible pumps, two on solar. One borehole surveyed is equipped with a mono pump. All the boreholes surveyed are privately owned farm boreholes.

Groundwater levels recorded ranged between 2.30 meters below surface ('mbs') to 56.0 mbs and an average of 17.30 mbs. Most water levels (25) were static at the time of measuring with the other being recorded as dynamic (influenced by pumping or recovering). Water levels of two boreholes could not be determined due to pumping infrastructure obstructing measurements. Four surface water localities were surveyed – two on the Crocodile River (up and downstream relative to the mine), a tributary of the Crocodile River and one farm dam used for irrigation.

A map showing the positions of the localities surveyed can be viewed in Figure 14.

Table 11: Hydrocensus information (survey conducted October 2022)

Borehole ID	Coordinates		Type	SWL (m)	Elevation (mamsl)	Application	Owner	Equipped
Groundwater								
HBH 01	-24.711773	27.329677	Borehole	NAWL	920	Irrigation, Livestock & Domestic	R. Rhamakhoka	Submersible
HBH 02	-24.702637	27.318697	Borehole	24.10	919	Domestic & Livestock	Ms. Strydom	Submersible
HBH 03	-24.707258	27.316070	Borehole	36.26	922	Domestic & Livestock	Ms. Venter	Submersible
HBH 04	-24.704592	27.316400	Borehole	24.83	920	Not in use	Ms. Venter	Not equipped
HBH 05	-24.711398	27.315512	Borehole	41.46	923	Domestic & Livestock	Ms. Muller	Submersible
HBH 06	-24.684345	27.393815	Borehole	7.87	913	Not in use	Mr. Coetzee	Not equipped
HBH 07	-24.684491	27.393769	Borehole	11.48	913	Irrigation	Mr. Coetzee	Submersible
HBH 08	-24.682171	27.398557	Borehole	10.53	911	Not in use	Mr. Coetzee	Submersible
HBH 09	-24.683604	27.401985	Borehole	11.70	911	Irrigation	Mr. Coetzee	Submersible
HBH 10	-24.687534	27.393884	Borehole	3.08	917	Irrigation	Mr. Coetzee	Submersible
HBH 11	-24.693446	27.392452	Borehole	9.66	922	Domestic	Mr. Coetzee	Submersible
HBH 12	-24.692073	27.371025	Borehole	15.72	924	Not in use	Jan de Buis	Mono pump
HBH 13	-24.708912	27.297620	Borehole	47.00	954	Domestic	Johan Fourie	Submersible
HBH 14	-24.661279	27.399251	Borehole	8.80	912	Irrigation & Domestic	Mr. Boshoff	Submersible
HBH 15	-24.661811	27.398818	Borehole	7.92	911	Irrigation	Mr. Boshoff	Submersible
HBH 16	-24.669223	27.405723	Borehole	2.30	922	Back-up / Not in use	Mr. De Klerk	Submersible
HBH 17	-24.669075	27.406075	Borehole	20.57	921	Not in use	Mr. De Klerk	Not equipped
HBH 18	-24.668455	27.405238	Borehole	16.59	914	Not in use	Mr. De Klerk	Submersible
HBH 19	-24.668564	27.405787	Borehole	17.08	917	Not in use	Mr. De Klerk	Submersible
HBH 20	-24.670004	27.408745	Borehole	14.93	916	Domestic & Livestock	Mr. van der Merwe	Submersible
HBH 21	-24.672811	27.404170	Borehole	6.56	910	Irrigation & Domestic	Jaco Oosthuizen	Submersible
HBH 22	-24.672952	27.402798	Borehole	6.36	910	Irrigation	Jaco Oosthuizen	Submersible
HBH 23	-24.715921	27.321652	Borehole	15.07	915	Livestock & Wildlife use	Amelia Erasmus	Submersible

Borehole ID	Coordinates		Type	SWL (m)	Elevation (mamsl)	Application	Owner	Equipped
HBH 24	-24.704223	27.325371	Borehole	15.81	915	Irrigation & Livestock	Amelia Erasmus	Submersible (Solar)
HBH 25	-24.711226	27.326114	Borehole	14.17	914	Irrigation & Livestock	Amelia Erasmus	Submersible (Solar)
HBH 26	-24.666581	27.312730	Borehole	19.81	920	Domestic	Jan	Submersible
HBH 27	-24.669249	27.290437	Borehole	56.00	980	Wildlife Use	Jan	Submersible
HBH 28	-24.681517	27.278491	Borehole	NAWL	1041	Wildlife Use	Jan	Submersible
HBH 29	-24.672432	27.311150	Borehole	21.18	926	Not in use	Jan	Not equipped
HBH 30	-24.633156	27.372863	Borehole	5.76	915	Irrigation	Golf Course - Johan	Submersible
HBH 31	-24.633430	27.371229	Borehole	12.38	918	Domestic	Golf Course - Johan	Submersible
HBH 32	-24.658274	27.306613	Borehole	23.14	937	Domestic & irrigation	Beltus Schoeman	Submersible
HBH 33	-24.658574	27.318243	Borehole	15.44	907	Wildlife Use	Kobus van Vuuren	Submersible
HBH 34	-24.643807	27.321346	Borehole	10.10	908	Domestic	Kobus van Vuuren	Submersible
Surface water								
SW 01	-24.682903	27.401695	River (Up Stream)	N/A	N/A	Irrigation	Mr. Coetzee	N/A
SW 02	-24.672863	27.402927	Dam	N/A	N/A	irrigation	Jaco Oosthuizen	N/A
SW 03	-24.636246	27.373490	Stream	N/A	N/A	Not in use	Golf Course - Johan	N/A
SW 04	-24.642625	27.321101	River (Down Stream)	N/A	N/A	Irrigation	Kobus van Vuuren	N/A

NAWL – No access to water level

N/A – not applicable

mamsl – meters above mean sea level

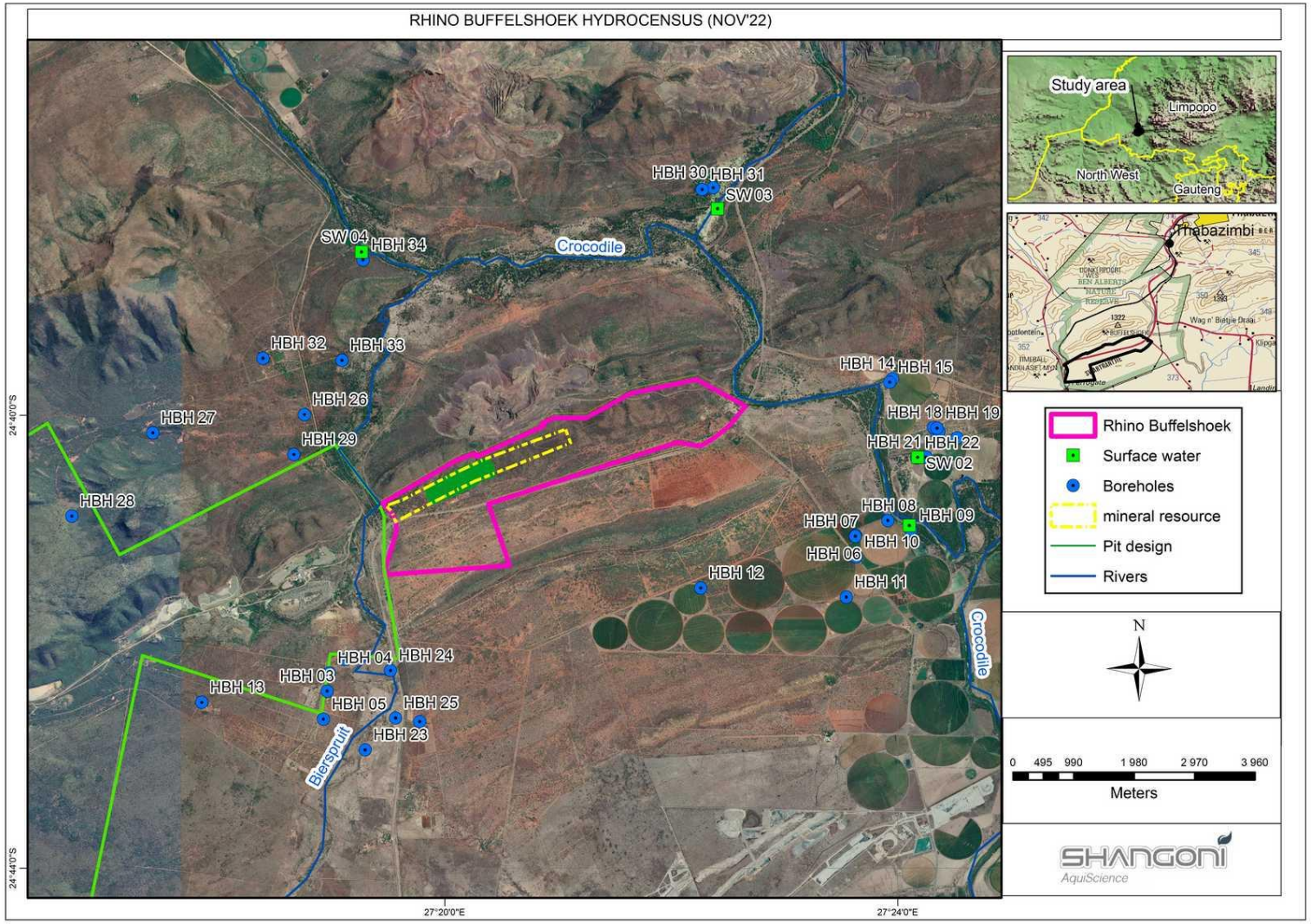

Figure 14: Hydrocensus locality map

Figure 15 shows linear regressions between the hydraulic heads of the deeper fractured aquifers and topography. Generally, a good relationship exists between topography and static hydraulic heads. This relationship can be used to distinguish between boreholes with natural unaffected water levels (*static*), or boreholes with anomalous groundwater levels due to disturbances such as pumping or seepage. A fair correlation of 0.76 was achieved for the hydraulic heads and the topography. However, several water levels were recorded as dynamic due to abstraction and do not represent a natural groundwater level. When these were removed from the regression a better correlation of 0.98 was achieved. Although it is assumed that groundwater flow patterns will mimic surface topography within the area, some unnatural deviations still exist.

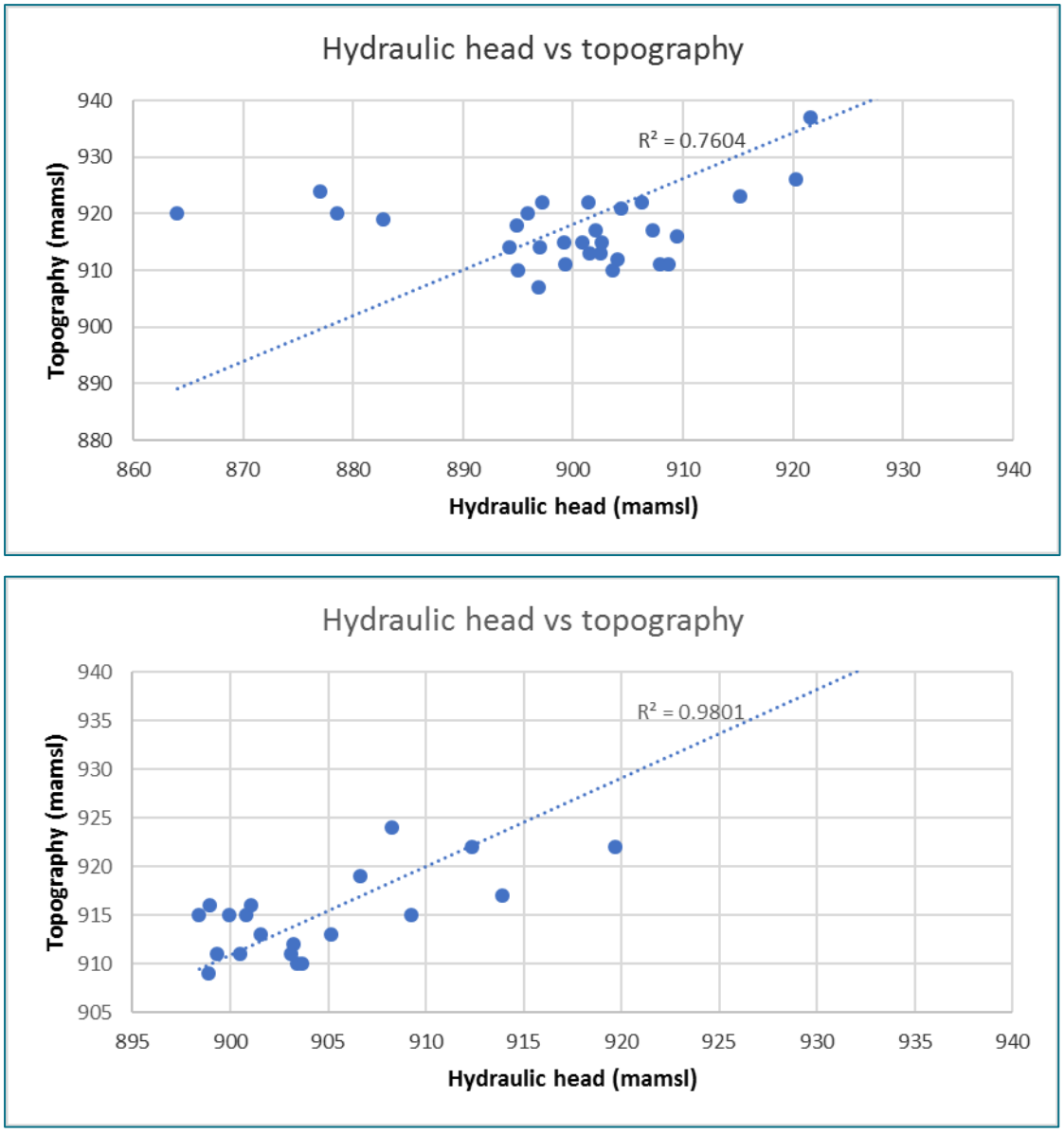

Figure 15: Linear regression between topography and hydraulic heads with suspected unnatural levels (above figure) and removed (below figure)

5.2.9.5 Groundwater potential contaminants

5.2.9.5.1 Geochemical assessments

No new geochemical assessments were conducted for this study. This study relied on geochemical data gathered from previous investigations conducted by Geo Pollution Technologies (2010). They conducted the assays on the adjacent Rhino mine owned by Imerys. Due to similar geology and mineral being mined, the data can also be applied to Rhino Buffelshoek.

Geo Pollution Technologies revealed that both the rock and tailings material contain very low concentrations of sulphur and is non-acid forming. Furthermore, samples were also submitted to acid rain leach tests, which involves the percolation of an acid through a finely crushed sample of the material. The leachate (extract) is then retrieved and analysed for a wide range of chemical parameters. The results showed that both the rock and tailings material, even under acidic conditions, do not have the potential to generate poor quality leachate.

5.2.9.5.2 Wastewater quality

An assessment of the hydrochemistry of wastewater produced is another way to evaluate the CoCs within a mining environment. No wastewater localities are present on site as no mining has been initiated. Groundwater Complete (2016) did however conduct an analysis of water that has collected within the Motswere Quarry and Quarry 4/5 located on the adjacent Rhino mine. The water in the quarries were analysed for a range of chemical and physical parameters. The discussion that follows was abstracted from the report compiled by Groundwater Complete (2016):

The quarries present the correct environments for AMD reactions to occur, as oxygen and water are present in abundance. Furthermore, should the andalusite host rock contain reactive minerals, substandard quality seepage is expected to be generated and the quality of water collecting in the quarries would deteriorate over time. This quarry water should therefore provide an indication of the mine's long-term impact (if any) on the surrounding groundwater quality conditions.

Sulphate is an important chemical indicator parameter of impacts related to the oxidation of iron sulphides (AMD). Groundwater Complete (2016) measured the quality of water contained in the Motswere Quarry and Quarry 4/5 and found that the sulphate contents are < 20 mg/l and 70 mg/l, respectively. These concentrations are well below the maximum permissible SANS value of 500 mg/l and are more or less representative of the ambient groundwater sulphate content.

Water samples from both quarries are neutral to slightly alkaline, which is yet another indication of the absence of AMD. The water is considered to be of good quality and show no signs of impacts related to AMD or the generation of poor-quality leachate.

5.2.10 Air quality

This section is to be updated with information from the Air Quality Impact assessment.

5.2.11 Environmental noise

Current ambient noise levels at the proposed site are expected to be low as a result of the rural setting with a low population level and limited industrial activity aside from the surrounding mines. Potential receptors are the local community and the fauna and flora of the area.

5.2.12 Visual aspects

The project is planned to be adjacent the R510 Road from Rustenburg to Ellisras (Lephalale). Mining activities may be visible from the R510 however it is not expected that the mining activities will be visible from afar. There are also other mines in the area which impact on the visual aspect of the area.

5.2.13 Cultural and heritage resources

Information for this section was extracted from the Phase I Archaeological Impact Assessment (Coetzee, 2023).

5.2.13.1 Methodology

Archaeological reconnaissance of the study area was conducted during January 2023 through an unsystematic pedestrian and vehicular survey of the proposed impact area within the greater study area (Figure 16 and Figure 17). Since the area is associated with extremely dense vegetation cover, only clearings, roads and potential sites recorded during a previous heritage study, as well as sites identified on historical aerial images and topographical maps were inspected. General site conditions were recorded via photographic record. The historical topographical maps dating to 1963, 1980, 2005, and 2015, as well as the historical aerial images dating to 1947, 1969, 1980, 1987, 1990, and 2006, proved useful in terms of providing an indication of potential heritage sites and past land uses associated with the study area. Seven (7) potential sites were identified on historical aerial images and topographical maps, four (4) sites were identified and plotted from information gathered in the previous heritage study conducted on the area (Miller 2010a), and 14 additional sites were identified during the site inspection. Where access was not prohibited, the previously identified sites were visited and recorded (Table 12, Figure 16 & Figure 17). It should be noted that some of the sites identified during the site inspection are located in the same vicinity as the sites identified during the previous heritage study and could therefore be related to the already identified sites. Since these sites are located relatively close to each other, a ‘sensitive area’ was identified and plotted (Figure 70). The site status of all recorded sites is shown in Figure 18 & Figure 19. The total area covered during the survey was approximately 260 ha. Since heritage resources are often associated with perennial and nonperennial rivers, the rivers and streams located within close proximity of the study area were buffered by a distance of 500 m, indicating a potentially sensitive area (Figure 70).

The reconnaissance of the area under investigation served a twofold purpose:

- To obtain an indication of heritage material found in the general area as well as to identify or locate archaeological sites on the area demarcated for development. This was done in order to establish a heritage context and to supplement background information that would benefit developers through identifying areas that are sensitive from a heritage perspective.
- All archaeological and historical events have spatial definitions in addition to their cultural and chronological context. Where applicable, spatial recording of these definitions were done by means of a handheld Global Positioning System (GPS) during the site visit, as well as by plotting the boundaries from aerial imagery and topographical maps.

Table 12: Site coordinates & description

Name	Off. Name	Latitude	Longitude	Description	Age	Current Status	Estimated Extent	ID Source	Parcel Land	Intersecting Project Area
B01	2427CB-B01	-24.664137	27.374059	Building 1947	Historical	Demolished	2.2 ha	Aerial 1947	RE/351	No
B02	2427CB-B02	-24.669464	27.372721	Building 1963	Historical	Demolished	1.9 ha	Topo 1963	RE/351	No
B03	2427CB-B03	-24.666067	27.372055	Hut 1963	Historical	Demolished	4.0 ha	Topo 1963	RE/351; 4/351	Yes
B04	2427CB-B04	-24.667914	27.370961	Building 1980	Contemporary	Intact	1.2 ha	Aerial 1980	RE/351	Yes
B05	2427CB-B05	-24.682691	27.332717	Building 1980	Contemporary	Intact	2.3 ha	Aerial 1980	RE/1/352	No
B06	2427CB-B06	-24.666076	27.374600	Building 1947	Historical	Demolished	2.1 ha	Aerial 1947	RE/351	No
B07	2427CB-B07	-24.666443	27.376657	Building 1947	Historical	Demolished	0.5 ha	Aerial 1947	RE/351	No
B08	2427CB-B08	-24.679906	27.332993	Iron Age byre	LIA	Disturbed	0.4 ha	Prev HIA	RE/1/352	Yes
B09	2427CB-B09	-24.680132	27.330123	Historic Village 1920's	Historical	Demolished	0.2 ha	Prev HIA	RE/1/352	Yes
B10	2427CB-B10	-24.679101	27.330058	European Farmyard late 19th C	Historical	Dilapidated	0.4 ha	Prev HIA	RE/1/352	Yes
B11	2427CB-B11	-24.670022	27.365970	Cemetery	Historical	Intact	48 graves	Prev HIA	RE/351	Yes
F01	2427CB-F01	-24.679441	27.332890	Stone Tools MSA	MSA	Disturbed	2 Stone tools	Field	RE/1/352	Yes
F02	2427CB-F02	-24.680284	27.330740	Stone-Walling	Historical	Dilapidated	3m	Field	RE/1/352	Yes

Name	Off. Name	Latitude	Longitude	Description	Age	Current Status	Estimated Extent	ID Source	Parcel Land	Intersecting Project Area
F03	2427CB-F03	-24.679470	27.331078	Stone-Walling	Historical	Dilapidated	4m	Field	RE/1/352	Yes
F04	2427CB-F04	-24.679967	27.331054	Grinding stone	LIA	Disturbed	1 stone	Field	RE/1/352	Yes
F05	2427CB-F05	-24.672905	27.353058	Building foundation	Unknown	Dilapidated	16m²	Field	RE/351	Yes
F06	2427CB-F06	-24.680415	27.333456	Feeding trough	Contemporary	Intact	5m²	Field	RE/1/352	No

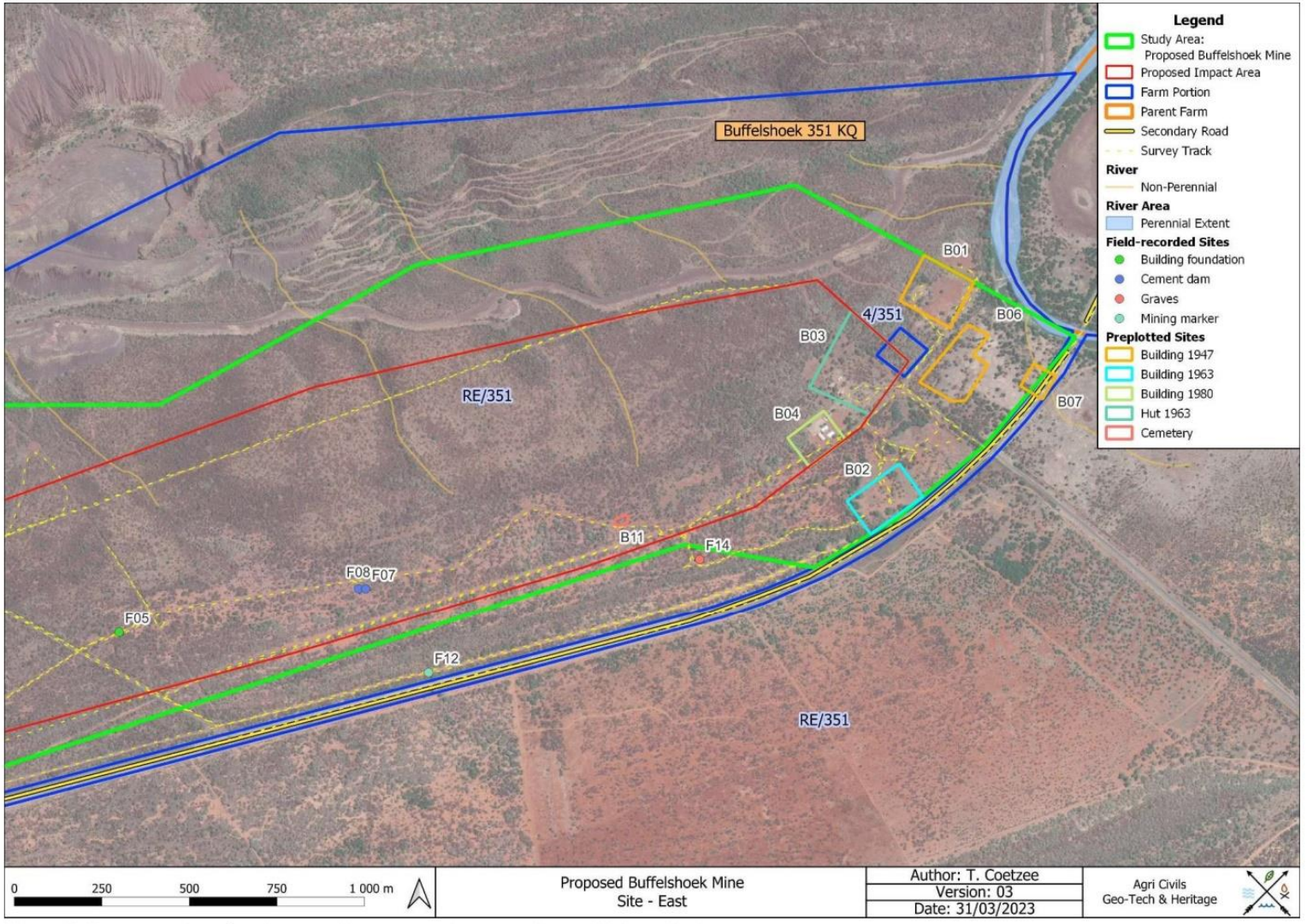

Figure 16: Eastern section of study area with survey track portrayed on a 2021 satellite image (Coetzee, 2023)

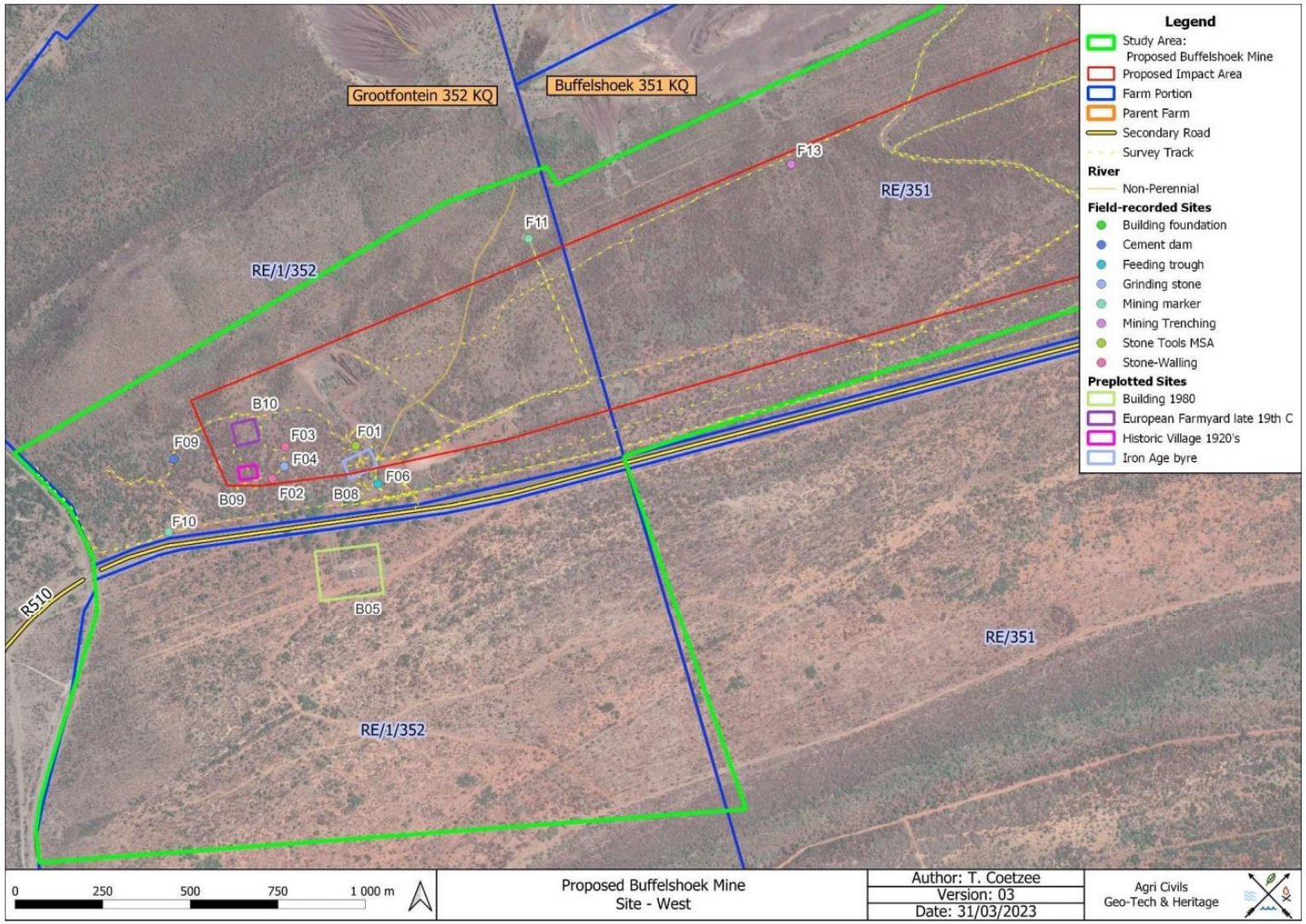

Figure 17: Western section of study area with survey track portrayed on a 2021 satellite image (Coetzee, 2023)

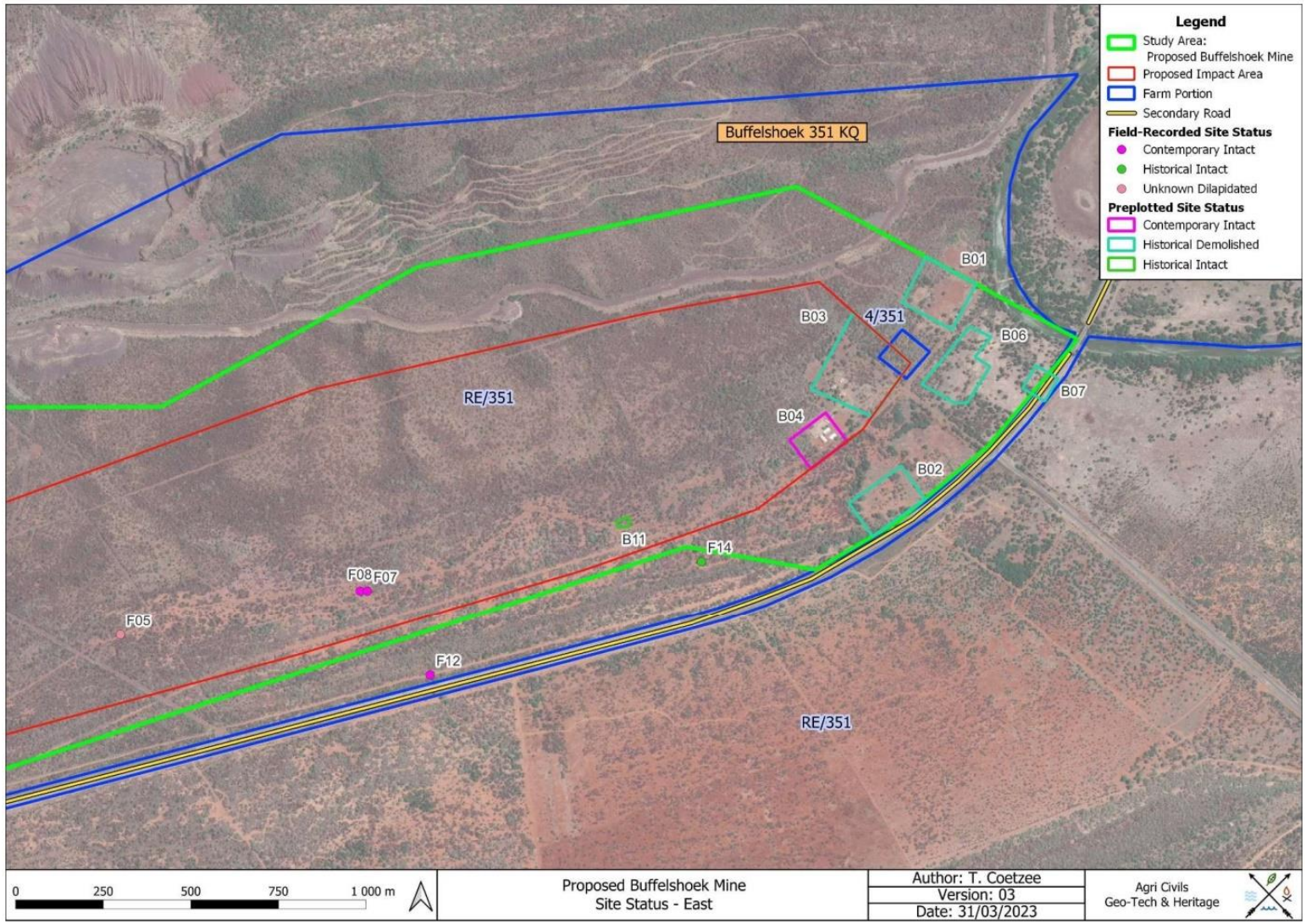

Figure 18: Site status portrayed on a 2021 satellite image – eastern section (Coetzee, 2023)

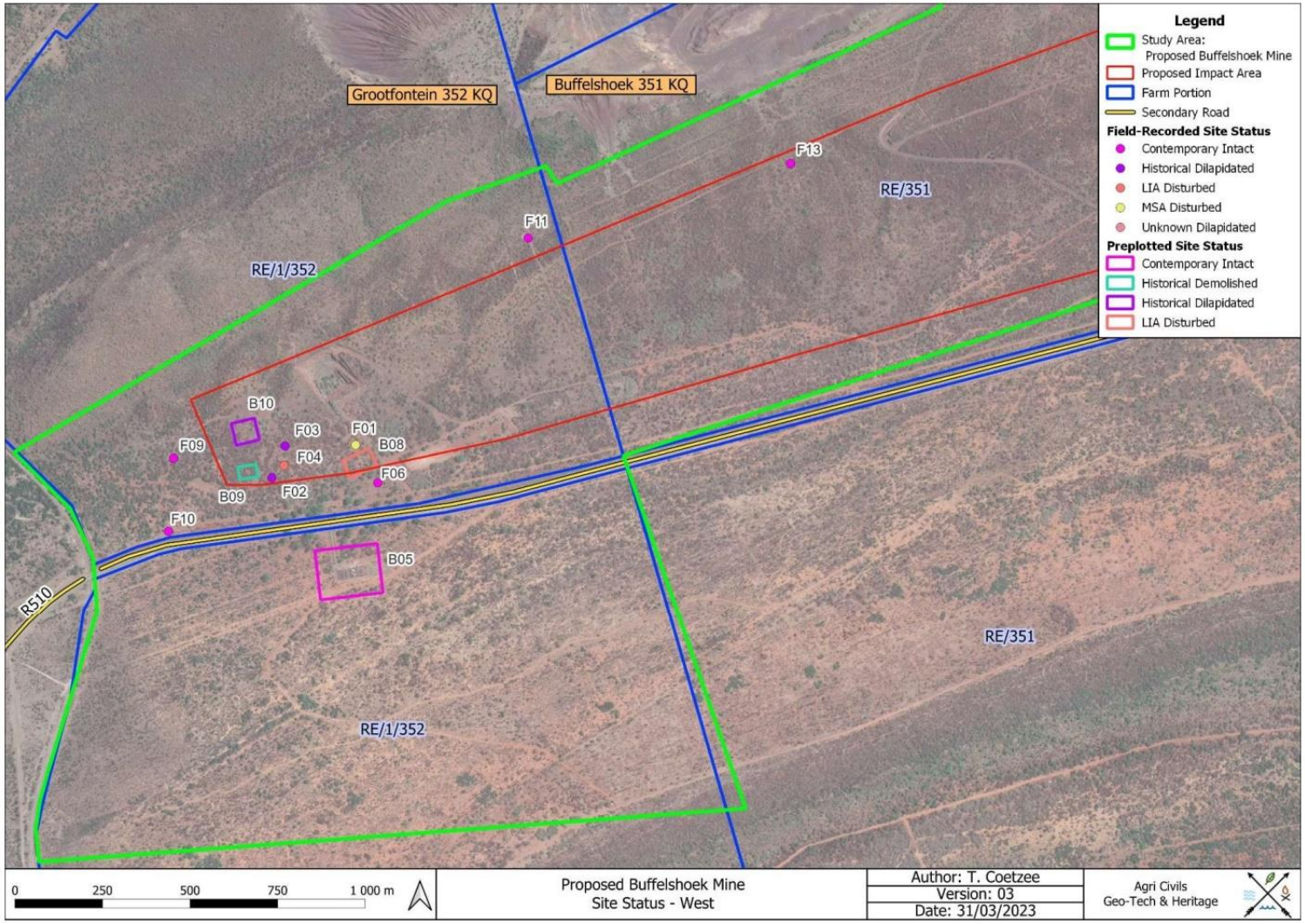

Figure 19: Site status portrayed on a 2021 satellite image – western section (Coetzee, 2023)

5.2.13.2 Archaeological Background

Southern African archaeology is broadly divided into the Early, Middle and Later Stone Ages; Early, Middle and Later Iron Ages; and Historical or Colonial Periods. This section of the report provides a general background to archaeology in South Africa.

5.2.13.2.1 The Stone Age

The earliest stone tool industry, the Oldowan, was developed by early human ancestors which were the earliest members of the genus *Homo*, such as *Homo habilis*, around 2.6 million years ago. It comprises tools such as cobble cores and pebble choppers (Toth & Schick 2007). Archaeologists suggest these stone tools are the earliest direct evidence for culture in southern Africa (Clarke & Kuman 2000). The advent of culture indicates the advent of more cognitively modern hominins (Mitchell 2002: 56, 57).

The Acheulean industry completely replaced the Oldowan industry. The Acheulian industry was first developed by *Homo ergaster* between 1.8 to 1.65 million years ago and lasted until around 300 000 years ago. Archaeological evidence from this period is also found at Swartkrans, Kromdraai and Sterkfontein. The most typical tools of the ESA (Early Stone Age) are handaxes, cleavers, choppers and spheroids. Although hominins seemingly used handaxes often, scholars disagree about their use. There are no indications of hafting, and some artefacts are far too large for it. Hominins likely used choppers and scrapers for skinning and butchering scavenged animals and often obtained sharp ended sticks for digging up edible roots. Presumably, early humans used wooden spears as early as 5 million years ago to hunt small animals.

Middle Stone Age (MSA) artefacts started appearing about 250 000 years ago and replaced the larger Early Stone Age bifaces, handaxes and cleavers with smaller flake industries consisting of scrapers, points and blades. These artefacts roughly fall in the 40-100 mm size range and were, in some cases, attached to handles, indicating a significant technical advance. The first *Homo sapiens* species also emerged during this period. Associated sites are Klasies River Mouth, Blombos Cave and Border Cave (Deacon & Deacon 1999).

Although the transition from the Middle Stone Age to the Later Stone Age (LSA) did not occur simultaneously across the whole of southern Africa, the Later Stone Age ranges from about 20 000 to 2000 years ago. Stone tools from this period are generally smaller, but were used to do the same job as those from previous periods; only in a different, more efficient way. The Later Stone Age is associated with: rock art, smaller stone tools (microliths), bows and arrows, bored stones, grooved stones, polished bone tools, earthenware pottery and beads. Examples of Later Stone Age sites are Nelson Bay Cave, Rose Cottage Cave and Boomplaas Cave (Deacon & Deacon 1999). These artefacts are often associated with rocky outcrops or water sources.

5.1.13.2.2 The Iron Age & Historical Period

The Early Iron Age marks the movement of farming communities into South Africa in the first millennium AD, or around 2500 years ago (Mitchell 2002:259, 260). These groups were agro-pastoralist communities that settled in the vicinity of water in order to provide subsistence for their cattle and crops. Archaeological evidence from Early Iron Age sites is mostly artefacts in the form of ceramic assemblages. The origins and archaeological identities of this period are largely based upon ceramic typologies. Some scholars classify Early Iron Age ceramic traditions into different “streams” or “trends” in pot types and decoration, which emerged over time in southern Africa. These “streams” are identified as the Kwale Branch (east), the Nkope Branch (central) and the Kalundu Branch (west). Early Iron Age ceramics typically display features such as large and prominent inverted rims, large neck areas and fine elaborate decorations. This period continued until the end of the first millennium AD (Mitchell 2002; Huffman 2007). Some well-known Early Iron Age sites include the Lydenburg Heads in Mpumalanga, Happy Rest in the Limpopo Province and Mzonjani in Kwa-Zulu Natal.

The Middle Iron Age roughly stretches from AD 900 to 1300 and marks the origins of the Zimbabwe culture. During this period cattle herding appeared to play an increasingly important role in society. However, it was proved that cattle remained an important source of wealth throughout the Iron Age. An important shift in the Iron Age of southern Africa took place in the Shashe-Limpopo basin during this period, namely the development of class distinction and sacred leadership. The Zimbabwe culture can be divided into three periods based on certain capitals. Mapungubwe, the first period, dates from AD 1220 to 1300, Great Zimbabwe from AD 1300 to 1450, and Khami from AD 1450 to 1820 (Huffman 2007: 361, 362).

The Late Iron Age (LIA) roughly dates from AD 1300 to 1840. It is generally accepted that Great Zimbabwe replaced Mapungubwe. Some characteristics include a greater focus on economic growth and the increased importance of trade. Specialisation in terms of natural resources also started to play a role, as can be seen from the distribution of iron slag which tend to occur only in certain localities compared to a wide distribution during earlier times. It was also during the Late Iron Age that different areas of South Africa were populated, such as the interior of KwaZulu Natal, the Free State, the Gauteng Highveld and the Transkei. Another characteristic is the increased use of stone as building material. Some artefacts associated with this period are knife-blades, hoes, adzes, awls, other metal objects as well as bone tools and grinding stones.

The Historical period mainly deals with Europe’s discovery, settlement and impact on southern Africa. Some topics covered by the Historical period include Dutch settlement in the Western Cape, early mission stations, Voortrekker routes and the Anglo Boer War. This time period also saw the compilation of early maps by missionaries, explorers, military personnel, etc.

5.2.13.2.3 Thabazimbi Archaeo-History

Research conducted by Huffman (2007: 89-90) revealed an 'ancient working' at the Rhino Mine near Thabazimbi. The working is associated with a tufa deposit at the base of a steep slope covered by broken ironstone from the ridge above. The working cuts through the tufa and consists of an open trench that extends upslope for more than 130 m whereafter it becomes an underground stope. Three or four vertical ventilation shafts were noted as well. According to the mine geologists, the immediate area is not associated with gold, copper or tin. However, poor quality ochre was noted in the spoil heaps next to the trench. Huffman (2007) suggested that this indicates that the miners were looking for high-quality ochre created by the hydration of ironstone by a fountain that also caused the tufa formation.

According to Huffman (2007: 90), the Sotho-Tswana people were the most likely ochre miners. He also noted that these were the same people who mined tin at Rooiberg, approximately 30 km from Thabazimbi. The tin mines of Rooiberg date to the same period as the gold mines of Zimbabwe and the same techniques were used in both areas. It appears that the same technique was used to mine ochre. According to Changuion & Bergh (1999: 103), the Kwena or their predecessors settled in the general Thabazimbi area and mined tin at Rooiberg around AD 950.

Huffman (2006) also uncovered evidence of Early Iron Age sites with pottery belonging to the Happy Rest facies of the Kalundu Tradition and sherds belonging to the Mzonjani facies of the Urewe Tradition. Late Iron Age pottery belonging to the Madikwe facies of the Moloko tradition were noted as well. The radio carbon dates of the LIA sites were dated to AD 1535-1660. Other dates obtained were AD 1420 – 1435.

In terms of the presence of maize and the role trade played, tin was traded to the Zimbabwe culture area, as well as to Tsonga-speaking people around Maputo before the arrival of the Portuguese. Accordingly, maize arrived in the Maputo area sometime after the mid-16th Century through Portuguese trade with the New World. Research has shown that maize was first grown in northern KwaZulu-Natal in the late 18th to early 19th Centuries. However, maize appears to have been grown in the Thabazimbi area by the mid-17th Century. Therefore, because of the trade links for tin, maize could have been traded into the Thabazimbi and Rooiberg areas shortly after arriving at the coast (Huffman 2006).

Although the rich iron deposits of the Thabazimbi area were mined during the Iron Age, it was only commercially mined from 1931 (Liebenberg 1999: 87 - 88).

5.2.13.3 Archaeological and Historical Remains

5.2.13.3.1 Stone Age Remains

Two Stone Age artefacts, likely belonging to the MSA, were located within the demarcated study area. Both were observed in isolation and in the south western corner of the proposed impact area (Table 13, Figure 20 & Figure 21). Stone Age artefacts are often associated with rocky outcrops or water sources.

Figure 22 - Figure 24 below are examples of stone tools often associated with the Early, Middle and Later Stone Age of southern Africa.

Table 13: Stone Age Sites

Name	Type	Source	Year / Age	Surface Indications
F01	MSA artefacts	Field	300 000 – 30 000	Two artefacts

The heritage study conducted by Miller (2010a) noted the presence of scattered MSA tools within the study area. The remaining heritage studies did not record Stone Age artefacts. According to Bergh (1999: 4), no major stone age sites are found in the direct vicinity of the study area. Early Stone Age Achaeulean tools, as well as LSA tools, have however been found at Olieboompoort to the northeast of Thabazimbi. Early Stone Age tools have also been found at Rooiberg to the southwest of Thabazimbi.

Figure 20: MSA stone tools at site F01.

Figure 21: Reverse side of MSA stone tools at site F02.

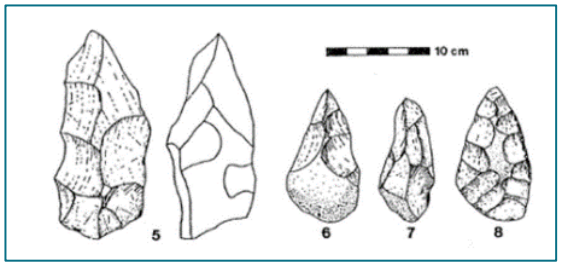

Figure 22: ESA artefacts from Sterkfontein (Volman 1984).

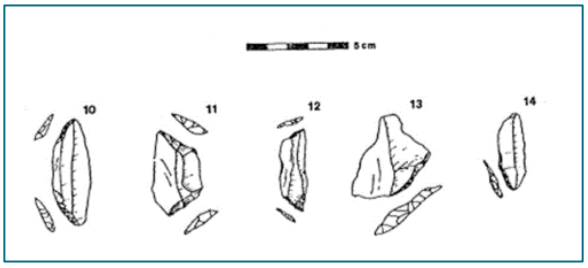

Figure 23: MSA artefacts from Howiesons Poort (Volman 1984).

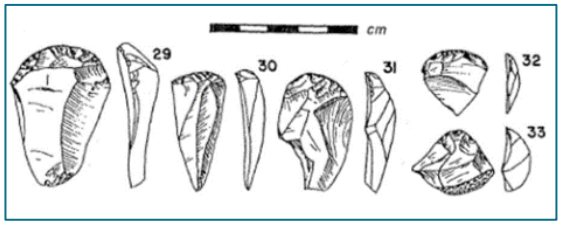

Figure 24: LSA scrapers (Klein 1984).

5.2.13.3.2 Iron Age Farmer Remains

Two LIA sites were located within the demarcated study area (Table 14). Site B08 was identified as an Iron Age byre in the heritage study conducted by Miller (2010a). According to Miller (2010a), the site is characterised by a number of non-diagnostic potsherds and noted that the site was disturbed by the construction of a road. During the site inspection, a broken upper grinding stone, a non-diagnostic potsherd, as well as a small stone feature that could possibly be the remains of a grain bin were observed (Figure 25 – Figure 27). The remains of the byre, however, could not be located. Site F04 consists of another upper grinding stone approximately 160 m to the west of Site B08.

Table 14: Iron Age Sites

Name	Type	Source	Year / Age	Surface Indications
B08	Byre	Prev. HIA	AD 1535-1660	Grinding stone, undecorated potsherd, stone feature
F04	Griding stone	Field	AD 1535-1660	One upper grinding stone

The heritage studies conducted by Huffman (2004, 2005, 2006) for the Rhino Andalusite Mine to the west of the project area recorded significant Early Iron Age, as well as Late Iron Age sites. Two of these sites were excavated in a Phase 2 assessment.

Figure 25: Broken upper grinding stone and potsherd at Site B08.

Figure 26: Reverse side of the broken upper grinding stone and potsherd at Site B08.

Figure 27: Potential grain bin at Site B08.

Figure 28: Upper grinding stone at site F04.

5.2.13.3.3 Historical remains

Ten (10) potential sites dating to the Historic Period were noted on historical aerial imagery and during the site inspection (Table 15). Sites B01, B06 and B07 were identified as buildings on the 1947 aerial image and are located in the south-eastern corner between the proposed impact area and the study area boundary (Appendix A: Figure 71 of the original specialist report). Site B01 appears to have been associated with a shop and remained visible on all the aerial images and topographical maps. Contemporary satellite imagery, as well as observations made during the site inspection, confirmed that the buildings associated with the site have been demolished after 2015 and only few brick fragments were observed (Figure 29 & Figure 30). The buildings at Sites B06 & B07 are not indicated on any of the topographical maps. However, the buildings at Site B06 remained visible on aerial imagery until 1969 (Appendix A: Figure 73 of the original specialist report) whereafter it appears to have been demolished, while the building at Site B07 is only visible on the 1947 aerial image (Appendix A: Figure 71 of the original specialist report). Due to restricted access, sites B06 (Figure 35) & B07 could not be inspected during the site visit.

Site B02, identified as a dairy on the 1963 topographical map (Appendix A: Figure 72 of the original specialist report) is located between the proposed impact area and the study area border near the south-eastern corner of the study area. The site appears to have been demolished between 1990 and 2005 (Appendix A: Figures 77 & 78 of the original specialist report). During the site visit, no material remains were observed (Figure 31).

Site B03 was identified as huts on the 1963 topographical map and is located in the eastern corner of the proposed impact area (Appendix A: Figure 72 of the original specialist report). The huts appear to have been demolished by 1969 (Appendix A: Figure 73 of the original specialist report) and several new buildings are visible on the subsequent datasets. The majority of these buildings were demolished between 2006 and 2015 (Appendix A: Figures 79 & 80 of the original specialist report). During the site inspection, however, two remaining buildings were noted (Figure 32 - Figure 34).

Site B09 was identified by Miller (2010a) as a large 1920's village that was possibly inhabited before European occupation. The site is located near the south-western corner of the proposed impact area and is associated with a wagon wheel steel band and glass bottle remains dating to the period prior to 1930 (Miller 2010a). The same metal remains were noted during the site inspection, but no glass remains were noted (Figure 36 & Figure 37).

Site B10 was recorded by Miller (2010a) as buildings and foundations dating to a late 19th Century European occupation. The site is located just to the north of Site B09 and near the western border of the proposed impact area. Remains recorded include a homestead consisting of slate and mud, as well as small sections of stonewalling. Miller (2010a) noted that about 95% of the farmyard complex was lost to time. During the site inspection, the same building ruin in roughly the same condition was noted

(Figure 38 & Figure 39). It should be noted that the sites identified by Miller (2010a) are not visible on any of the historical aerial images or on the historical topographical maps.

Sites F02 & F03 are located just to the east of Sites B09 and B10. These sites are associated with angular and curved stone-walling, glass and ceramic fragments, as well as metal objects likely to have been used in a historical farming context (Figure 40 - Figure 45). These findings appear to be similar to the findings made by Miller (2010a) at Site B09 further to the west.

Site F05, located near the centre of the study area and next to a cutline, consists of what appears to be a building foundation / cement slab and two bricks. The feature measures approximately 16m² (Figure 46). The intended use and age of the feature is unknown, but could potentially date to historical times. Apart from the Miller (2010a) heritage study, Küsel (2007b) recorded a demolished historical building as well.

Table 15: Historical Sites

Name	Type	Source	Year / Age	Surface Indications
B01	Building 1947	Aerial 1947	Historical	Brick fragments
B02	Building 1963	Topo 1963	Historical	None
B03	Hut 1963	Topo 1963	Historical	None
B06	Building 1947	Aerial 1947	Historical	Unknown
B07	Building 1947	Aerial 1947	Historical	Unknown
B09	Historic Village 1920's	Prev. HIA	Historical	Metal objects
B10	European Farmyard late 19th C	Prev. HIA	Historical	Building ruin
F02	Stone-Walling	Field	Historical	Stone-walling
F03	Stone-Walling	Field	Historical	Ceramic & glass fragments
F05	Building foundation	Field	Unknown	Cement slab, bricks

Figure 29: Environment associated with Site B01.

Figure 30: Brick fragments at Site B01.

Figure 31: Environment associated with Site B02.

Figure 32: Area where buildings once existed at Site B03.

Figure 33: A remaining building at Site B03.

Figure 34: Another remaining building at Site B03.

Figure 35: Restricted access at Site B06.

Figure 36: Environment associated with Site B09.

Figure 37: Metal band at Site B09.

Figure 38: Building ruin at Site B10.

Figure 39: Slate and mud ruin at Site B10.

Figure 40: Linear stone-walling at Site F02.

Figure 41: Metal objects at Site F02.

Figure 42: Stone scatter and curved stone-walling at Site F02.

Figure 43: Stone-walling at Site F03.

Figure 44: Glass and ceramic fragments at Site F03.

Figure 45: Reverse side of glass and ceramic fragments at Site F03.

Figure 46: Building foundation / cement slab at Site F05.

5.2.13.3.4 Contemporary/Cultural Remains

Ten (10) sites dating to contemporary times were noted during the site inspection (Table 16). Site B04 was identified as a school along the south-eastern border of the proposed impact area (Figure 47). The school was first observed on the 1980 aerial image and topographical map (Appendix A: Figures 74 & 75 of the original specialist report) and was therefore constructed between 1969 and 1980 (Appendix A: Figures 73 – 75 of the original specialist report). The site visit confirmed that the school is still intact.

Site B05 is located to the south of the R510 secondary road, outside of the proposed impact area, but within the demarcated study area. The site was identified as a building on the 1980 aerial image (Appendix A: Figure 74 of the original specialist report) and is also indicated on the 2005 topographical map (Appendix A: Figure 78 of the original specialist report). Due to access constraints the site could, however, not be visited.

Site F06, located just south of the proposed impact area and near the south-western corner, is associated with a cement feeding trough. The feeding trough appears to be no longer in use and similar features are likely to be found within the study area (Figure 48).

Sites F07 – F09 are cement dams found throughout the study area. The dams are likely to be used as a water source for the game on the farm and range between 5m² and 20m². Only one dam, however, had water (Figure 49– Figure 51). Sites F07 and F08 are located near the centre of the study area, while Site F09 is located to the west of the proposed impact area. Figure 52 & Figure 53 indicate similar dams located close to Site B10.

Sites F10 – F12 indicate mining related structures found throughout the study area. These generally include what appear to be markers/boreholes/shafts (Figure 54 - Figure 57). Site F10 was recorded near to western corner of the demarcated study area, Site F11 between the proposed impact area and the northern border of the demarcated study area and Site F12 south of the demarcated study area along the R510 secondary road.

Site F13 appears to be a prospecting trench measuring approximately 8m². The site is located roughly in the middle of the study area and along the northern border of the proposed impact area (Figure 58). The listed heritage studies did not record contemporary sites (see Miller 2010a, Küsel 2007a, Küsel 2007b, Gaigher 2007, Huffman 2004, Huffman 2006).

Table 16: Contemporary Sites

Name	Type	Source	Year / Age	Surface Indications
B04	Building 1980	Aerial 1980	Contemporary	Intact building
B05	Building 1980	Aerial 1980	Contemporary	Unknown
F06	Feeding trough	Field	Contemporary	Cement feeding trough
F07	Cement dam	Field	Contemporary	Cement dam - water trough
F08	Cement dam	Field	Contemporary	Cement dam – water trough
F09	Cement dam	Field	Contemporary	Cement dam
F10	Mining marker	Field	Contemporary	Cement feature
F11	Mining marker	Field	Contemporary	Metal pipe / borehole
F12	Mining marker	Field	Contemporary	Cement and metal feature / shaft
F13	Mining Trenching	Field	Contemporary	Trench

Figure 47: School at Site B04.

Figure 48: Feeding trough at Site F06.

Figure 49: Cement dam at Site F07.

Figure 50: Cement dam at Site F08.

Figure 51: Cement dam at Site F09.

Figure 52: Cement dam at Site B10.

Figure 53: Small cement dam at Site B10.

Figure 54: Mining marker at Site F10.

Figure 55: Close-up of mining marker at Site F10.

Figure 56: Metal pipe at site F11.

Figure 57: Cement and metal feature at Site F12.

Figure 58: Prospecting trench at Site F13.

5.2.13.3.5 Graves/Burial Sites

One cemetery (Site B11) was identified in the heritage study conducted by Miller (2010a) and three graves during the site inspection (Site F14). The two sites are listed in Table 17. The grave/cemetery sites area not visible on any of the aerial images and are not indicated on any of the topographical maps (Appendix A of the original specialist report).

Cemetery B11 is located within the proposed impact area, near the south-eastern corner of the study area and next to a road. Forty-five graves consisting of elongated stone cairns and without headstones or inscriptions were recorded. Five of these graves have been fenced-off and two of the graves are oriented in a north-south direction, while the rest are oriented in an east-west direction. Three graves consist of formal surface decorations oriented in an east-west direction, two of which have been fenced-off. Two piles of rocks possibly indicated that two informal graves were replaced by formal surface decorations. The heritage study conducted by Miller (2010a) stated that there were between 30 and 40 graves. No recent burials or grave goods were noted and the cemetery is in a dilapidated state. Since the previous heritage study, some of the formal surface decorations have been damaged. The oldest grave dates to 1971, but the age of the remaining informal graves is unknown (Figure 59 - Figure 66).

Site F14, located approximately 27 m south of the demarcated study area, 84 m south of the proposed impact area and 235 m southeast of cemetery Site B11, consists of one grave with formal surface decorations and three graves consisting of elongated stone cairns. One of the stone cairns, however, might be the discarded stones from when the formal surface decoration was erected. All four graves are oriented in an east-west direction and are not fenced-off (Figure 67 - Figure 69). The only date observed was 1962. Also, no recent burials or grave goods were observed at the graves.

The heritage study conducted by Küsel (2007b) identified several graves on the farm Maroeloesfontein 366 KQ.

Table 17: Graves/Burial Sites/Cemeteries

Name	Type	Source	Year	Current status	Age
B11	Cemetery	Prev. HIA	1971, possibly older	Intact	Likely historical
F14	Graves	Field	1962	Intact	Historical

Figure 59: Cemetery B11 seen from the southeast.

Figure 60: Cemetery B11 seen from the southwest.

Figure 61: Broken surface feature at Cemetery B11.

Figure 62: Grave dating to 1978 at Cemetery B11.

Figure 63: Double grave at Cemetery B11.

Figure 64: Close-up of double grave at Cemetery B11.

Figure 65: Informal grave at Cemetery B11.

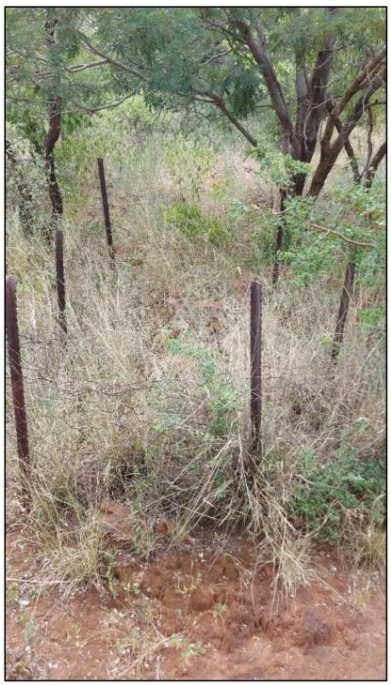

Figure 66: Fenced-off grave at Cemetery B11.

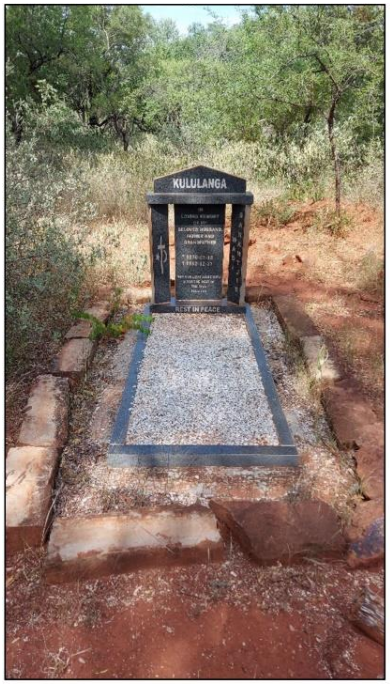

Figure 67: Formal surface decoration at Site F14.

Figure 68: Elongated stone cairn at Site F14.

Figure 69: Possibly two informal graves at Site F14.

5.2.13.4 Evaluation

The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

A fundamental aspect in the conservation of a heritage resource relates to whether the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. There are many aspects that must be taken into consideration when determining significance, such as rarity, national significance, scientific importance, cultural and religious significance, and not least, community preferences. When, for whatever reason the protection of a heritage site is not deemed

necessary or practical, its research potential must be assessed and if appropriate mitigated in order to gain data / information which would otherwise be lost. Such sites must be adequately recorded and sampled before being destroyed.

5.2.13.4.1 Field ratings

All sites should include a field rating in order to comply with section 38 of the National Heritage Resources Act, 1999 (Act No. 25 of 1999). The field rating and classification in this report are prescribed by SAHRA.

Table 18: Prescribed Field Ratings

Rating	Field Rating/Grade	Significance	Recommendation
National	Grade 1		National site
Provincial	Grade 2		Provincial site
Local	Grade 3 A	High	Mitigation not advised
Local	Grade 3 B	High	Part of site should be retained
General protection A	4 A	High/Medium	Mitigate site
General Protection B	4 B	Medium	Record site
General Protection C	4 C	Low	No recording necessary

Table 19: Individual site ratings

Site /Survey Point Name	Type	Rating	Field Rating/Grade	Significance	Recommendation
2427CB-B01	Demolished Building	General Protection B	4 B	Medium	Record site
2427CB-B02	Demolished Building	General Protection B	4 B	Medium	Record site
2427CB-B03	Demolished Hut	General protection A	4 A	Medium	Mitigate site
2427CB-B04	Building	General Protection B	4 B	Medium	Record site
2427CB-B05	Building	General Protection B	4 B	Medium	Record site
2427CB-B06	Demolished Building	General Protection B	4 B	Medium	Record site
2427CB-B07	Demolished Building	General Protection B	4 B	Medium	Record site
2427CB-B11	Cemetery	Local	Grade 3 A	High	Mitigation not advised
2427CB-F05	Building foundation	General Protection B	4 B	Medium	Record site

Site /Survey Point Name	Type	Rating	Field Rating/Grade	Significance	Recommendation
2427CB-F07	Cement dam	General Protection C	4 C	Low	No recording necessary
2427CB-F08	Cement dam	General Protection C	4 C	Low	No recording necessary
2427CB-F09	Cement dam	General Protection C	4 C	Low	No recording necessary
2427CB-F10	Mining marker	General Protection C	4 C	Low	No recording necessary
2427CB-F11	Mining marker	General Protection C	4 C	Low	No recording necessary
2427CB-F12	Mining marker	General Protection C	4 C	Low	No recording necessary
2427CB-F13	Mining Trenching	General Protection C	4 C	Low	No recording necessary
2427CB-F14	Graves	Local	Grade 3 A	High	Mitigation not advised
Sensitive Area: B08 - B10, F01 - F04, F06	Stone tools, grinders, stone walling, feeding trough, ceramics, potsherds, metal remains	General protection A	4 A	Medium	Mitigate site

* Ratings are dependent on specific project boundaries and activities.

5.2.13.5 Statement of significance

The study area: The Proposed Buffelshoek Mine

Some of the areas within the demarcated study area are considered to be significant from a heritage perspective. The significance of the proposed area and the observed sites are discussed here.

MSA Sites

Site F01 consists of two MSA stone tools that were observed in the general area disturbed by the construction of a road. No concentrations were noted during the site visit and the findings appear to be similar to the findings made by Miller (2010a), who conducted an archaeological investigation on the same area. Although the site is not considered to be particularly significant from a heritage perspective, cognisance should be taken of the fact the stone tools are located in relatively close proximity of several

other heritage sites, thereby contributing to the significance of the associated area. Also, the greater area is associated with Stone Age remains stretching from the ESA to the LSA.

LIA Sites

The two LIA sites (Sites B08 & F04) consist of a combination of potsherds, a byre, upper griding stones and a stone feature. The heritage study conducted by Miller (2010a) noted that the byre and potsherds (Site B08) are located in a disturbed context and are no longer considered to be significant. The upper grinding stone at Site F04 is located to the west of Site B08 and might be related to the site. It should be noted that the delineated sensitive area as indicated on Figure 70 is also labelled as Site F08 and includes several other sites. The heritage studies conducted by Huffman (2004, 2006) recorded significant Early and Late Iron Age sites to the west of the proposed Buffelshoek Mine. Accordingly, the Early Iron Age potsherds likely belong to the Happy Rest facies of the Kalundu Tradition and the Mzonjani facies of the Urewe Tradition, while the LIA potsherds belong to the Madikwe facies of the Moloko tradition. Radio carbon dates obtained for the LIA sites dated to AD 1535-1660 and AD 1420 – 1435. Significant ochre mining was also noted in the general area. As can be seen from the previous heritage studies, the general area is associated with Early and Late Iron Age occupation and mining activities. Although located in a disturbed context, Sites B08 and F04 should be considered potentially significant from a heritage perspective and are therefore protected by the NHRA, 1999 (Act No. 25 of 1999).

Historic Sites

Historic sites B01 – B03, B06, B07, B09, B10, F02, F03 and F05 are likely to exceed 60 years of age and would therefore be protected by the NHRA, 1999 (Act No. 25 of 1999). However, sites B01 and B02 have been demolished, fall outside of the proposed impact area and are therefore no longer considered to be significant from a heritage perspective. Site B03 used to be associated with huts exceeding 60 years of age and later by buildings that were eventually demolished. Two buildings, however, remained and are likely to exceed 60 years of age. These buildings are therefore protected by the NHRA, 1999 (Act No. 25 of 1999). Sites B06 and B07 used to be associated with buildings, but based on contemporary satellite imagery, have completely been demolished. Since these sites could not be accessed, they are considered to be potentially sensitive, but are unlikely to be impacted since both are located outside of the proposed impact area. Sites B09 and B10 are associated with historical built environment and include a building ruin and demolished infrastructure. These sites fall within the demarcated impact area and are considered to be significant from a heritage perspective. Sites F02 and F03 are located in relatively close proximity of Sites B09 and B10 and consist of angular and curved stone-walling in a dilapidated state. Since these sites are likely to relate to Site B09 and B10, they area also considered to be significant from a heritage perspective. Site F05, a foundation/cement slab near the middle of the study area might exceed 60 years of age, but is not considered to be significant or sensitive from a heritage perspective.

Sensitive area

Due to the relatively high concentration of sites consisting of MSA, LIA and historical sites in the south-western corner of the proposed impact area, the area was delineated as a sensitive area and consists of Sites B08 – B10, F01 – F04, and F06. The sensitive area is labelled as Site B08 in Figure 70. Although Miller (2010a) identified a 1920's historic village, a European farmyard dating to the late 19th C, and an LIA site in relatively close proximity of each other, the possibility exists that these sites form part of one site. Or perhaps one historic site and one LIA site. The demarcated area is therefore considered to be significant and sensitive from a heritage perspective.

Cemeteries / Graves

Cemetery B11 falls within the proposed impact area, is likely to exceed 60 years of age, and is considered to be significant and sensitive from a heritage perspective. At least one of the graves at Site F14 exceeds 60 years of age. Although the graves are located outside of the demarcated study area, the proposed mining development might have a negative impact on the graves. Site F14 is also considered to be significant and sensitive from a heritage perspective.

The following legislation concerning graves apply: For graves older than 60 years the Human Tissues Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925), as well as the National Heritage Resources Act, 1999 (Act No. 25 of 1999) apply, while graves younger than 60 years are protected by the Human Tissues Act (65 of 1983) and Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925).

Contemporary Sites

The identified contemporary sites (B04, B05, F06 – F13) mostly consist of modern mining related activities and buildings not exceeding 60 years of age. These sites are not considered to be significant or sensitive from a heritage perspective.

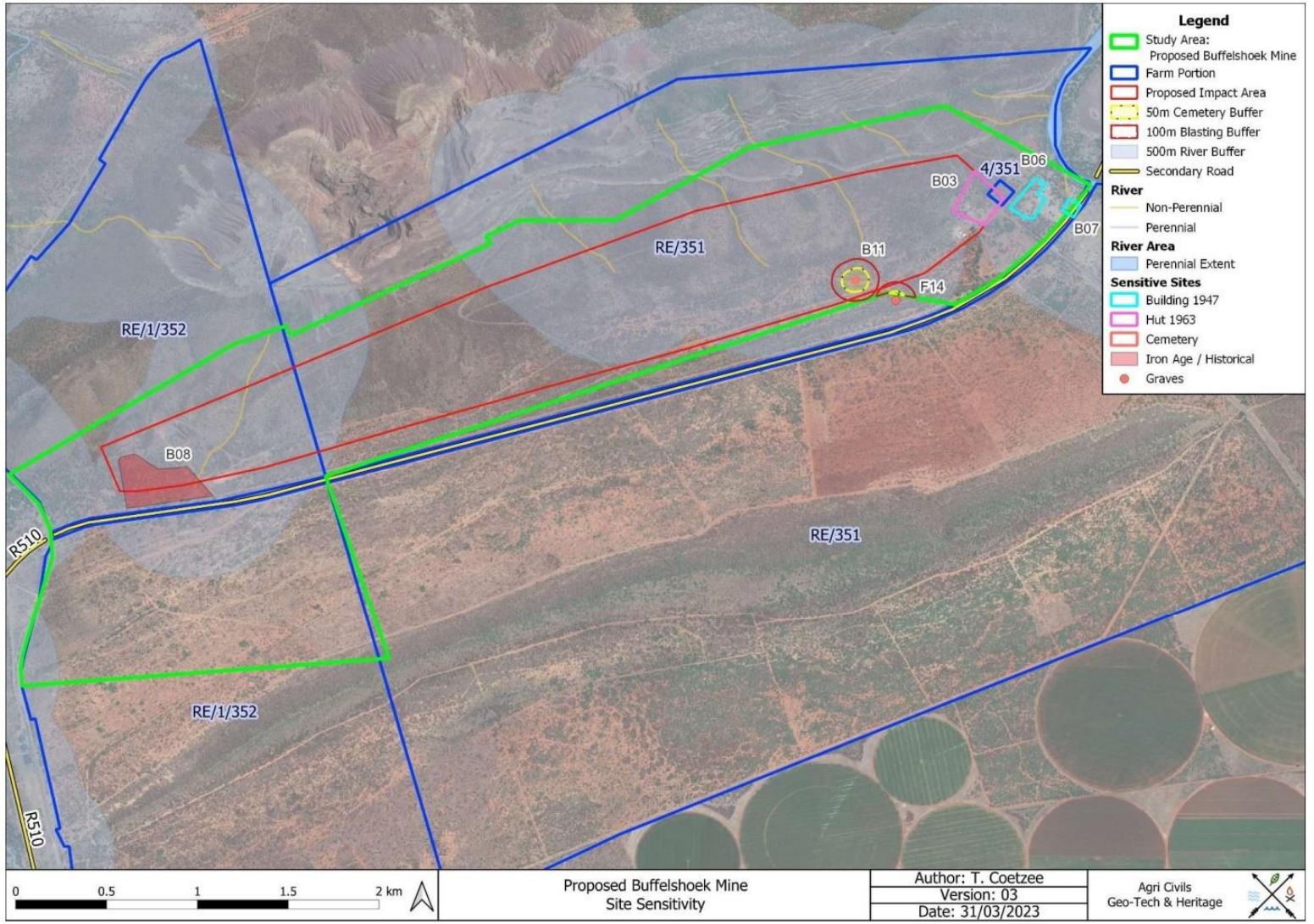

Figure 70: Study area and potentially sensitive areas portrayed on a 2021 satellite image (Coetzee, 2023).

5.2.14 Sensitive landscapes

All sensitive areas will be identified as part of specialist studies and a sensitivity map, overlain by the layout plan will be produced and included in the EIAR/EMP.

5.2.15 Regional socio-economic aspects

Information for this section was obtained from the Rhino Andalusite Mine Social and Labour Plan (2024-2028):

5.2.15.1 Location of the district and major labour sending areas

Rhino Andalusite Mine is located in the Thabazimbi Local Municipality (TLM), under the Waterberg District Municipality in the Limpopo Province. Neighbouring local municipalities include Lephalale Local Municipality; Modimolle Local Municipality and Bela-Bela Local Municipality. TLM is one of the largest municipalities in Limpopo as it is 986 264.85 hectares in size. It has however, a very low population density and the bulk of the area is used for game and commercial farming.

Thabazimbi Municipality is located in the South-western part of the Limpopo Province. Thabazimbi has Botswana as its international neighbour and is two hour drive from Tshwane. The town is located against the foothills of the majestic Waterberg Mountains in one of the most scenic mountain regions of South Africa. The principal peaks are the Ysterberg, Boshofberg and Kransberg. Thabazimbi lies within the southern African bushveld eco region of Limpopo, renowned for cattle ranching and game farming. Platinum and iron ore mining are major contributors to the economy of the region.

The municipality comprises 12 Wards and 12 settlement areas. Large portion of the area is rural with only four proclaimed townships. Population figures of the municipality are estimated at 60 000; which makes the municipality to be the second highly populated after Lephalale Local Municipality in the Waterberg District.

TLM is a rural municipality, hence, it is characterised by high level of service delivery backlogs. Such backlogs include re-gravelling of roads, water provision, school infrastructure due to neglect and lack of investment. Unemployment rate is high as the main industry employing largest number of the residents is mining.

5.2.15.2 Municipal challenges

TLM is faced with the following pressing socioeconomic challenges:

5.2.15.2.1 Water and Sanitation

TLM is a designated Water Services Authority and Water Services Provider. Water is sourced from the Magalies Water Board. About 44% of the households have water connection inside the house and 26% getting water inside their yards. Thabazimbi and Regorogile are using water borne sewer system. The

existing water treatment plant caters for Thabazimbi town including Regorogile and Ipelegeng. The current capacity of the plant is 28 litres per second but the average daily flow is about 60 litres per second. The current sanitation system in Northam is 60% water borne and 40% septic tank. The Municipality empty the septic tanks for all the residents regularly and discharges the sewerage into the existing oxidation pounds. The outfall sewer has been partially constructed in Northam and the project is still outstanding. The municipality does not provide bulk water to the mines within its area of jurisdiction.

5.2.15.2.2 Electricity

TLM has electricity distribution license issued by NERSA in terms of the Electricity Act 41 of 1987. The license covers the following areas for distribution and retail:

- Greater Northam RLC (Portion)
- Thabazimbi TLC (Whole)
- Warmbad - Pienaarsrivier RLC (Portion)
- Rooiberg

Currently the municipality is an Electricity Service Provider in Thabazimbi town, Regorogile extensions 3, 5, 6, 7, 9, Rooiberg and Raphuti. Eskom is for Northam, Regorogile extensions 2, 4, farms and mining areas.

5.2.15.2.3 Sewerage and Waste refuse removal

TLM has sewerage treatment facility in the town of Thabazimbi, which does not have sufficient capacity to handle sewage inflows from the town. The municipality provides waste removal services to 60% of the residents.

- The existing trucks are old and always have breakdowns.
- The existing landfill site is about to be full to its capacity.
- No accurate volume of the amount of waste getting into the landfill site only estimations and as such no compliance with Environmental Legislations.
- Late payment of the service provider thus affecting the service rendered by the appointed service provider.
- Open areas are turned into dump sites

5.2.15.2.4 Road and storm water

The road network in the TLM that passes through the town to Lephalale and Modimolle need upgrading. There is storm water drainage in Regorogile and mining residential areas. Though the infrastructure is old it is still efficient. Smashblock is an informal settlement that lacks most of the basic services including roads and storm water drainage. Informal settlements have informal gravel roads with no storm water channelling.

5.2.15.2.5 Housing

The municipality has housing shortage due to growing residents in the informal settlement areas. The shortage is further exacerbated by the following factors:

- Mushrooming of informal settlements due to lack of land.
- Illegal occupants on RDP houses.p
- Housing backlog of 3400.
- Lack of residential site.
- Lack of services in some RDP houses.

5.2.15.2.6 Town park and walk ways

The municipality has developed a Central Business District Development Plan. The plan entails landscaping the park, planting trees and construction of walkways. The project is intended to beautify the town to stimulate the economic development in the area. The project will include erecting pedestrian crossing over the railway line in Thabazimbi town.

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5.3 Impact assessment, and management measures

5.3.1 Methodology used in determining and ranking the nature, significance, consequences, extent, duration and probability of potential environmental impacts and risks

Impact assessment

The methodology used to assess the significance of an impact is based on the requirements as set out in EIA Regulations, (GN 982) of 2014 i.t.o. the NEMA as well as the Proposed National Guideline on Minimum Information Requirements for Preparing EIA for Activities that Require EA, of 2018, GN 86 in terms of NEMA. The impact significance methodology described below also complies to Appendix B of the Operational Guideline to Integrated Water and Waste Management of 2010 in terms of the NWA. In the event of any Section 21c&i water uses in terms of the NWA being assessed, Appendix A of the General Authorisations of 2016, GN 509 in terms of the NWA will be used to construct a risk matrix. Regulation 3(b) of the General Authorisations of 2016, GN 509 in terms of the NWA states that a suitably qualified SACNASP professional member must determine risks associated with this risk matrix.

Impact identification and prediction means forecasting the change of environmental parameters due to developmental patterns. These parameters may also be changing due to climate change and should be included.

Method of assessment: Impact identification and prediction is a stepwise procedure to identify the direct, indirect and cumulative impacts (relating to both positive and negative impacts) for which a proposed activity and its alternatives will have on the environment as well as the community. This should be undertaken by determining the geographical, physical, biological, social, economic, heritage and cultural sensitivity aspects of sites and locations as well as the risk of impact of the proposed activity. Refer to part A(h)(iv) for a complete description of these environmental attributes. Sources of data to be used for gathering data on the environmental attributes as well as the impacts include; monitoring / sampling data collected and stored, assumptions and actual measurements, published data available from the departments or other stakeholders in the area as well as specialist studies. Likely impacts should be described qualitatively and then studied separately in detail. This provides consistent and systematic basis for the comparison and application of judgements.

Significance rating: Ratings should then be assigned to each criterion. Significance of impacts should be determined for each phase of the project lifecycle this includes; preconstruction, construction, operational, closure (including decommissioning) and post closure phases. The significance of impacts should further be assessed both with and without mitigation action. The description of significance is largely judgemental, subjective and variable. However, generic criteria can be used systematically to identify, predict, evaluate and determine the significance of impacts resulting from project construction, operation and decommissioning. The process of determining impact magnitude and significance should never become mechanistic. Impact magnitude is determined by empirical prediction, while impact significance should ideally involve a process of determining the acceptability of a predicted impact to

society. Making the process of determining the significance of impacts more explicit, open to comment and public input would be an improvement of environmental assessment practice. Impact magnitude and significance should as far as possible be determined by reference to either legal requirements (accepted scientific standards) or social acceptability. If no legislation or scientific standards are available, the EAP can evaluate impact magnitude based on clearly described criteria. A matrix selection process is the most common methodology used in determining and ranking the site sensitivities:

- The consequence: includes the nature / intensity / severity of the impact, spatial extent of the impact, and duration of the impact.
    - The nature / intensity / severity of the impact: An evaluation of the effect of the impact related to the proposed development on the receiving environment. The impact can be either positive or negative. A description should be provided as to whether the intensity of the impact is high, medium or low or has no impact in terms of its potential for causing negative or positive effects. Cognisance should be given to climate change which may intensify impacts.
    - The spatial extent of the impact: Indication of the zone of influence of the impact: A description should be provided as to whether impacts are either limited in extent or affect a wide area or group of people. Cumulative impacts must also be considered as the extent of the impact as may increase over time.
    - The duration of the impact: It should be determined whether the duration of an impact will be short-term, medium term, long term or permanent. Cumulative impacts must also be considered as the duration of the impact as it may increase over time.
- The likelihood: includes the probability of the potential occurrence of the impact, and frequency of the potential occurrence of the impact
    - The probability of the impact: The probability is the quality or condition of being probable or likely. The probability must include the degree to which these impacts can be reversed; may cause irreplaceable loss of resources; and can be avoided, managed or mitigated
    - The frequency of the potential occurrence of the impact.
- The significance: This is worst case scenario without any management measures. See below how significance is determined: Impact that may have a notable effect on one or more aspects of the environment or may result in noncompliance with accepted environmental quality standards, thresholds or targets and is determined through rating the positive and negative effects of an impact on the environment based on criteria such as duration, magnitude, intensity and probability of occurrence. Mitigation measures should be provided with evidence or motivation of its effectiveness

Example of significance rating:

Prior to mitigation

Intensity and magnitude	1 Natural processes or functions are not affected and will adequately return to its natural state. The impact will be completely reversed with correct management, and can be completely avoided, managed, or mitigated.	2 Natural processes or functions are affected, and natural processes or functions will continue in a modified manner. The impact will be reversed to some degree with correct management, and can be somewhat avoided, managed, or mitigated	3 Natural processes or functions are to the extent where it temporarily or permanently ceases. The impact cannot be reversed even with correct management, and cannot be avoided, managed, or mitigated
Resource replaceability	1 Loss of resource can be completely replaced.	2 Loss of resource can somewhat be replaced.	3 Resources will be completely lost.
Duration	1 The impact will be short-lived.	2 The impact will last for the entire operational life of the activity but will be mitigated thereafter.	3 The impact will not cease after the operational life of the activity ceases but will be permanent.
Extent or spatial scale	1 The impact will be site specific.	2 The impact will affect the local area.	3 The impact will affect an area larger than just the local area.
Probability	1 It is unlikely that the impact will occur.	2 There is a probability for the impact to occur.	3 The impact will definitely occur.
Significance	None or low If the sum of the above ranking is equal or more than 5 and 7, and no ranking equals 3.	Medium If the sum of the above ranking is equal or more than 8 to 11.	High If the sum of the above ranking is 12 or more.

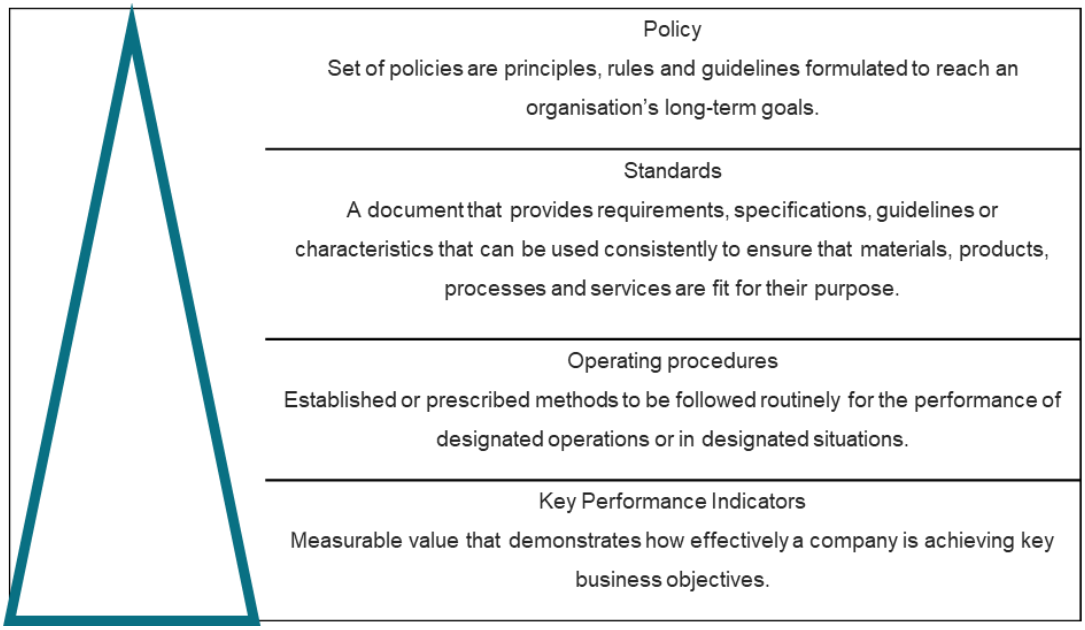
Post to mitigation

Intensity and magnitude	1 Natural processes or functions are not affected and will adequately return to its natural state. The impact will be completely reversed with correct management, and can be completely avoided, managed, or mitigated.	2 Natural processes or functions are affected, and natural processes or functions will continue in a modified manner. The impact will be reversed to some degree with correct management, and can be somewhat avoided, managed, or mitigated	3 Natural processes or functions are to the extent where it temporarily or permanently ceases. The impact cannot be reversed even with correct management, and cannot be avoided, managed, or mitigated
Resource replaceability	1 Loss of resource can be completely replaced.	2 Loss of resource can somewhat be replaced.	3 Resources will be completely lost.
Duration	1 The impact will be short-lived.	2 The impact will last for the entire operational life of the activity but will be mitigated thereafter.	3 The impact will not cease after the operational life of the activity ceases but will be permanent.
Extent or spatial scale	1 The impact will be site specific.	2 The impact will affect the local area.	3 The impact will affect an area larger than just the local area.
Probability	1 It is unlikely that the impact will occur.	2 It is likely for the impact to occur.	3 The impact will definitely occur.
Significance	None or low If the sum of the above ranking is equal or more than 5 and 7, and no ranking equals 3.	Medium If the sum of the above ranking is equal or more than 8 to 11.	High If the sum of the above ranking is 12 or more.

Mitigation and management

Management methodology is based on the requirements as set out in EIA Regulations, (GN 982) of 2014 i.t.o. the NEMA as well as the Proposed National Guideline on Minimum Information Requirements for Preparing EIA for Mining Activities that Require EA, of 2018, GN 86 in terms of NEMA; and the Mining and Biodiversity Guideline (Mainstreaming Biodiversity into the Mining Sector) IDB of 2013 in terms of the MPRDA.

Management statements detail the processes, procedures and practices required to achieve an impact management outcome. A hierarchy of management tools used can also be used as seen below.



Mitigation should include measures in the following order of priority. The aim is to prevent adverse impacts from happening or, where this is unavoidable, to limit their significance to an acceptable level.

Avoiding or preventing impacts

If the biodiversity (an ecosystem, habitat for threatened species, ecological corridor or area that provides essential ecosystem services) is of conservation value or importance, it is best to plan to avoid

or prevent impacts altogether by changing the location, siting, method or processes of the mining activities and related infrastructure.

Minimising impacts

Minimising impacts of mining is a mitigation measure that deals with the environment in general. In areas where the biodiversity is to be affected is of conservational value or importance, then every effort should be made to minimise those impacts that cannot be avoided or prevented. Mining companies should strive to minimise impacts on biodiversity to ensure environmental protection. Section 2 of NEMA contains environmental management principles that resonates with minimising the impact rather than stopping at mitigation, this is imperative in the mining sector.

Rehabilitating impacted areas

Rehabilitation is the measures that are undertaken to "as far as it is reasonably practicable, rehabilitate the environment affected by the prospecting or mining operations to its natural or predetermined state or to a land use which aligns to the generally accepted principle of sustainable development. A closure plan is an essential part of rehabilitation and must be developed based on the establishment of the closure objectives and criteria.

Biodiversity offsets

Biodiversity offsets are measurable conservation gains that help to balance any significant biodiversity losses that remain after actions to avoid, minimise and restore negative impacts have been taken. They are the last stage of mitigation and should be considered after appropriate avoidance, minimisation, and rehabilitation/restoration measures have been applied already.

When dealing with management, impact management outcomes must:

- be set for the expected activity-based impacts;
- describe the desired outcome of the management measure/s prescribed or the standard to be achieved (environmental objective);
- be clearly documented and identified per project phase as in the impact identification and significance rating process (this must be aligned to the mines closure objectives, and must therefore include predicted long-term result of the applied management measures);
- be measurable to determine compliance, which includes time frames and schedule for the implementation of the management measures; responsibilities for implementation and long-term maintenance of the management measures; financial provision for long-term maintenance; and monitoring programmes to be implemented;
- be informed by stakeholder expectations; and
- ensure legal compliance;

Finally, the impact assessment must refer to the residual and latent impact after successful implementation of the management measures.

5.3.2 Impacts and risks identified including the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which these impacts

This section includes the nature, significance, consequence, extent, duration, and probability of the impacts, including the degree to which these impacts can be reversed; may cause irreplaceable loss of resources; and can be avoided, an assessment of each identified potentially significant impact and risk, including cumulative impacts, as well as how these impacts can be managed or mitigated and level of residual risk.

Please note: The impacts and management measures below will be expanded upon once all specialist studies have been finalised.

5.3.2.1 Geology and the mineral resource

Activity, nature, and consequence of impact:

The loss of geology due to the mining of andalusite.

Cumulative impacts:

Geology is also removed at the adjacent Rhino Andalusite Mine.

Assumptions, uncertainties, and gaps in knowledge:

Information for this risk was extracted from similar EMPs.

Loss of geology		
	Impact pre-mitigation	**Impact post-mitigation**
Intensity and magnitude	1 The loss of geology will alter the surrounding environment in such a way that natural, social, cultural, and environmental processes are marginally affected.	1 The loss of geology will alter the surrounding environment in such a way that natural, social, cultural, and environmental processes are marginally affected.
Resource replaceability	3 The impact is not reversible, and the resource cannot be replaced.	3 The impact is not reversible, and the resource cannot be replaced.

Loss of geology		
	Impact pre-mitigation	**Impact post-mitigation**
Duration	1 Although the activity is ongoing until closure, this impact itself is once-off, as roll over mining will be practiced.	1 Although the activity is ongoing until closure, this impact itself is once-off, as roll over mining will be practiced.
Extent or spatial scale	1 The impact will be site specific.	1 The impact will be site specific.
Probability	3 The loss of geology will occur regardless of any prevention measures.	3 The loss of geology will occur regardless of any prevention measures.
Significance	**9** **Medium**	**9** **Medium**

Environmental objective
To ensure the impact on geology is minimised.

Management measures to be applied	**Phase applicable to management measure**	**Management tools**	**Monitoring programmes**	**Management timeframe and schedule**	**Responsibilities for implementation and long-term maintenance**	**Mitigation hierarchy**
Mining must take place within the approved mining plan.	Operational	Mining Plan	Mining Plan	Ongoing as mining advances	Mine surveyor and mine manager	Rehabilitate

Stakeholder expectations and / or comments
None received.
Residual and latent risks
The residual impacts from the removal of geology will remain, as well as the residual impact from covering of geology. Roll over mining will lessen this residual impact. No additional latent impacts are envisaged.

5.3.2.2 Soils

Activity, nature, and consequence of impact:

Erosion and soil pollution may occur due to mining activities.

Cumulative impacts:

Farming and mining activities in the area can lead to soil erosion and pollution.

Assumptions, uncertainties, and gaps in knowledge:

Information for this risk was extracted from similar EMPs.

Soil erosion		
	Impact pre-mitigation	**Impact post-mitigation**
Intensity and magnitude	2 The risks on soil erosion will be somewhat severe.	1 The risks on soil erosion will be mitigated.
Resource replaceability	2 The risks on soil erosion will be somewhat severe and reversible.	1 The risks on soil erosion will be somewhat severe and reversible.
Duration	3 Soil erosion will be permanent without management.	2 Soil erosion will be temporary with management.
Extent or spatial scale	1 The risks will be site specific.	1 The risks will be site specific.
Probability	2 The impact will be probable without management measures.	1 The impact is less likely with management measures.
Significance	**10** **Medium**	**6** **Low**

Soil pollution		
	Impact pre-mitigation	**Impact post-mitigation**
Intensity and magnitude	2 The risks on soil pollution will be somewhat severe.	1 The risks on soil pollution will not be severe with adequate management.
Resource replaceability	2 The risks on soil pollution will not be severe and are reversible.	1 The risks on soil pollution will not be severe and are reversible.
Duration	2 Soil pollution will not be temporary.	1 Soil pollution will be temporary with adequate management.
Extent or spatial scale	1 The risks will be site specific.	1 The risks will be site specific.
Probability	2 The impact will be probable without management measures.	1 The impact is less likely with management measures.
Significance	**9** **Medium**	**5** **Low**

Environmental objective
To prevent soil erosion and pollution.

Management measures to be applied	**Phase applicable to management measure**	**Management tools**	**Monitoring programmes**	**Management timeframe and schedule**	**Responsibilities for implementation and long-term maintenance**	**Mitigation hierarchy**
Soil erosion prevention as per the rehabilitation plan.	Operational phase until closure	Rehabilitation Strategy and Implementation Plan	Erosion monitoring	On-going until rehabilitation and closure	Mine Manager	Prevent

Management measures to be applied	Phase applicable to management measure	Management tools	Monitoring programmes	Management timeframe and schedule	Responsibilities for implementation and long-term maintenance	Mitigation hierarchy
Removal of topsoil should be done systematically, only clearing the necessary areas at a time	Operational until closure.	According to the mining plan	Site inspections.	Continuously throughout operation.	Mine manager.	Minimise
If there is sufficient topsoil, it must be stockpiled to be used as part of rehabilitation.	Operational phase until closure	Rehabilitation Strategy and Implementation Plan	Erosion monitoring	On-going until rehabilitation and closure	Mine Manager	Minimise

Stakeholder expectations and / or comments
None received.
Residual and latent risks
No residual risks from soil erosion or pollution; however, the loss of topsoil, which is a residual risk from mining activities, will remain.

5.3.2.3 Vegetation

5.3.2.3.1 Destruction of natural vegetation

Activity, nature, and consequence of impact:

The mining will unavoidably require the removal of vegetation for the purpose of access roads, servitudes and the footprint of the mine and dumps. Surrounding vegetation could be flattened which is detrimental to the persistence of the vegetation. In addition, the illegal disposal of construction / maintenance material such as oil, cement etc. could destroy natural vegetation surrounding the mining operation.

The sources of this impact could include, but are not limited to:

- Clearing of and damage to vegetation in construction footprint, access roads, construction camps, vehicle/ machinery traffic and trampling by workers;
- Illegal disposal and dumping of construction material such as cement or oil, as well as maintenance materials during construction;
- Edge effects e.g. heavy vehicles turning in adjacent areas;
- Storage of equipment within vegetation; and

- Operational vehicles driving within natural or rehabilitated vegetation, not directly impacted on by the mine

Direct impact:

- Localised loss of vegetation and associated habitats and –organisms
- Reduction of the extent of CBAs in the Province.
- Denudation and compaction of soils which may lead to an increase in runoff
- Fragmentation of vegetation and habitat
- Possible permanent reduction of re-vegetation potential of soil surface

Cumulative impacts:

Increase in transformed areas and loss of CBA extent in the province. Ongoing mining that extends eastward will fragment the natural habitat and the entire southern aspect of the mountain, and the CBA, will be modified from the natural state.

Assumptions, uncertainties, and gaps in knowledge:

Comprehensive vegetation assessments and plant species assessments (search for species of conservation concern) were not undertaken. Although no plant species of conservation concern were recorded in walked transects around proposed activities footprint, this does not mean that the species are absent.

Destruction of natural vegetation				
	Construction phase		**Operational phase**	
	Impact pre-mitigation	**Impact post-mitigation**	**Impact pre-mitigation**	**Impact post-mitigation**
Intensity and magnitude	3 High	3 High	2 Moderate	2 Moderate
Resource replaceability	3 Low (CBAs)	2 Moderate	3 Low (CBAs)	2 Moderate
Duration	2	2	2	2

Destruction of natural vegetation				
	Construction phase		**Operational phase**	
	Impact pre-mitigation	**Impact post-mitigation**	**Impact pre-mitigation**	**Impact post-mitigation**
	Medium term	Medium term	Long-term	Medium term
Extent or spatial scale	2 Limited to local area.	1 Limited to site.	2 Limited to local area.	1 Limited to site.
Probability	3 The impact will definitely occur.	3 The impact will definitely occur.	3 The impact will definitely occur.	2 It is probable for this impact to occur.
Significance	**13** **High**	**11** **Medium**	**12** **High**	**9** **Medium**

Environmental objective

To prevent the establishment of alien vegetation as they use a lot of environmental resources which restricts the growth of indigenous vegetation.

Management measures to be applied	**Phase applicable to management measure**	**Management tools**	**Monitoring programmes**	**Management timeframe and schedule**	**Responsibilities for implementation and long-term maintenance**	**Mitigation hierarchy**
Limit vegetation clearing to the mining footprint and cluster infrastructure to reduce the mining footprint. The construction footprint and operational area of the mine may not result in edge effects to surrounding vegetation.	Design phase	Final approved site layout plan	Site inspections	Pre-construction	Mine Manager and ECO	Avoid
Leave as much connecting natural open space as possible. Leave boulders and rocks in place where	Design phase	Final approved site layout plan	Site inspections	Pre-construction	Mine Manager and ECO	Minimise

Management measures to be applied	Phase applicable to management measure	Management tools	Monitoring programmes	Management timeframe and schedule	Responsibilities for implementation and long-term maintenance	Mitigation hierarchy
possible. This will ensure the persistence of microhabitats.						
After the final layout has been approved, conduct a thorough footprint investigation to detect all affected protected and/or threatened plant species that must be removed.	Design phase	Botanist to be appointed	Botanist to be appointed	Pre-construction	ECO	Prevent
Aim to start/conduct bulk of construction activities during the dry season.	Design phase	N/A	N/A	Planning	Mine Manager and ECO	N/A
Planning of the construction site must incorporate eventual rehabilitation in accordance with a vegetation rehabilitation plan. Prior to construction, grassland sods, small trees and shrubs can be removed and stored within transformed vegetation, maintained, and used in eventual rehabilitation (see closure phase mitigation below). Also, retain rocks to include in relandscaping post closure.	Design phase	Rehabilitation plan	Site inspections	Pre-construction	Mine Manager and ECO	Minimise and avoid

Stakeholder expectations and / or comments

None received.

Residual and latent risks
Localized alteration of soil surface characteristics and loss of flora, and increased fragmentation of remaining CBA.

5.3.2.4 Animal life

5.3.2.4.1 Destruction of sensitive vertebrate habitat

Activity, nature, and consequence of impact:

The sources of these impacts would include the removal of vegetation by clearing the bush and felling of protected trees. The pollution of the Bierspruit and Crocodile River will have an impact on the survival of many vertebrate species. Currently the negative impact has already taken place in some areas of the mine, however the proposed mining in this area will increase the footprint and it will be permanent. This will lead to some terrestrial species becoming permanently and proportionally rarer within local context.

Cumulative impacts:

Mining activities will result in a cumulative impact to the sensitive vertebrate habitat on the study site and even beyond.

Assumptions, uncertainties, and gaps in knowledge:

Site visits for species identification are conducted over short time periods and not on a regular basis during several seasons over a period of time.

Destruction of sensitive vertebrate habitat				
	Construction phase		**Operational phase**	
	Impact pre-mitigation	**Impact post-mitigation**	**Impact pre-mitigation**	**Impact post-mitigation**
Intensity and magnitude	3 High	1 Low	2 Moderate	1 Low
Resource replaceability	3 Irreversible	2 Low reversibility	3 Irreversible	2 Low reversibility
Duration	2	2	3	3

Destruction of sensitive vertebrate habitat				
	Construction phase		**Operational phase**	
	Impact pre-mitigation	**Impact post-mitigation**	**Impact pre-mitigation**	**Impact post-mitigation**
	Long term	Long term	Permanent	Permanent
Extent or spatial scale	2 Limited to local area.	1 Limited to site.	2 Limited to local area.	1 Limited to site.
Probability	3 The impact will definitely occur.	2 It is highly probable for this impact to occur.	3 The impact will definitely occur.	2 It is highly probable for this impact to occur.
Significance	**13** **High**	**8** **Medium**	**13** **High**	**9** **Medium**

Environmental objective
To prevent the destruction of sensitive vertebrate habitat.

Management measures to be applied	**Phase applicable to management measure**	**Management tools**	**Monitoring programmes**	**Management timeframe and schedule**	**Responsibilities for implementation and long-term maintenance**	**Mitigation hierarchy**
Keep the impact contained in a certain area. Sensitive habitat should ideally be cordoned off to prevent access.	Operational until closure	Mining plan, Awareness and cordon off tape	Site inspections	Continuous	ECO and site geologist	Prevent
The 100 m buffer outside the urban edge should apply for the Bierspruit and Crocodile Rivers.	Operational until closure	Buffer zones, Layout plan	Site inspections	Continuous	ECO and site geologist	Prevent

Stakeholder expectations and / or comments
None received.
Residual and latent risks
Impacts on sensitive areas are likely to be permanent unless the development takes place only in the designated area away from the drainage lines.

5.3.2.5 Groundwater

Please note that a Geohydrological Study and Impact Assessment is currently being finalised. Therefore, the impacts and risks will be updated, and the report appended to the EIAR/EMP.

5.3.2.6 Surface water

Please note that a stormwater management plan and an aquatic ecosystem delineation are currently being finalised. Therefore, the impacts and risks will be updated, and the report appended to the EIAR/EMP.

5.3.6.7 Air quality

Please note that an Air Quality Impact assessment is currently underway. Therefore, the impacts and risks will be updated, and the report appended to the final EIAR/EMP.

5.3.2.8 Archaeological, historical and cultural aspects

5.3.2.8.1 Surface and subsurface impact on heritage resources due to mining development

Activity, nature, and consequence of impact:

During the development, construction and operational phases, surface and subsurface impacts take place. These activities can lead to irreparable damage or complete destruction of heritage resources if not correctly managed.

Cumulative impacts:

Based on current observation impact to LIA and historical sites, as well as burial sites might occur.

Assumptions, uncertainties, and gaps in knowledge:

Because archaeological artefacts generally occur below surface, the possibility exists that culturally significant material may be exposed during the rehabilitation phase. Potential heritage surface indicators are therefore rather considered sites than assuming the presence of a natural feature. Due to extremely dense vegetation cover associated with the study area, a few locked gates and a large project area, the entire area could not be inspected.

Surface and subsurface impact on heritage resources due to mining development		
	Impact pre-mitigation	**Impact post-mitigation**
Intensity and magnitude	2 Potential destruction of culturally significant material.	1 The proposed project can avoid and monitor the identified heritage sites and implement precautionary measures, thereby limiting/avoiding impact.
Resource replaceability	3 Damage is irreversible.	3 Resources will be completely lost.
Duration	3 The impact will not cease after the operational life of the activity ceases but will be permanent.	1 The impact will be short-lived.
Extent or spatial scale	1 The impact will be site specific.	1 The impact will be site specific.
Probability	3 The impact will definitely occur.	1 With correct management, it is unlikely that the impact will occur.
Significance	**12** **High**	**7** **Low**

Environmental objective
To ensure that heritage resources are not negatively impacted.

Management measures to be applied	Phase applicable to management measure	Management tools	Monitoring programmes	Management timeframe and schedule	Responsibilities for implementation and long-term maintenance	Mitigation hierarchy
Heritage awareness must be included in normal site induction for all employees, contractors and visitors to the subject properties. This will ensure that the general level of heritage awareness is raised and that there is compliance with the act. The sections of the NHRA must be highlighted to each visitor, contractor and employee or any other person acting on the sites or immediate surrounds.	Development, construction, operational	General awareness	Site inspections	Inspections during Development, construction, operational	ECO	General awareness
All actions on the property will be subject to the provisions of the NHRA and any transgressions of the act will make the transgressor liable in terms of the act.	Development, construction, operational	NHRA	Site inspections	Inspections during Development, construction, operational	ECO	Prevent
The demarcated project boundary must be enforced to limit the footprint of the impact of activities outside the project area.	Development, construction, operational	General awareness	Site inspections	Inspections during Development, construction, operational	ECO	Prevent
If culturally significant material is exposed during the development and construction phases, all activities must be suspended pending further archaeological investigations by a qualified archaeologist. Should skeletal remains be exposed during development and construction phases, all activities must be suspended and the relevant heritage resources authority contacted (See National Heritage Resources Act, 25 of 1999 section 36 (6)).	Development, construction, operational	General awareness	Site inspections	Inspections during Development, construction, operational	ECO	Prevent

Management measures to be applied	Phase applicable to management measure	Management tools	Monitoring programmes	Management timeframe and schedule	Responsibilities for implementation and long-term maintenance	Mitigation hierarchy
Prior to the commencement of any work or action that will impact or effect a heritage resource, the relevant authorisation must be obtained from SAHRA.	Planning	N/A	N/A	N/A	N/A	N/A
Where there is uncertainty with regard to the status of a heritage resource, object, place or artefact, or any legislative or other policy issue the SAHRA can be contacted for clarity.	Development, construction, operational	General awareness	Site inspections	Inspections during Development, construction, operational	ECO	Prevent

Stakeholder expectations and / or comments
None received.
Residual and latent risks
If effective management takes place, there should not be residual impacts. No latent impacts foreseen.

Pre- and post-mitigation impacts per site:

Site No (2427CB)	**B01**		**B02**		**B04**		**B05**		**B06**	
Site Type	**Building 1947**		**Building 1963**		**Building 1980**		**Building 1980**		**Building 1947**	
Activity	**No impact to heritage resources foreseen (based on current project boundary)**									
Impact	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**
Intensity and magnitude	1	1	1	1	1	1	1	1	1	1
Resource replaceability	3	3	3	3	3	3	3	3	3	3

Site No (2427CB)	**B01**		**B02**		**B04**		**B05**		**B06**	
Site Type	**Building 1947**		**Building 1963**		**Building 1980**		**Building 1980**		**Building 1947**	
Activity	**No impact to heritage resources foreseen (based on current project boundary)**									
Impact	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**
Duration	2	1	2	1	2	1	2	1	2	1
Extent or spatial scale	1	1	1	1	1	1	1	1	1	1
Probability	1	1	1	1	1	1	1	1	1	1
Significance	**8 Medium**	**7 Low**	**8 Medium**	**7 Low**	**8 Medium**	**7 Low**	**8 Medium**	**7 Low**	**8 Medium**	**7 Low**

Site No (2427CB)	**B07**		**F05**		**F07**		**F08**		**F09**	
Site Type	**Building 1947**		**Building foundation**		**Cement dam**		**Cement dam**		**Cement dam**	
Activity	**No impact to heritage resources foreseen (based on current project boundary)**									
Impact	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**
Intensity and magnitude	1	1	2	1	1	1	1	1	1	1
Resource replaceability	3	3	2	2	1	1	1	1	1	1
Duration	2	1	2	1	2	1	2	1	2	1
Extent or spatial scale	1	1	1	1	1	1	1	1	1	1

Site No (2427CB)	**B07**		**F05**		**F07**		**F08**		**F09**	
Site Type	**Building 1947**		**Building foundation**		**Cement dam**		**Cement dam**		**Cement dam**	
Activity	**No impact to heritage resources foreseen (based on current project boundary)**									
Impact	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**
Probability	1	1	3	1	1	1	1	1	1	1
Significance	**8 Medium**	**7 Low**	**10 Medium**	**6 Low**	**6 Low**	**5 Low**	**6 Low**	**5 Low**	**6 Low**	**5 Low**

Site No (2427CB)	**F10**		**F11**		**F12**		**F13**	
Site Type	**Mining marker**		**Mining marker**		**Mining marker**		**Mining Trenching**	
Activity	**No impact to heritage resources foreseen (based on current project boundary)**							
Impact	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**
Intensity and magnitude	1	1	1	1	1	1	1	1
Resource replaceability	1	1	1	1	1	1	1	1
Duration	2	1	2	1	2	1	2	1
Extent or spatial scale	1	1	1	1	1	1	1	1
Probability	1	1	1	1	1	1	1	1
Significance	**6 Low**	**5 Low**	**6 Low**	**5 Low**	**6 Low**	**5 Low**	**6 Low**	**5 Low**

Site No (2427CB)	**B03**		**B11**		**F14**		**B08 - B10, F01 - F04, F06**	
Site Type	**Hut 1963**		**Cemetery**		**Graves**		**Sensitive Area: Stone tools, grinders, stonewalling, feeding trough, ceramics, potsherds, metal remains**	
Activity	**Potential destruction of heritage resources**							
Impact	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**	**Pre-mitigation**	**Post-mitigation**
Intensity and magnitude	2	1	2	1	2	1	2	1
Resource replaceability	3	3	3	3	3	3	3	3
Duration	3	1	3	1	3	1	3	1
Extent or spatial scale	1	1	1	1	1	1	1	1
Probability	3	1	3	1	3	1	3	1
Significance	**12 High**	**7 Low**	**12 High**	**7 Low**	**12 High**	**7 Low**	**12 High**	**7 Low**

Environmental objective
To ensure that heritage resources are not negatively impacted.

Site	Management measures to be applied	Phase applicable to management measure	Management tools	Monitoring programmes	Management timeframe and schedule	Responsibilities for implementation and long-term maintenance	Mitigation hierarchy
B03 – Hut 1963	Avoid, destruction permit if buildings can't be avoided. Monitoring of subsurface material at demolished huts.	Construction & Development	General awareness	Site inspections	Inspection during construction, development and blasting	ECO	Prevent
B11 - Cemetery	Conservation buffer of 50m, 100 m no mining, monitoring.	Construction & Development	General awareness	Site inspections	Inspection during construction, development and blasting	ECO	Prevent
F05 – Building foundation	Monitor subsurface material	Construction & Development	General awareness	Site inspections	Inspection during construction and development	ECO	Prevent
F14 - Graves	Conservation buffer of 50m, 100 m no mining, monitoring	Construction & Development	General awareness	Site inspections	Inspection during construction, development and blasting	ECO	Prevent
B08 - B10, F01 - F04, F06: Sensitive Area: Stone tools, grinders, stonewalling, feeding trough, ceramics, potsherds, metal remains	Avoid, Conduct Phase 2 assessment if not possible to avoid	Construction & Development	General awareness	Site inspections	Inspection during construction, development and blasting	ECO	Prevent

Stakeholder expectations and / or comments
None received.
Residual and latent risks
If effective management takes place, there should not be residual impacts. No latent impacts foreseen.

5.3.2.9 HCS and Waste

Activity, nature, and consequence of impact:

The potential pollution of surface water and soil due to HCS and waste.

Cumulative impacts:

Nearby mines may contribute to impacts from HCS and waste.

Assumptions, uncertainties, and gaps in knowledge:

Information for this risk was extracted from similar EMPs.

Refer to Section 7.2.2 for the impact assessment on soils and 7.2.5 for the impact assessment on surface water.

Management measures to be applied	Phase applicable to management measure	Management tools	Monitoring programmes	Management timeframe and schedule	Responsibilities for implementation and long-term maintenance	Mitigation hierarchy
Accidental spillages must be minimised and contained, immediately when it occurs.	Operational until closure.	Spill handling procedure.	Inspections of roads.	Continuously throughout operation.	Mine manager and site employees.	Minimise
Any contaminated soil due to leakages or spillages must be removed as hazardous waste.	Operational phase until closure	Spill handling procedure, spill kits	Site inspections.	On-going until rehabilitation and closure	Mine Manager	Prevent

Management measures to be applied	Phase applicable to management measure	Management tools	Monitoring programmes	Management timeframe and schedule	Responsibilities for implementation and long-term maintenance	Mitigation hierarchy
All HCS fluids must be contained within its properly constructed enclosures with concrete flooring. Fuel tanks should be operated such that an accidental spillage is minimised and contained	Operational until closure.	Spill handling procedure. And storage designs.	Inspections of storage areas.	Continuously throughout operation.	Mine manager.	Minimise
Solid waste must be stored on site in the approved locations and removed to a licenced site.	Operational until closure.	Waste management procedure.	As per the waste management procedure.	Continuously throughout operation.	Mine manager.	Avoid
All vehicles and machinery must be maintained and regularly serviced off-site to prevent soil pollution.	Operational phase until closure	Inspections Maintenance register.	Maintenance as per maintenance register.	On-going until rehabilitation and closure	Mine Manager	Prevent

5.4 Details of the development footprint alternatives considered

Development footprint alternatives (if considered) will be based on input from the various specialist studies and feedback from the public participation process.

5.4.1 The positive and negative impacts that the proposed activity (in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected

The development footprint and the site layout will be finalised, taking into account all sensitive features.

5.4.2 The possible mitigation measures that could be applied and the level of risk

With regard to the issues and concerns raised by affected parties provide a list of the issues raised and an assessment/ discussion of the mitigations or site layout alternatives available to accommodate or address their concerns, together with an assessment of the impacts or risks associated with the mitigation or alternatives considered). This will be included in the EIAR/EMP.

5.4.3 The outcome of the site selection matrix. Final site layout plan

The layout plan will be finalised once input is received from the registered I&APs and stakeholders.

5.4.4 Motivation where no alternative sites were considered

There is no alternative to the proposed development with the associated infrastructure, however the consultation process will involve communication with the community and the input from specialists. As above, the development footprint and the site layout will be finalised, however the development of an alternative plan, with specialist inputs, is not considered to be viable.

5.4.5 Statement motivating the preferred site

Not applicable. No alternative has yet been considered.

SECTION 6: PLAN OF STUDY FOR THE ENVIRONMENTAL IMPACT ASSESSMENT PROCESS

6.1 Description of the aspects to be assessed as part of the environmental impact assessment process

All aspects to be assessed are included in Section 5.3 of this report.

6.2 Description of aspects to be assessed by specialists

The following specialist reports are to be incorporated.

- Archaeological and Cultural Heritage Impact Assessment
- Palaeontology Impact Assessment
- Terrestrial Biodiversity Impact Assessment
- Aquatic Biodiversity Impact Assessment
- Plant Species Assessment
- Animal Species Assessment
- Ambient Air Quality Impact Assessment

6.3 The stages at which the competent authority will be consulted

Date	Description
11 April 2023	Submission of application to DMRE
Acknowledgement not yet received.	Acceptance of application form by DMRE
25 May 2023	Final date to submit final scoping report to DMRE
August 2023	Draft EIAR/EMP to I&APs and stakeholders
September 2023	Final EIAR/EMP to DMRE

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

Refer to the Table 20 for the plan of study for the environmental assessment in terms of NEMA.

Table 20: Plan of study for the environmental assessment process

Date	Description
In progress	Specialist studies
11 April 2023	Submission of application
Acknowledgement not yet received.	Acceptance of application form
20 April 2023	Commencement of first phase PPP.
21 April 2023	ESR to I&APs and stakeholders
25 May 2023	Final ESR to DMRE
August 2023	Draft EIAR/EMP to I&APs and stakeholders.
September 2023	Final EIAR/EMP to DMRE

SECTION 7: ADDITIONAL INFORMATION

7.1 Other Information required by the competent Authority

Any impact raised by an I&AP will be included in the EIAR/EMP.

7.2 Period for which the environmental authorisation is required

The authorisation will be required for the duration of the Mining Right (until 16th April 2044).

7.3 Other matters required in terms of sections 24(4)(a) and (b) of the Act

24 (4) Procedures for the investigation, assessment and communication of the potential consequences or impacts of activities on the environment-	
(a) must ensure, with respect to every application for an EA-	
i. Coordination and cooperation between organs of state in the consideration of assessments where an activity falls under the jurisdiction of more than one organ of state;	DMRE is the only applicable authority for the proposed EA and thus the only organ of state. DWS is, however the competent authority for the IWULA. All other organs of state and stakeholders will receive the ESR as well as the EIAR/EMP for review.
ii. That the findings and recommendations flowing from an investigation, the general objectives of integrated environmental management laid down in this Act and the principles of environmental management set out in section 2 are taken into account in any decision made by an organ of state in relation to any proposed policy, programme, process, plan or project;	All the findings from investigations will be included in the ESR the EIAR/EMP.
iii. That a description of the environment likely to be significantly affected by the proposed activity is contained in such application;	Environmental baseline information, based in specialist studies (where possible), has been included in this ESR.
iv. Investigation of the potential consequences for or impacts on the environment of the activity and assessment of the significance of those potential consequences or impacts; and	Investigation of impact on the environment and assessment of the significance of the potential impacts (where possible), has been included in this ESR.
v. Public information and participation procedures which provide all I&APs, including all organs of state in all spheres of government that may have jurisdiction over any aspect of the activity, with a reasonable opportunity to participate in those information and participation procedures; and	Refer to Section 5.1 for the PPP.
(b) must include, with respect to every application for an EA and where applicable-	
i. Investigation of the potential consequences or impacts of the alternatives to the activity on the environment and assessment of the significance of those potential	Investigation of impact on the environment and assessment of the significance of the potential

consequences or impacts, including the option of not implementing the activity;	impacts have been done (and are in progress) by specialists.
ii. Investigation of mitigation measures to keep adverse consequences or impacts to a minimum;	Investigation of mitigation measures are being done by the specialists.
iii. Investigation, assessment and evaluation of the impact of any proposed listed or specified activity on any national estate referred to in section 3(2) of the National Heritage Resources Act, 1999 (Act No. 25 of 1999), excluding the national estate contemplated in section 3(2)(i)(vi) and (vii) of that Act;	Refer to section 5.2.13. In the event of any heritage resource discovered during operations, a qualified specialist will be appointed.
iv. Reporting on gaps in knowledge, the adequacy of predictive methods and underlying assumptions, and uncertainties encountered in compiling the required information;	All gaps in knowledge, the adequacy of predictive methods and underlying assumptions, and uncertainties encountered in compiling the required information will be included in the EIAR/EMP.
v. Investigation and formulation of arrangements for the monitoring and management of consequences for or impacts on the environment, and the assessment of the effectiveness of such arrangements after their implementation;	A monitoring plan will be included in the EIAR/EMP.
vi. Consideration of environmental attributes identified in the compilation of information and maps contemplated in subsection (3); and	Environmental attributes identified were taken into consideration during the process.
vii. Provision for the adherence to requirements that are prescribed in a specific environmental management Act relevant to the listed or specified activity in question.	Refer to Section 3 for adherence to requirements that are prescribed in a specific environmental management Act relevant to the listed or specified activity in question.

UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

I, Christopher Delport, herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and I&APs has been correctly recorded in the report.

_____

Signature of the EAP (report compiler)
Candidate EAP, EAPASA number 2022/4844
DATE: May 2023

I, Salome Beeslaar, herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and I&APs has been correctly recorded in the report.

_____

Signature of the EAP (report reviewer)
Registered EAP, EAPASA number 2020/846
DATE: May 2023

UNDERTAKING REGARDING LEVEL OF AGREEMENT

I, Christopher Delport, herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with I&APs and stakeholders has been correctly recorded and reported herein.

_____

Signature of the EAP (report compiler)
Candidate EAP, EAPASA number 2022/4844
DATE: May 2023

I, Salome Beeslaar, herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with I&APs and stakeholders has been correctly recorded and reported herein.

_____

Signature of the EAP (report reviewer)
Registered EAP, EAPASA number 2020/846
DATE: May 2023

-END-

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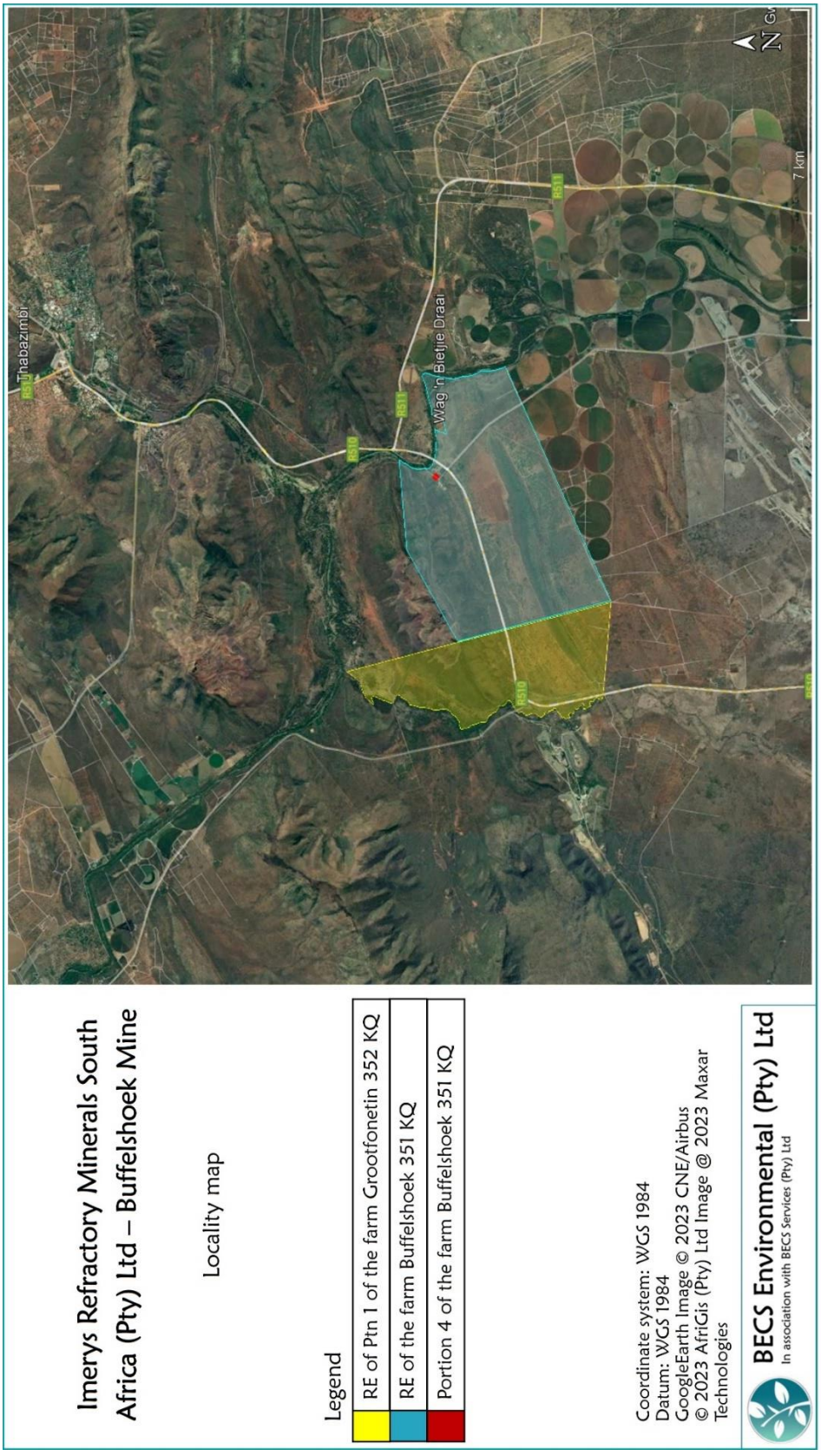
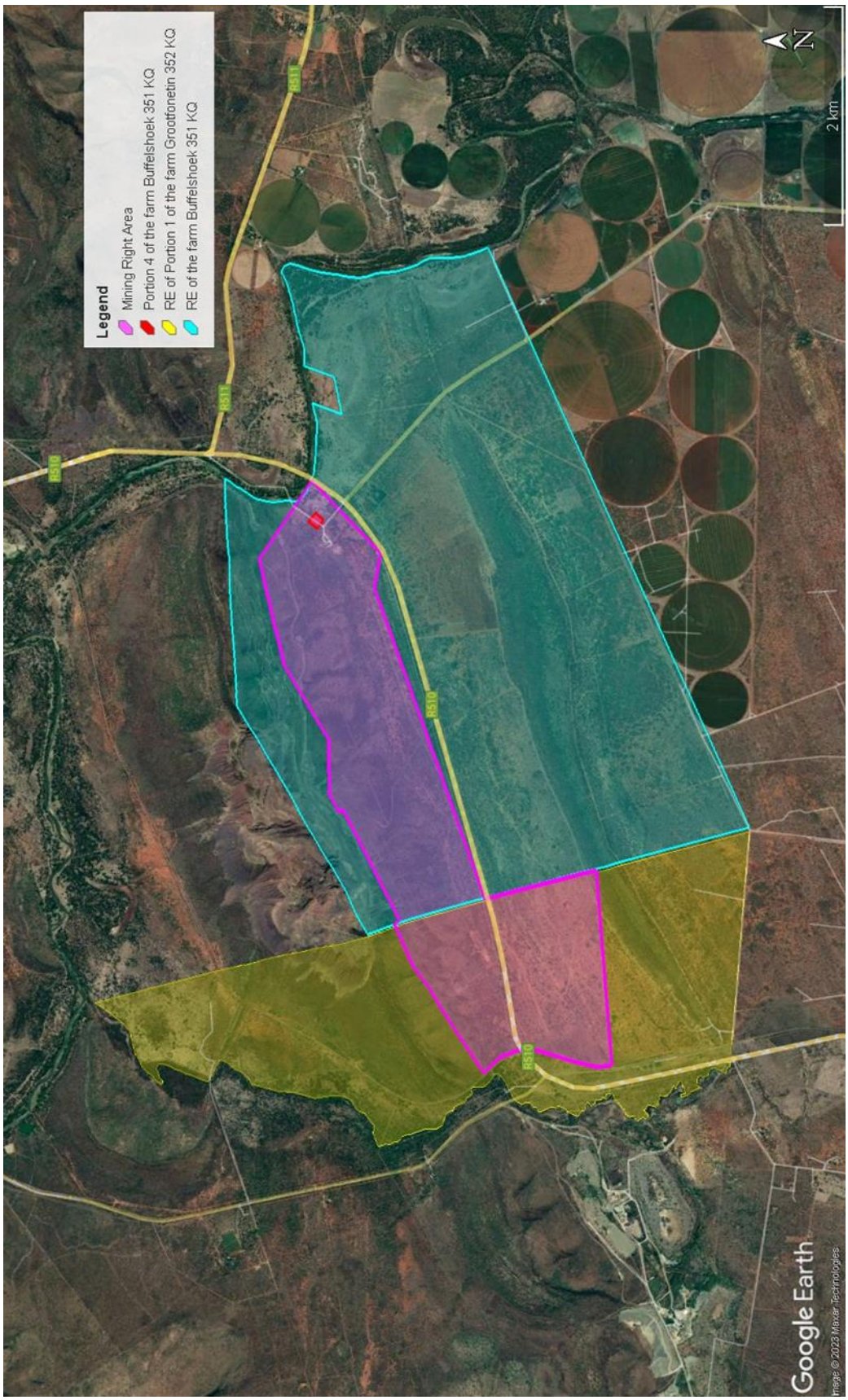
ADDENDUM 1: MAPS AND PLANS

Addendum 1A: Locality map



Addendum 1B: Surface layout plan



ADDENDUM 2: CURRICULUM VITAE

Addendum 2A: Salome Beeslaar

CURRICULUM VITAE: SALOME BEESLAAR (VENTER)

PERSONAL DETAILS

Surname:	Beeslaar
Full name:	Salome
Identity number:	8310190032081

EDUCATIONAL QUALIFICATIONS

Institution:	University of Pretoria
Qualification:	M Sc Geography
Year:	2013
Institution:	University of Pretoria
Qualification:	B Sc Honours Geography
Year:	2006
Institution:	University of Pretoria
Qualification:	B Sc Environmental Science
Year:	2005

REGISTRATIONS

- IAIAsa Membership number: 5853
- SACNASP Professional Scientist (Environmental Science): 400385/14
- EAPASA Environmental Assessment Practitioner: 2020/846

EMPLOYMENT HISTORY

August / September 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022:
University of Pretoria

September 2014 - Present:
Director and senior environmental consultant with BECS Environmental & BECS Services

March 2008 – September 2014:
Senior environmental consultant with Shangoni Management Services

July 2007 – March 2008:
Environmental consultant with Rock Environmental Consulting

January 2007 – June 2007:
Environmental consultant with Tekplan Environmental Consulting

Addendum 2B: Christopher Delport

CURRICULUM VITAE: CHRISTOPHER DELPORT

PERSONAL DETAILS

Surname:	Delport
Full name:	Christopher
Identity number:	9507265046081

EDUCATIONAL QUALIFICATIONS

Institution:	University of Pretoria
Qualification:	BSc Honours Geography and Environmental Sciences
Year:	2018
Institution:	University of Pretoria
Qualification:	B Sc Environmental Science
Year:	2017

REGISTRATIONS

- IAIAsa Membership number: 6643
- SACNASP Candidate Scientist (Environmental Science): 144476
- EAPASA Candidate Environmental Assessment Practitioner: 2022/4844

EMPLOYMENT HISTORY

January 2021 - Present:

Environmental Assessment Practitioner/consultant with BECS Environmental

ADDENDUM 3: SPECIALIST STUDIES

To be appended to the EIAR/EMP

ADDENDUM 4: PUBLIC PARTICIPATION PROCESS

Addendum 4A: Title deeds: Project properties

WinDeed Property
LIMPOPO, BUFFELSHOEK, KQ, 351, 0

Lexis® WinDeed

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SEARCH CRITERIA			
Search Date	2023/02/07 05:47		
Reference	-		
Report Print Date	2023/02/07 05:49		
Property Details	-		

REGISTERED PROPERTY DETAILS			
Property Type	FARM	Diagram Deed Number	DB174/40
Farm Number	351	Registered Size	1859.9250H
Portion Number	0	Municipality	THABAZIMBI LOCAL MUNICIPALITY
Farm Name	BUFFELSHOEK	Province	LIMPOPO
Registration Division	KQ	Coordinates (Lat/Long)	-24.677280 / 27.365420
Deed Office	LIMPOPO		

OWNER INFORMATION (1)			
THABAZIMBI IRON ORE MINE PTY LTD			Owner 1 of 1
Person Type	COMPANY	Title Deed	T11130/2019
Name	THABAZIMBI IRON ORE MINE PTY LTD	Purchase Date	2017/10/30
Registration Number	200603440807	Purchase Price (R)	115 263 000
Share (%)	-	Registration Date	2019/11/27

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MAPS

Satellite

Street

PROPERTY INFORMATION

No property information to display

MUNICIPAL VALUATION

No municipal valuation to display

SALES

Sales shows the details of the most recent transfers in close proximity to the specified property.

RECENTLY REGISTERED TRANSFERS

	Address / Property Information	Size (m²)	Sales Price (R)	Distance (m)	Sold	Transferred
A	,	2 980 000	3 500 000	4 792	2019/11/15	2020/03/10

SALES ANALYSIS

1 properties used in the analysis.

Note: Where there is no monetary value or extent it has been ignored.

	Price (R)	R/m²	Extent (m²)
Highest Priced Property	3 500 000	1	2 980 000
Average Priced Property	3 500 000	1	2 980 000
Lowest Priced Property	3 500 000	1	2 980 000

BONDS AND OTHER DOCUMENTS (12)			
#	Document Number	Institution	Amount (R)
1	CONVERTED FROM PTA	-	-
2	CAVEAT - TR80 T103881/2002PTA	-	-
3	K6954/2002RMPTA	SAMREC PTY LTD	-
4	K3977/2000RMPTA	HERNIC-PREMIER REFRACTORIES PTY LTD	-
5	K3978/2000RMPTA	MIRCAL SOUTH AFRICA PTY LTD	-
6	K2167/1991SPTA	-	-
7	K2041/1985SPTA	-	-
8	K1303/1978SPTA	-	-
9	KQ.351PTA	-	-
10	CAVEAT - TR9249 T103881/2002	-	-
11	CAVEAT - TR10998 T103881/2002	-	-
12	CL-THABAZIMBI TLC	-	-

PROPERTY HISTORY (3)			
#	Document	Amount (R)	Holder
1	T103881/2002PTA	2 541 000	SISHEN IRON ORE CO PTY LTD
2	K141/1981LPTA	-	-
3	T15872/1929PTA	-	SOUTH AFRICAN IRON & STEEL IND CORP LTD

AMENITIES (1)			
#	Name	Type	Distance (m)
1	ISTORES PRIMARY	EDUCATION	1 199

SUBURB TRENDS
The Suburb Trend graphs show the average price and total volume of sales in the suburb.

WinDeed Database D/O Property

KQ, GROOTFONTEIN, 352, 1 (REMAINING EXTENT), LIMPOPO

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SEARCH CRITERIA			
Search Date	2023/04/14 09:25	Farm Number	352
Reference	-	Registration Division	KQ
Report Print Date	2023/04/14 09:25	Portion Number	1
Farm Name	-	Remaining Extent	NO
Deeds Office	Limpopo	Search Source	WinDeed Database

PROPERTY INFORMATION			
Property Type	FARM	Diagram Deed Number	T3727/896
Farm Name	GROOTFONTEIN	Local Authority	THABAZIMBI LOCAL MUNICIPALITY
Farm Number	352	Province	LIMPOPO
Registration Division	KQ	Remaining Extent	NO
Portion Number	1 (REMAINING EXTENT)	Extent	913.6715H
Previous Description	-	LPI Code	T0KQ00000000035200001

OWNER INFORMATION (1)			
THABAZIMBI IRON ORE MINE PTY LTD			Owner 1 of 1
Company Type	COMPANY	Document	T11130/2019
Registration Number	200603440807	Microfilm / Scanned Date	-
Name	THABAZIMBI IRON ORE MINE PTY LTD	Purchase Price (R)	115 263 000
Multiple Owners	NO	Purchase Date	2017/10/30
Multiple Properties	NO	Registration Date	2019/11/27
Share (%)	-		

ENDORSEMENTS (12)				
#	Document	Institution	Amount (R)	Microfilm / Scanned Date
1	CONVERTED FROM PTA	-	-	-

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ENDORSEMENTS (12)				
#	Document	Institution	Amount (R)	Microfilm / Scanned Date
2	CAVEAT - TR9249 T103881/2002	-	-	-
3	CAVEAT - TR10998 T103881/2002	-	-	-
4	K1303/1978SPTA	-	-	-
5	K2041/1985SPTA	-	-	-
6	K2167/1991SPTA	-	-	-
7	KQ,352,1PTA	-	Unknown	-
8	K1784/1978SPTA	-	Unknown	-
9	K241/1957SPTA	-	Unknown	-
10	K2630/1982SPTA	-	Unknown	-
11	K3439/1989SPTA	-	Unknown	-
12	CAVEAT - TR80 T103881/2002PTA	-	-	-

HISTORIC DOCUMENTS (3)				
#	Document	Institution	Amount (R)	Microfilm / Scanned Date
1	T103881/2002PTA	SISHEN IRON ORE CO PTY LTD	2 541 000	2008 0532 3644
2	T15872/1929PTA	SOUTH AFRICAN IRON & STEEL IND CORP LTD	Unknown	-
3	K141/1981LPTA	-	Unknown	-

WinDeed Database D/O Property

KQ, BUFFELSHOEK, 351, 4, LIMPOPO

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	2023/04/14 09:22	Farm Number	351
Reference	-	Registration Division	KQ
Report Print Date	2023/04/14 09:23	Portion Number	4
Farm Name	-	Remaining Extent	NO
Deeds Office	Limpopo	Search Source	WinDeed Database

PROPERTY INFORMATION			
Property Type	FARM	Diagram Deed Number	T16781/939
Farm Name	BUFFELSHOEK	Local Authority	THABAZIMBI LOCAL MUNICIPALITY
Farm Number	351	Province	LIMPOPO
Registration Division	KQ	Remaining Extent	NO
Portion Number	4	Extent	8565.000SQM
Previous Description	-	LPI Code	T0KQ00000000035100004

OWNER INFORMATION (2)			
SISHEN IRON ORE CO PTY LTD			Owner 1 of 2
Company Type	COMPANY	Document	T103881/2002PTA
Registration Number	200001108507	Microfilm / Scanned Date	2008 0532 3644
Name	SISHEN IRON ORE CO PTY LTD	Purchase Price (R)	2 541 000
Multiple Owners	NO	Purchase Date	2001/04/10
Multiple Properties	NO	Registration Date	2002/08/28
Share (%)	-		

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Page 1 of 2

OWNER INFORMATION (2)			
THABAZIMBI IRON ORE MINE PTY LTD			Owner 2 of 2
Company Type	COMPANY	Document	T11130/2019
Registration Number	200603440807	Microfilm / Scanned Date	-
Name	THABAZIMBI IRON ORE MINE PTY LTD	Purchase Price (R)	115 263 000
Multiple Owners	NO	Purchase Date	2017/10/30
Multiple Properties	NO	Registration Date	2019/11/27
Share (%)	-		

ENDORSEMENTS (9)				
#	Document	Institution	Amount (R)	Microfilm / Scanned Date
1	CONVERTED FROM PTA	-	-	-
2	CAVEAT - TR9249 T103881/2002	-	-	-
3	CAVEAT - TR10998 T103881/2002	-	-	-
4	CL-THABAZIMBI TLC	-	-	-
5	CAVEAT - TR80 T103881/2002PTA	-	-	-
6	K3978/2000RMPTA	MIRCAL SOUTH AFRICA PTY LTD	-	-
7	K3977/2000RMPTA	HERNIC-PREMIER REFRACTORIES PTY LTD	-	-
8	K6954/2002RMPTA	SAMREC PTY LTD	-	-
9	KQ,351,4PTA	-	-	-

HISTORIC DOCUMENTS (1)				
#	Document	Institution	Amount (R)	Microfilm / Scanned Date
1	G198/1954PTA	SOUTH AFRICAN IRON & STEEL IND CORP LTD	Unknown	-

Addendum 4B: Copy and proof of advertisement

21 APRIL 2023, PLATINUM BUSHVELDER Tel: 081 309 3876 / 072 026 0414, Fax: 011 252 6669, E-mail: news@platinumbushvelder.co.za P05

Keeping warm like a pro!

[letter to the editor]

Winter never comes as a surprise, yet I am often unprepared for its arrival. Perhaps it's because I get too caught up with my work and personal life to notice the change of season, or perhaps it's because I just really don't want to acknowledge the frosty season looming over me. But this winter, I decided that I am going to tackle it like a pro. I won't be running up electric costs while trying to keep the tip of my nose warm. So, I researched some really handy tips and decided to share them with those—who like me—are seldom prepared. As an extra—like a real pro—I've even added some safety advice.

1. Make your home 'winter friendly'.

- Install weather insulation. It will save you a lot of bucks as your house will retain heat for longer and you won't have to run the heater for long periods of time. Do your research, there are lots of affordable options!
- Check for any gaps where the cold air might sneak in and close them up.
- Insulate water lines that run along exterior walls.
- Clean out gutters and repair roof leaks.

2. Check your heating systems.

- Have your heating system serviced professionally to make sure that it is clean, working properly, and ventilated to the outside.
- Inspect and clean fireplaces and chimneys.
- If you do not have working smoke detectors, install one inside each bedroom, outside each sleeping area, and on every level of the home. Test batteries monthly and replace them twice a year.

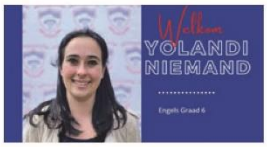
3. Prevention is better than a cure.

- Fired heaters emit an estimated 400 to 500 million tons of carbon dioxide (CO2) every year. Install a battery-operated or battery backup CO2 detector to alert you of the presence of the deadly, odourless, colourless gas.
- Learn the symptoms of CO poisoning: headache, dizziness, weakness, upset stomach, vomiting, chest pain, and confusion.
- Whatever your source of heating, never leave it unattended for long periods of time, don't allow your kids to go too close, and always keep flammable objects away!

#LikeAPro!

Laerskool Thabazimbi verwelkom twee nuwe personeel

Thabazimbi – Laerskool Thaba welkom Jolandé Ellis, hoof van onthaal en ontvangs, en sal ook by die snoepie betrokke wees. Baie welkom ook aan nuwe Graad 6 Engelse onnie, Yolandi Niemand. Laerskool Thaba sien uit daarna om saam elkeen van julle te werk.



Public Participation Notice

NOTICE IS HEREBY GIVEN IN TERMS OF SECTION 10 OF MINERAL AND PETROLEUM DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) AS AMENDED BY MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT, 2008 (ACT 49 OF 2008) FOR THE ACCEPTANCE OF AN APPLICATION FOR A MINING PERMIT IN TERMS OF SECTION 27 OF THE MINERAL AND PETROLEUM DEVELOPMENT ACT, 2002 (ACT 28 OF 2002) ON THE FARM(S) GROENEBOOM 236 KP WITHIN THABAZIMBI LOCAL MUNICIPALITY, WATERBERG DISTRICT, LIMPOPO PROVINCE. | REF: LP30/5/1/3/2/11961MP

DEAGE (2023/508975/07) has applied for a Mining Permit from the Competent Authority: Department of Mineral Resources (DMR) for the proposed activity. The proposed activity entails **Chrome** mining and related infrastructural activities within the Jurisdiction of the proposed Farm(s) **GROENEBOOM 236 KP**. Please register as a **(stakeholder, landowner, lawful occupier or I&AP)** to be informed with details of meeting arrangements, provided with a comments and registration form and thereafter ultimately decision made by the authority. Kindly submit your registration, comments in relation to this notice in writing via post, fax or email to: **DEAGE (2023/508975/07). Address:** 32 Paulo Street. Legae La Batho, Pietersburg, 0699, **Tel:** (067) 747-2719. **Email:** uprostepconsultants@yahoo.com. **Meeting Arrangements; Venue: On Site, Date: 15 May 2023, Time: 11H00**

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT NO. 107 OF 1998 (AS AMENDED) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT NO. 28 OF 2002 (AS AMENDED) AND AN INTEGRATED WATER USE LICENSE APPLICATION IN TERMS OF THE NATIONAL WATER ACT NO. 36 OF 1998 (AS AMENDED)

Applicant: Imerys Refractory Minerals South Africa (Pty) Ltd – Buffelshoek Mine

Location of the activities:
Portion 4 of the Farm Buffelshoek 351 KQ, the Remaining Extent of the farm Buffelshoek 351 KQ and the Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ, situated in the Waterberg District Municipality and the Thabazimbi Local Municipality of the Limpopo Province.

Nature of proposed activity, applicable legislation, and listed activity applied for:
A scoping and environmental impact assessment procedure as well as an integrated water use license application will be completed.

Listed activities applied for, for the Environmental Authorisation:

- Activity 30 of GNR 983 of 2014 (as amended by GN 327 of 2017, and GN 517 of 2021)
- Activity 6 of GNR 984 of 2014 (as amended by GN 325 of 2017, and GN 517 of 2021)
- Activity 15 of GNR 984 of 2014 (as amended by GN 325 of 2017, and GN 517 of 2021)
- Activity 12 (e)(i) of GNR 985 of 2014 (as amended by GN 324 of 2017, and GN 517 of 2021)

Water uses applied for, for the Integrated Water Use License Application:
Section 21a, 21b, 21g and 21j of the National Water Act no 36 of 1998 NWA (as amended).

NOTE: The above water uses are preliminary. Additional water uses may be added.

Competent authority and relevant reference number:
Department of Mineral Resources and Energy, Polokwane, Limpopo. | Reference number: LP166MR
Department of Water and Sanitation, Hartebeespoort | Reference number: WU29201

Additional information:
Letters are sent to all I&APs and stakeholders on the 20th of April 2023. A site notice will be placed at the site on the 20th of April 2023. A public meeting will be held as part of the PPP on the 18th of May 2023 at Rhino Andalusite Mine.

Register as an interested and affected party (I&AP):
To register as an I&AP of this project, to obtain more information, or submit comments, please request a Registration Form from BECS Environmental and return it to the details provided below before the 22nd of May 2023.

Contact details for more information:
To obtain additional information, please contact the Environmental Assessment Practitioner (EAP) at the details provided below. | **BECS Environmental (Pty) Ltd, Christopher Delport: 081 598 8698 (WhatsApp), 082 726 2947 (cell), chris@becsenv.co.za**

Laerskool Thaba se 2023 netbalkapteine

HFM se 2023 netbalkapteine met personeel.

Thabazimbi – Hoërskool Frikkie Meyer kondig met trots hul 2023 netbalkapteine aan op Vrydag 14 April 2023.

Kapteine soos volg:

1stes - Amy-Leigh Pretorius	Ngwiyana
2des - Leili Steenkamp	o/15 A - Lara Denton
o/17 A - Danel Naude	o/15 B - Pearl Masaka
o/16 A - Janica Van Aardt	o/14 A - Milandi Visser
o/16 B - Omphile	o/14 B - Dinese Low

NOTIFICATION OF LAND DEVELOPMENT APPLICATIONS TO THE THABAZIMBI LOCAL MUNICIPALITY IN TERMS OF THE SPATIAL PLANNING AND LAND USE MANAGEMENT ACT, 2013 (ACT 16 OF 2013) AS READ WITH SECTION 16(1) OF THE THABAZIMBI LAND USE MANAGEMENT BYLAW, 2015:

I, Mari Joubert trading as Urban Edge Town Planners, being the authorized agent of the owners of the below properties hereby give notice in terms of Section 16(1)(e) of the Thabazimbi Land Use Management By-law, 2015 read with the Thabazimbi Land Use Scheme, 2014, that application have been made to the Thabazimbi Local Municipality for the following: Application made in terms of Section 16(12)(a)(iii) of the Thabazimbi Land Use Management By-law, 2015 read together with the Spatial Planning and Land Use Management Act, 2013 for the subdivision of Portion 30 of the farm Wachteenbietjesdraai 350-KQ and the subsequent consolidation of one of the proposed portions with the Remainder of Portion 31 of the farm Wachteenbietjesdraai 350-KQ. The property is located within the jurisdiction of the Thabazimbi Local Municipality (TLM) approximately 14 km south of Thabazimbi town at the following GPS Coordinates: 24°39'55.8"S 27°25'07.2"E Application made to the Thabazimbi Local Municipality under amendment scheme number 103 in terms of Section 16(1)(a)(i) of the Thabazimbi Land Use Management By-law, 2015 read together with the Spatial Planning and Land Use Management Act, 2013 to rezone The Remainder of Erf 3 Rooiberg Township from "Residential 2" to "Business 3" for purpose of a Place of Refreshment. The property is located within the jurisdiction of the Thabazimbi Local Municipality (TLM) in Rooiberg Township at the following GPS Coordinates: 24°46'21.1"S 27°44'21.8"E.
Particulars of the applications will lie for inspection during normal office hours at the office of the Municipal Manager, Thabazimbi Municipality, 7 Rietbok Street, Thabazimbi for a period of 28 days from first date of publication. Objections to or representations in respect of the application must be lodged with or made in writing to the Municipal Manager, Thabazimbi Municipality, at the above-mentioned address or at Private Bag X530, Thabazimbi, 0380 within a period of 28 days from the first date of publication.
Dates of publication: 14 April 2023 & 21 April 2023 | ADDRESS OF AGENT: URBAN EDGE TOWN PLANNERS, P.O. BOX 1881, THABAZIMBI, 0380, TEL: 065 735 2031

KENNISGEWING VAN GRONDONTWIKKELING AANSOEKE AAN DIE THABAZIMBI PLAASLIKE MUNISIPALITEIT IN TERME VAN DIE WET OP RUIMTELIKE BEPLANNING EN GRONDGEBRUIKBESTUUR, 2013 (WET 16 VAN 2013) GELEES MET ARTIKEL 16(1) EN VAN DIE THABAZIMBI GRONDGEBRUIKBESTUUR BYWET, 2015:

Ek, Mari Joubert, handeldrywend as Urban Edge Stadsbeplanners, synde die gemagtigde agent van die eienaar van die ondergemelde eiendomme gee hiermee kennis ingevolge Artikel 16(1)(e) van die Thabazimbi Grondgebruikbestuur Bywet, 2015 gelees met die Thabazimbi Grondgebruikskema, 2014, dat aansoek geloots is by die Thabazimbi Plaaslike Munisipaliteit dat aansoeke gemaak is vir die volgende:
Aansoek ingevolge Artikel 16(12)(a)(iii) van die Thabazimbi Grondgebruikbestuur Bywet, 2015 gelees met die Ruimtelike Beplanning en Grondgebruik Bestuurswet, 2013 vir die onderverdeling van Gedeelte 30 Wachteenbietjesdraai 350-KQ in twee gedeeltes en die konsolidasie van een van die gedeeltes met die Restant van Gedeelte 31 Wachteenbietjesdraai 350-KQ. Die eiendom is geleë binne die jurisdiksie van die Thabazimbi Plaaslike Munisipaliteit (TLM) ongeveer 14 km suid van Thabazimbi by die volgende koordinate: 24°39'55.8"S 27°25'07.2"O. Aansoek ingevolge Artikel 16(1)(a)(i) van die Thabazimbi Grondgebruikbestuur Bywet, 2015 gelees met die Ruimtelike Beplanning en Grondgebruik Bestuurswet, 2013 onder Wysigingskemanommer 103 vir die hersonering van die Restant van Erf 3 Rooiberg Dorp vanaf "Residensieel 2" na "Besigheid 3" vir die doeleinde van 'n Verversingsplek (Restaurant). Die eiendom is geleë binne die jurisdiksie van die Thabazimbi Plaaslike Munisipaliteit (TLM) in Rooiberg Dorp by die volgende koordinate: 24°46'21.1"S 27°44'21.8"O | Besonderhede van die aansoek lê ter insae gedurende gewone kantoorure by die kantoor van die Munisipale Bestuurder, Thabazimbi Munisipaliteit, Rietbokstraat 7, Thabazimbi vir 'n tydperk van 28 dae vanaf eerste datum van publikasie. Besware teen of vertoë ten opsigte van die aansoek moet skriftelik by die Munisipale Bestuurder, Thabazimbi Munisipaliteit, by bovermelde adres ingedien of gerig word, of by Privaatsak X530, Thabazimbi, 0380 binne 'n tydperk van 28 dae vanaf die eertste datum van publikasie. | **Datums van publikasie: 14 April 2023 & 21 April 2023 | ADRES VAN AGENT: URBAN EDGE TOWN PLANNERS, POSBUS 1881, THABAZIMBI, 0380, TEL: 065 735 2031**

LOCAL AUTHORITY NOTICE 02/2023
THABAZIMBI LAND USE SCHEME, 2014 | AMENDMENT SCHEME 091
NOTICE OF APPLICATION IN TERMS OF SECTION 16 (1) OF THE THABAZIMBI LAND USE MANAGEMENT BY -LAW, 2015 READ WITH THE RELEVANT PROVISIONS OF THE SPATIAL PLANNING AND LAND USE MANAGEMENT ACT, 2013 (ACT 16 OF 2013) (SPLUMA) AND REGULATIONS AS PROMULGATED.

The Owners of erven 4066 and 4067 Thabazimbi Extension 37 hereby give notice in terms of Section 16 (1) of the Thabazimbi Land Use Management By-Law, 2015 read with the relevant provision of the Spatial Planning and Land Use Management Act, 2013 (Act 16 of 2013) (Spluma) and Regulations as promulgated, that they have applied to the Thabazimbi Municipality for the amendment of the Thabazimbi Land Use Scheme, 2014 by the rezoning of erven 4066 and 4067 Thabazimbi Extension 37 from "Residential 1" with a density of "one dwelling per erf" to "Residential 3" with a density restriction of 56 units per ha and to consolidate these erven to develop a higher density residential complex. Particulars of the application will lie for inspection during normal office hours at the office of the Director: Planning and Economic Development, Thabazimbi Municipality, 7 Rietbok Street, Thabazimbi for a period of 30 days from 14 April 2023. Objections to or representation in respect of the application must be lodges with or made in writing to the Director: Planning and Economic Development, Thabazimbi Municipality, Private Bag X 530, Thabazimbi, 0380 or at below mentioned address **within a period of 30 Days from 14 April 2023 Contact details: Bafana P. Motheng; bafana@tst-sa.com; Cell: 072 264 2473**

PLAASLIKE OWERHEID KENNISGEWING 02/2023
THABAZIMBI GRONDGEBRUIKSKEMA, 2014 | WYSIGINGSKEMA 091
KENNISGEWING VAN AANSOEK INGEVOLGE ARTIKEL 16 (1) VAN DIE THABAZIMBI GRONDGEBRUIKBESTUUR VERORDENING, 2015 SAAMGELEES MET DIE BETROKKE BEPALINGS VAN DIE WET OP RUIMTELIKE BEPLANNING EN GRONDGEBRUIKBESTUUR, 2013 (WET 16 VAN 2013) (SPLUMA) EN REGULASIES SOOS AFGEKONDIG.

Die Eienaars van erwe 4066 en 4067 Thabazimbi Uitbreiding 37 gee hiermee ingevolge Artikel 16 (1) van die Thabazimbi Grondgebruikbestuurverordening, 2015 saamgelees met die betrokke bepalings van die Wet op Ruimtelike Beplanning en Grondgebruikbestuur, 2013 (Wet 16 van 2013) (Spluma) en regulasies soos afgekondig, kennis dat hulle aansoek gedoen het by die Thabazimbi Munisipaliteit vir die wysiging van die Thabazimbi Grondgebruikskema, 2014, deur die hersonering van erwe 4066 en 4067 Thabazimbi Uitbreiding 37 vanaf "Residensial 1" met n digtheid van "een woonhuis per erf" na "Residensial 3" met n digtheid beperking van 56 eenhede per ha en om die konsolidasie van hierdie erwe ten einde n hoer digtheid woonkompleks te ontwikkel. Besonderhede van die aansoek lê ter insae gedurende gewone kantoorure by die kantoor van die Direkteur: Beplanning en Ekonomiese Ontwikkeling, Thabazimbi Munisipaliteit, Rietbokstraat 7, Thabazimbi vir 'n tydperk van 30 dae vanaf 14 April 2023 Besware teen of vertoë ten opsigte van die aansoek, **moet binne 'n tydperk van 30 dae vanaf 14 April 2023 skriftelik by of tot die Direkteur: Beplanning en Ekonomiese Ontwikkeling, Thabazimbi Munisipaliteit , Privaatsak X530, Thabazimbi, 0380 of by onderstaande adres ingedien of gerig word. Kontak besonderhede: Bafana P. Motheng; bafana@tst-sa.com; Cell: 072 264 2473**

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT NO. 107 OF 1998 (AS AMENDED) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT NO. 28 OF 2002 (AS AMENDED) AND AN INTEGRATED WATER USE LICENSE APPLICATION IN TERMS OF THE NATIONAL WATER ACT NO. 36 OF 1998 (AS AMENDED)

Applicant: Imerys Refractory Minerals South Africa (Pty) Ltd – Buffelshoek Mine

Location of the activities:
Portion 4 of the Farm Buffelshoek 351 KQ, the Remaining Extent of the farm Buffelshoek 351 KQ and the Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ, situated in the Waterberg District Municipality and the Thabazimbi Local Municipality of the Limpopo Province.

Nature of proposed activity, applicable legislation, and listed activity applied for:
A scoping and environmental impact assessment procedure as well as an integrated water use license application will be completed.

Listed activities applied for, for the Environmental Authorisation:
- Activity 30 of GNR 983 of 2014 (as amended by GN 327 of 2017, and GN 517 of 2021)
- Activity 6 of GNR 984 of 2014 (as amended by GN 325 of 2017, and GN 517 of 2021)
- Activity 15 of GNR 984 of 2014 (as amended by GN 325 of 2017, and GN 517 of 2021)
- Activity 12 (e)(i) of GNR 985 of 2014 (as amended by GN 324 of 2017, and GN 517 of 2021)

Water uses applied for, for the Integrated Water Use License Application:
Section 21a, 21b, 21g and 21j of the National Water Act no 36 of 1998 NWA (as amended).

NOTE: The above water uses are preliminary. Additional water uses may be added.

Competent authority and relevant reference number:
Department of Mineral Resources and Energy, Polokwane, Limpopo. | Reference number: LP166MR
Department of Water and Sanitation, Hartebeespoort | Reference number: WU29201

Additional information:
Letters are sent to all I&APs and stakeholders on the 20th of April 2023. A site notice will be placed at the site on the 20th of April 2023. A public meeting will be held as part of the PPP on the 18th of May 2023 at Rhino Andalusite Mine.

Register as an interested and affected party (I&AP):
To register as an I&AP of this project, to obtain more information, or submit comments, please request a Registration Form from BECS Environmental and return it to the details provided below before the 22nd of May 2023.

Contact details for more information:
To obtain additional information, please contact the Environmental Assessment Practitioner (EAP) at the details provided below. | **BECS Environmental (Pty) Ltd, Christopher Delport: 081 598 8698 (WhatsApp), 082 726 2947 (cell), chris@becsenv.co.za**

Addendum 4C: Copy and proof of site notice

NOTICE OF APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT NO. 107 OF 1998 (AS AMENDED) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT NO. 28 OF 2002 (AS AMENDED) AND AN INTEGRATED WATER USE LICENSE APPLICATION IN TERMS OF THE NATIONAL WATER ACT NO. 36 OF 1998 (AS AMENDED)

Applicant:
Imerys Refractory Minerals South Africa (Pty) Ltd – Buffelshoek Mine

Location of the activities:
Portion 4 of the Farm Buffelshoek 351 KQ, the Remaining Extent of the farm Buffelshoek 351 KQ and the Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ, situated in the Waterberg District Municipality and the Thabazimbi Local Municipality of the Limpopo Province.

Nature of proposed activity, applicable legislation, and listed activity applied for:
A scoping and environmental impact assessment procedure as well as an integrated water use license application will be completed.

Listed activities applied for, for the Integrated Environmental Authorisation:

- Activity 30 of GNR 983 of 2014 (as amended by GN 327 of 2017, and GN 517 of 2021) in terms of the National Environmental Management: Act of 1998 (as amended)
- Activities 6 and 15 of GNR 984 of 2014 (as amended by GN 325 of 2017, and GN 517 of 2021) in terms of the National Environmental Management: Act of 1998 (as amended)
- Activity 12 (e) (ii) of GNR 985 of 2014 (as amended by GN 324 of 2017, and GN 517 of 2021) in terms of the National Environmental Management: Act no. 107 of 1998 (as amended)

Integrated Water Use License Application:
Section 21a, 21b, 21g and 21j of the National Water Act no 36 of 1998 NWA (as amended).

The process to be followed:
This letter forms part of the first phase public participation process (PPP) for the Environmental Authorisation, as well as the Integrated Water Use License Application (IWULA). An advertisement will be placed in 'Platinum Bushvelder' on the 20th of April 2023. Letters are sent to all I&APs and stakeholders on or before the 20th of April 2023. An Environmental Scoping Report (ESR) will be submitted to the Department of Mineral Resources and Energy (DMRE) within 44 from the date of submission of the application form, therefore on or before 25th of May 2023. The ESR and Environmental Impact Assessment Report / Environmental Management Programme (EIA/EMP) will be sent to all registered Interested and Affected Parties and stakeholders (I&APs) as part of the PPP. DMRE will then assess the EIA/EMP and decide on the EA. The adjacent landowners as well as stakeholders have 60 days in which to give comments on this application.

Competent authority and relevant reference number:
Department of Mineral Resources and Energy, Polokwane, Limpopo.
Reference number: LP166MR

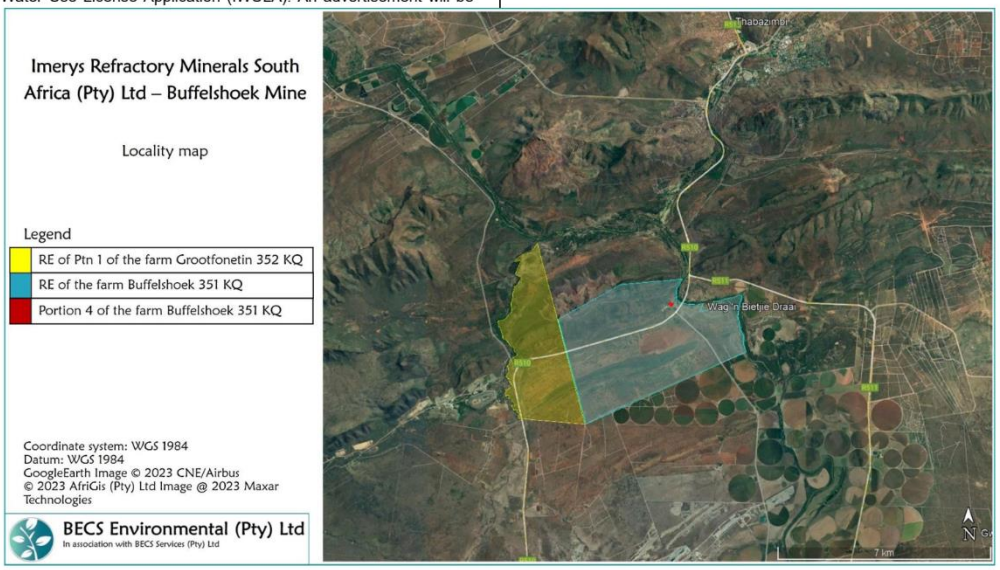
Department of Water and Sanitation, Hartebeespoort
Reference number: WU29201

To register as an I&AP of this project, to obtain more information, or submit comments, please request a Registration Form from BECS and return it to the details provided below, on or before the 22nd of May 2023.

A public meeting will be held as part of the PPP on the 18th of May 2023 at Rhino Andalusite Mine. The environmental consultant can be contacted as per details below.

BECS Environmental (Pty) Ltd,
Christopher Delport: 081 598 8698 (WhatsApp), 082 726 2947 (cell), chris@becsenv.co.za

Locality and layout plan

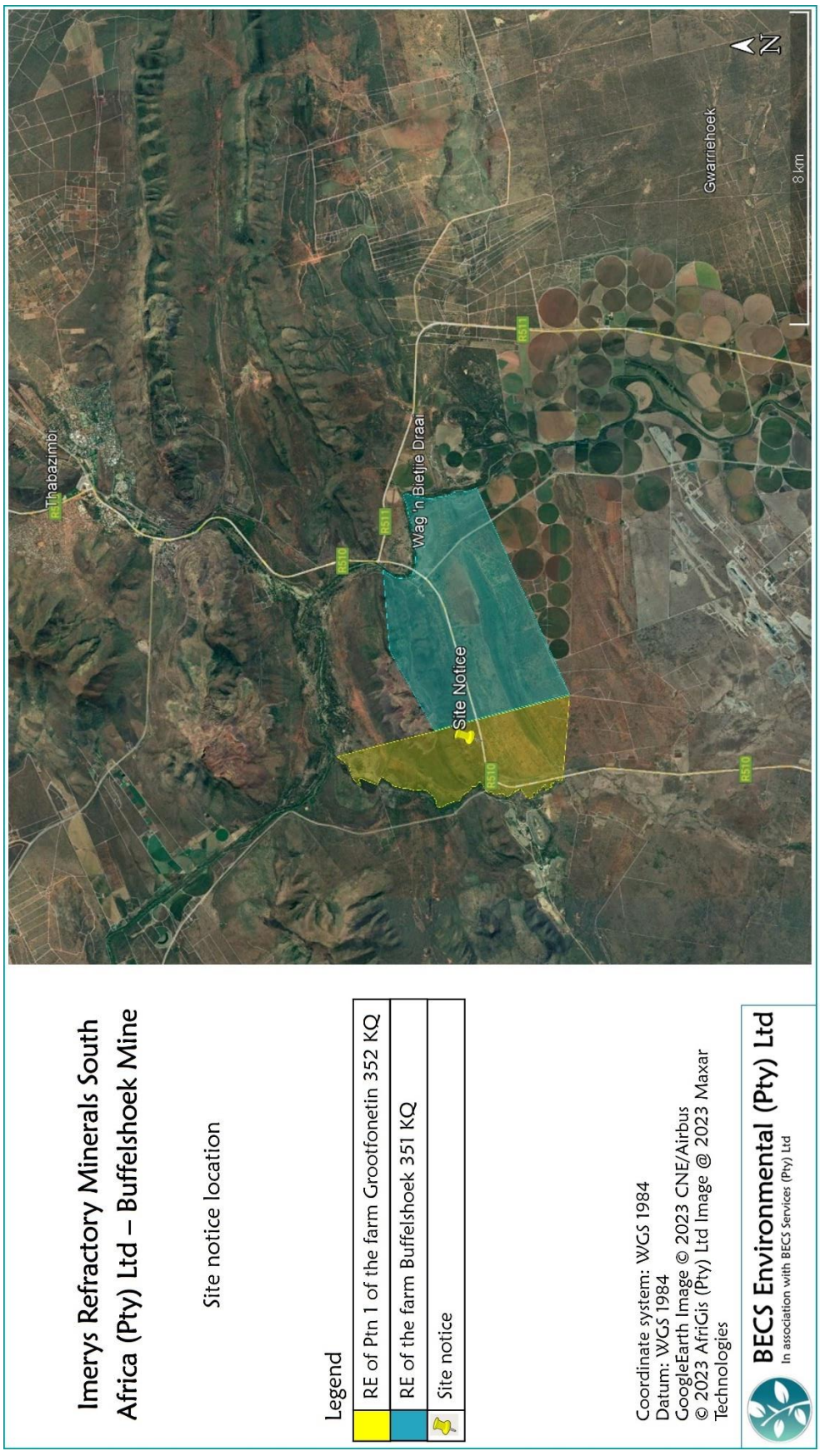


DISCLAIMER: As per the Protection of Personal Information Act (Act No. 4 of 2013) please note that there will be a database of stakeholders and I&APs in the reports to follow, however no contact details will be provided. Please inform us if you would like your name omitted from the reports to follow.

Site notice: Visible from the road

Site notice: Close up

Addendum 4D: Map of site notice



Addendum 4E: Copy and proof of the letters sent to I&APs and stakeholders

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

20th April 2023

To whom it may concern

RE: IMERYS REFRACTORY MINERALS SOUTH AFRICA (PTY) LTD — APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT NO. 107 OF 1998 (AS AMENDED) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT NO. 28 OF 2002 (AS AMENDED) AND AN INTEGRATED WATER USE LICENSE APPLICATION IN TERMS OF THE NATIONAL WATER ACT NO. 36 OF 1998 (AS AMENDED)

Dear Sir/Madam

Notice of application for an Environmental Authorisation, and Integrated Water Use License Application.

Applicant:
Imerys Refractory Minerals South Africa (Pty) Ltd – Buffelshoek Mine

Location of the activities:
Portion 4 of the Farm Buffelshoek 351 KQ, the Remaining Extent of the farm Buffelshoek 351 KQ and the Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ, situated in the Waterberg District Municipality and the Thabazimbi Local Municipality of the Limpopo Province.

Refer to Page 6 for the location of the activities.

Nature of proposed activity, applicable legislation, and listed activity applied for:
A scoping and environmental impact assessment procedure as well as an integrated water use license application will be completed.

Listed activities applied for, for the Environmental Authorisation:

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

- Activity 30 of GNR 983 of 2014 (as amended by GN 327 of 2017, and GN 517 of 2021) in terms of the National Environmental Management: Act no. 107 of 1998 (as amended) - Any process or activity identified in terms of section 53(1) of the NEMBA.
- Activity 6 of GNR 984 of 2014 (as amended by GN 325 of 2017, and GN 517 of 2021) in terms of the National Environmental Management: Act no. 107 of 1998 (as amended) - The development of facilities or infrastructure for any process or activity which requires a permit or licence or an amended permit or licence in terms of national or provincial legislation governing the generation or release of emissions, pollution, or effluent.
- Activity 15 of GNR 984 of 2014 (as amended by GN 325 of 2017, and GN 517 of 2021) in terms of the National Environmental Management: Act no. 107 of 1998 (as amended) - The clearance of an area of 20ha or more of indigenous vegetation.
- Activity 12 (e) (ii) of GNR 985 of 2014 (as amended by GN 324 of 2017, and GN 517 of 2021) in terms of the National Environmental Management: Act no. 107 of 1998 (as amended) - The clearance of an area of 300m² 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.
  e. Limpopo
  ii. Within critical biodiversity areas identified in bioregional plans

Water uses applied for, for the Integrated Water Use License Application:

- Section 21a of the National Water Act no 36 of 1998 (as amended): Taking water from a water resource.
- Section 21b of the National Water Act no 36 of 1998 (as amended): Storing water.
- Section 21g of the National Water Act no 36 of 1998 (as amended): Disposing of waste in a manner which may detrimentally impact on a water resource.
- Section 21j of the National Water Act no 36 of 1998 (as amended): Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people).

NOTE: The above water uses are preliminary. Additional water uses may be added.

The process to be followed:

The following specialist studies and or specialist opinions are to be undertaken:

- Archaeological and Cultural Heritage Impact Assessment

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

- Palaeontology Impact Assessment
- Aquatic Ecosystem Delineation
- Terrestrial Vegetation Assessment
- Vertebrate fauna (Mammals & Herpetofauna) Habitat Assessment
- Ambient Air Quality Impact Assessment
- Storm Water Management Plan
- Geohydrological Impact Assessment

Additional studies not listed above may be required if requested by the department or competent authorities.

Public Participation Process

This letter forms part of the first phase public participation process (PPP) for the Environmental Authorisation, as well as the Integrated Water Use License Application (IWULA). An advertisement will be placed in 'Platinum Bushvelder' on the 20th of April 2023. A site notice will be placed at the mine on the 20th of April 2023 and a public meeting will be held as part of the PPP on the 18th of May 2023 at Rhino Andalusite Mine.

An Environmental Scoping Report (ESR) must be submitted to the Department of Mineral Resources and Energy (DMRE) within 44 days from the date of submission of the application form, therefore on or before 25th of May 2023. The ESR will be sent to all stakeholders on or before the 25th of May 2023, and all registered Interested and Affected Parties (I&APs). This will then form the second part of the PPP. All registered I&APs will have 30 days to comment on the ESR.

All comments from registered I&APs, stakeholders, as well as the competent authority, will be included in the Environmental Impact Assessment Report / Environmental Management Programme (EIA/EMP). This draft report will first be distributed to all registered I&APs and stakeholders as the third part of the PPP. The final EIA/EMP will include all comments and will be submitted to DMRE. This EIA/EMP will be submitted within 106 days from acceptance of the ESR.

DMRE will then assess the EIA/EMP and decide on the EA. In the case of a positive authorisation, DMRE and the relevant stakeholders will then allow the activities to commence.

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

Integrated Water use License Application

The IWULA application forms will be uploaded onto the Electronic Water Use Licence Application and Authorisation System (e-WULAAS). The Department of Water and Sanitation (DWS) Hartebeespoort will then arrange a site inspection whereby the water uses applied for, will be assessed.

As soon as the first phase PPP is finished and DWS conducted the site inspection, the IWULA forms will be uploaded onto e-WULAAS. The reports will only be sent to registered I&APs and stakeholders if requested.

DWS will then assess the IWULA and decide whether to issue an Integrated Water Use Licence.

According to GN 267, Regulations Regarding the Procedural Requirements for Water Use Licence Applications and Appeals of 2017 i.t.o the National Water Act no 36 of 1998 (as amended):

."*A procedure for public participation must be conducted as contemplated in section 41(4) of the Act, as part of the water use licence application process*"

and

"*Where a PPP has already been undertaken through the Environment Impact Assessment processes or any other public consultation process, and that PPP contains and covers all issues pertaining to water use activities, then that public participation process report may, subject to approval by the responsible authority, be submitted for the requirements of the water use licence application.*"

The process followed adheres to Appendix 8 of GN 267, Regulations Regarding the Procedural Requirements for Water Use Licence Applications and Appeals of 2017 i.t.o the National Water Act no 36 of 1998 (as amended). Imerys Refractory Minerals South Africa (Pty) Ltd have thus appointed BECS Environmental as the independent Environmental Assessment Practitioner (EAP) to apply for the Water Use License.

The adjacent landowners as well as stakeholders have 60 days in which to give comments on this application.

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

Competent authority and relevant reference number:
Department of Mineral Resources and Energy, Polokwane, Limpopo.
Reference number: LP166MR

Department of Water and Sanitation, Hartebeespoort
Reference number: WU29201

Register as an interested and affected party (I&AP):
To register as an I&AP of this project, to obtain more information, or submit comments, please request a Registration Form from BECS Environmental and return it to the details provided below before the 22nd of May 2023.

Please also fill in page 7 of the comment report and send back to the EAP.

Contact details for more information:
To obtain additional information, please contact the EAP at the details provided below.
BECS Environmental (Pty) Ltd,
Christopher Delport: 081 598 8698 (WhatsApp), 082 726 2947 (cell), chris@becsenv.co.za
Regards;

Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

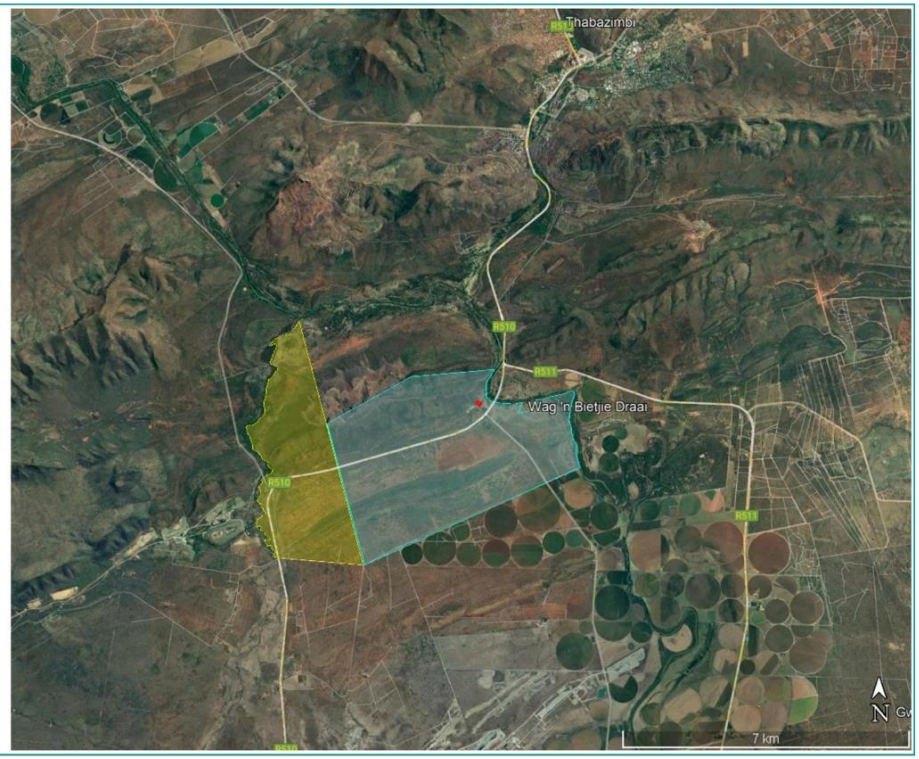
BECS Environmental (Pty) Ltd
In association with BECS Services (Pty) Ltd

Imerys Refractory Minerals South Africa (Pty) Ltd – Buffelshoek Mine

Locality map

Legend

RE of Ptn 1 of the farm Grootfonetin 352 KQ
RE of the farm Buffelshoek 351 KQ
Portion 4 of the farm Buffelshoek 351 KQ



Coordinate system: WGS 1984
Datum: WGS 1984
GoogleEarth Image © 2023 CNE/Airbus
© 2023 AfriGis (Pty) Ltd Image @ 2023 Maxar Technologies

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

Location of the activities

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

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

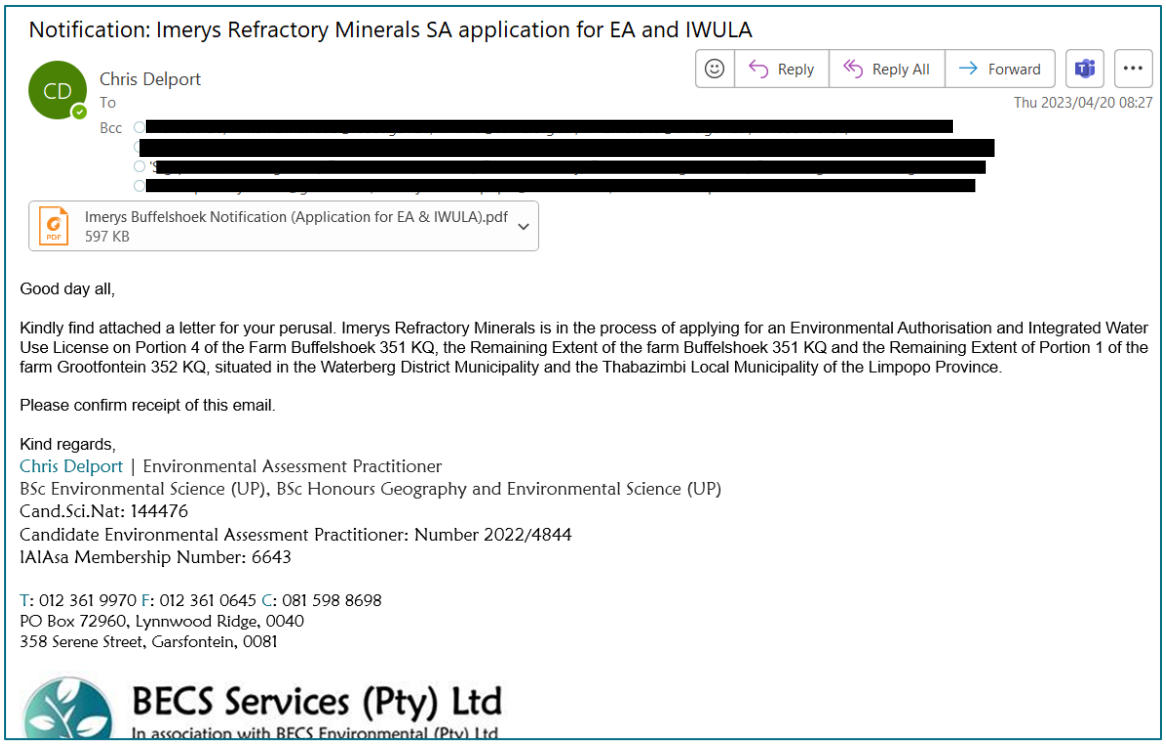
IMERYS REFRACTORY MINERALS SOUTH AFRICA (PTY) LTD — APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT NO. 107 OF 1998 (AS AMENDED) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT NO. 28 OF 2002 (AS AMENDED) AND AN INTEGRATED WATER USE LICENSE APPLICATION IN TERMS OF THE NATIONAL WATER ACT NO. 36 OF 1998 (AS AMENDED)	
Date:	

PARTICULARS OF THE INTERESTED AND AFFECTED PARTY	
Name:	Postal address:
Tel nr:	
Fax nr:	
Cell nr:	
e-mail:	

COMMENTS REPORT

DISCLAIMER: As per the Protection of Personal Information Act (Act No. 4 of 2013) please note that there will be a database of stakeholders and I&APs in the reports to follow, however no contact details will be provided. Please inform us if you would like your name omitted from the reports to follow.

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za



Notification: Imerys Refractory Minerals SA application for EA and IWULA

CD Chris Delport

To

Bcc [redacted]

Reply | Reply All | Forward

Thu 2023/04/20 08:27

Imerys Buffelshoek Notification (Application for EA & IWULA).pdf
597 KB

Good day all,

Kindly find attached a letter for your perusal. Imerys Refractory Minerals is in the process of applying for an Environmental Authorisation and Integrated Water Use License on Portion 4 of the Farm Buffelshoek 351 KQ, the Remaining Extent of the farm Buffelshoek 351 KQ and the Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ, situated in the Waterberg District Municipality and the Thabazimbi Local Municipality of the Limpopo Province.

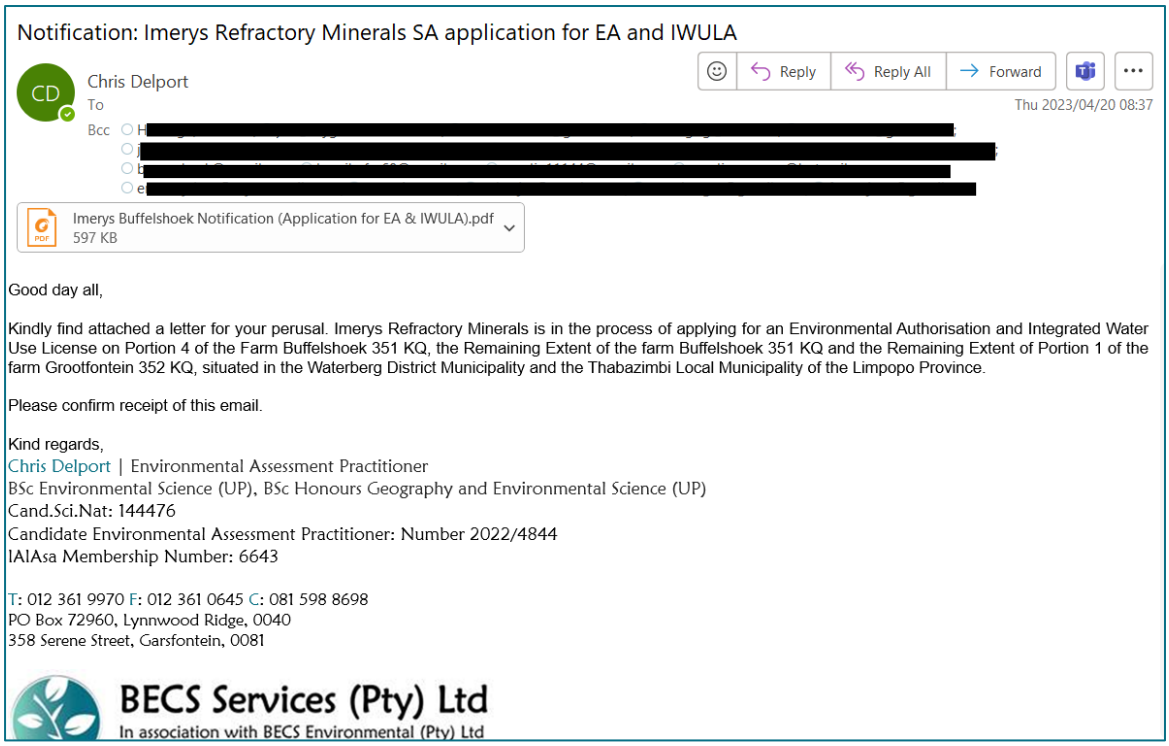
Please confirm receipt of this email.

Kind regards,

Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

T: 012 361 9970 F: 012 361 0645 C: 081 598 8698
PO Box 72960, Lynnwood Ridge, 0040
358 Serene Street, Garsfontein, 0081

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



Notification: Imerys Refractory Minerals SA application for EA and IWULA

CD Chris Delport

To

Bcc [redacted]

Reply | Reply All | Forward

Thu 2023/04/20 08:37

Imerys Buffelshoek Notification (Application for EA & IWULA).pdf
597 KB

Good day all,

Kindly find attached a letter for your perusal. Imerys Refractory Minerals is in the process of applying for an Environmental Authorisation and Integrated Water Use License on Portion 4 of the Farm Buffelshoek 351 KQ, the Remaining Extent of the farm Buffelshoek 351 KQ and the Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ, situated in the Waterberg District Municipality and the Thabazimbi Local Municipality of the Limpopo Province.

Please confirm receipt of this email.

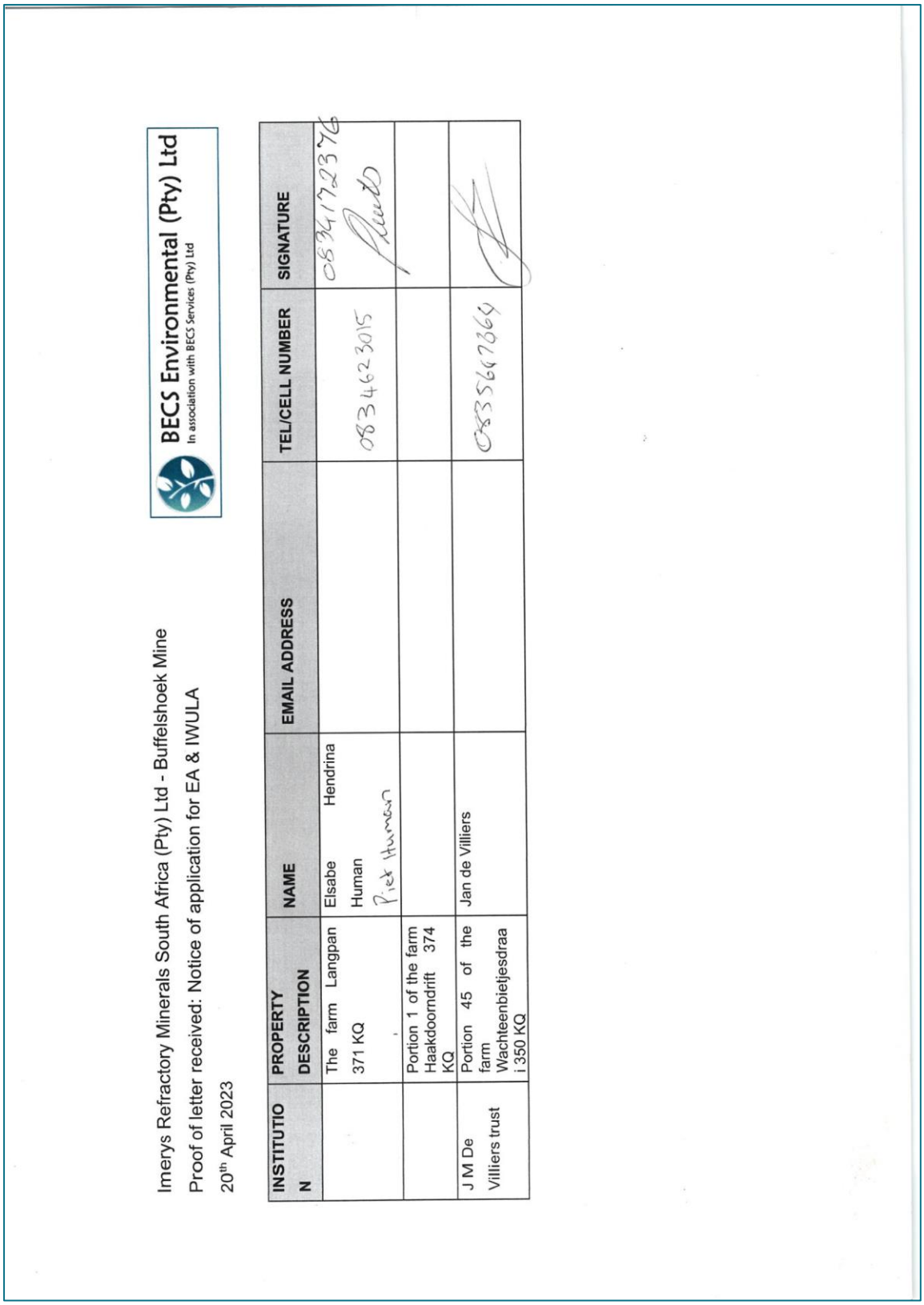
Kind regards,

Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

T: 012 361 9970 F: 012 361 0645 C: 081 598 8698
PO Box 72960, Lynnwood Ridge, 0040
358 Serene Street, Garsfontein, 0081

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

*NOTE: In accordance with the Protection of Personal Information Act (Act No. 4 of 2013) personal details are omitted.



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

Imerys Refractory Minerals South Africa (Pty) Ltd - Buffelshoek Mine

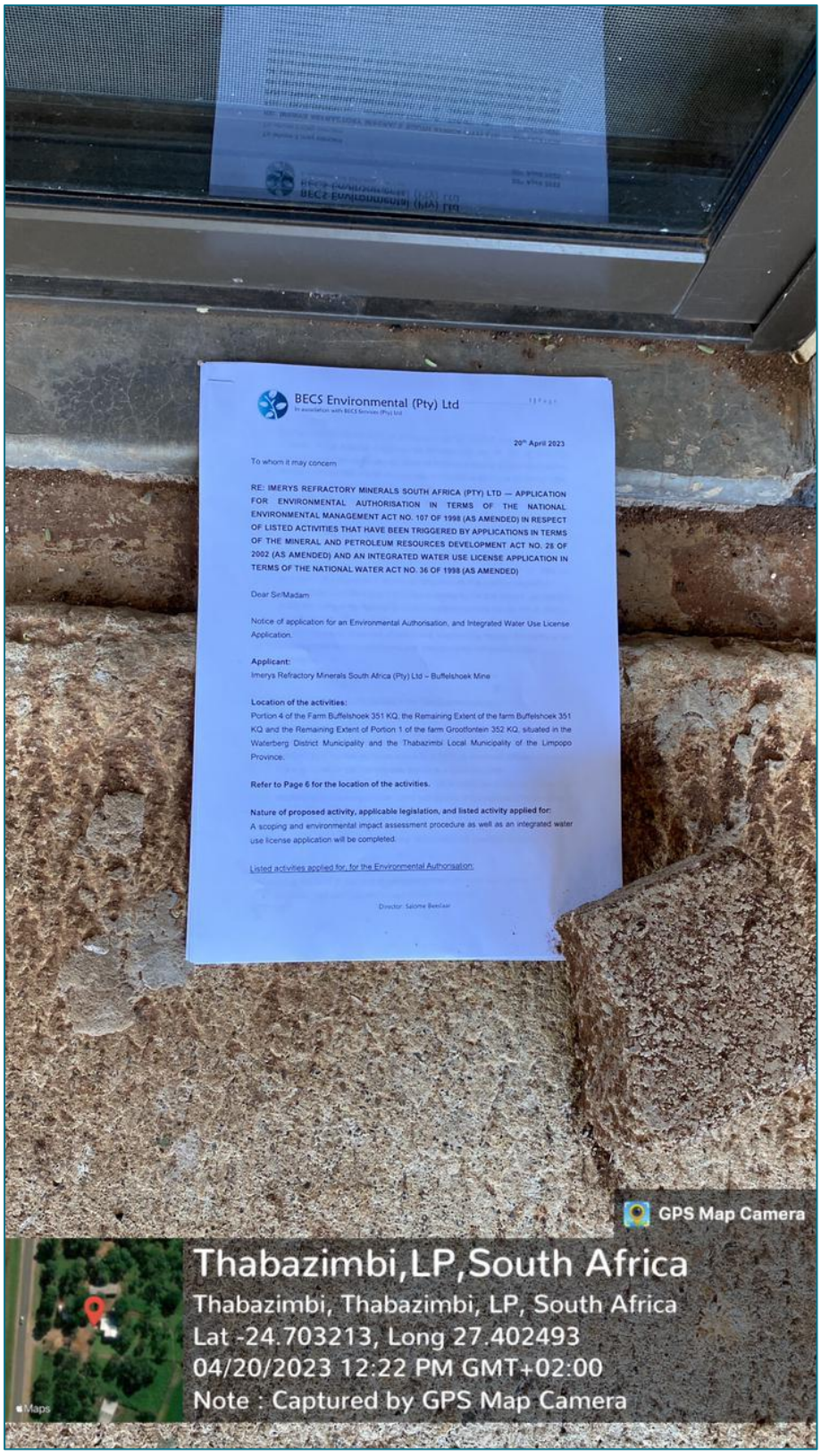
Proof of letter received: Notice of application for EA & IWULA

20th April 2023

INSTITUTION	PROPERTY DESCRIPTION	NAME	EMAIL ADDRESS	TEL/CELL NUMBER	SIGNATURE
	The farm Langpan 371 KQ	Elsabe Hendrina Human Piet Human		0834623015	0634172376
	Portion 1 of the farm Haakdoorndrift 374 KQ				
J M De Villiers trust	Portion 45 of the farm Wachteenbietjesdraai 350 KQ	Jan de Villiers		0835647364	

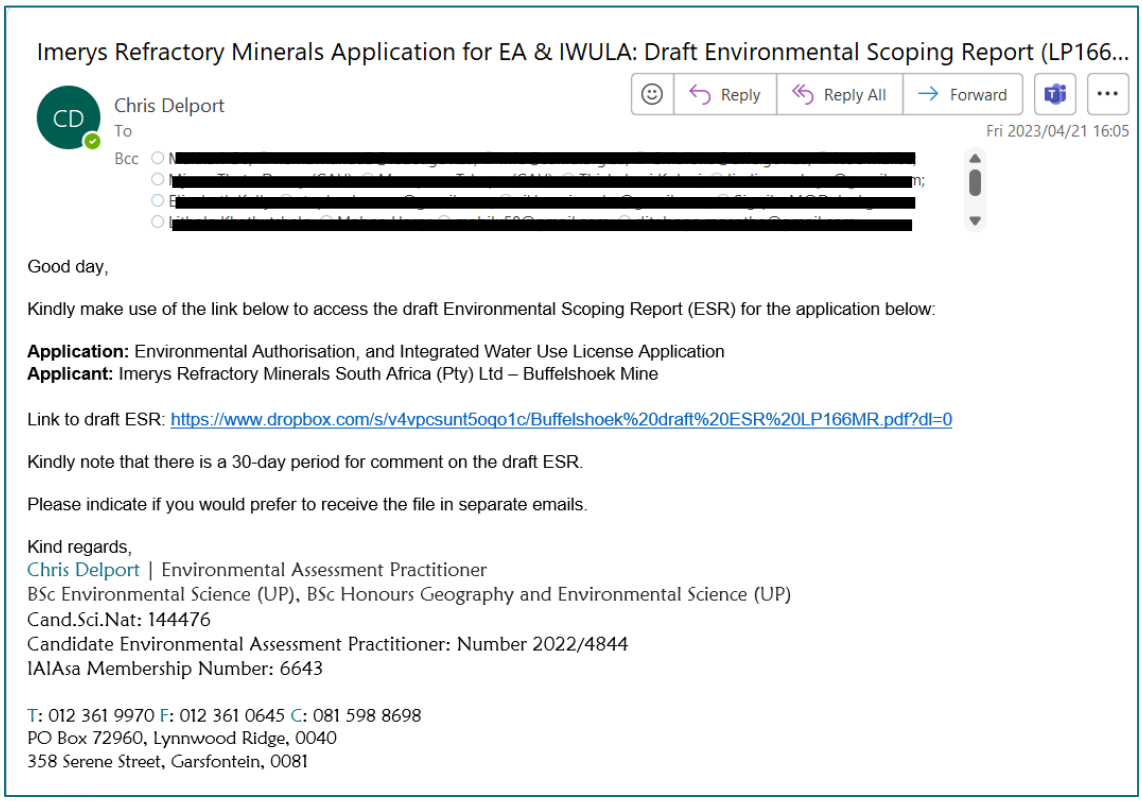
Proof of letters hand delivered to adjacent properties (The farm Langpan 371 KQ and Portion 45 of the farm Wachteenbietjiesdraai 350 KQ)

Proof of letter placed outside house on Portion 1 of the farm Haakdoorndrift 374 KQ



Close up of letter placed outside house on Portion 1 of the farm Haakdoorndrift 374 KQ

Addendum 4F: Proof of the draft ESR being sent out



Imerys Refractory Minerals Application for EA & IWULA: Draft Environmental Scoping Report (LP166...

Reply | Reply All | Forward

CD Chris Delport

To

Fri 2023/04/21 16:05

Bcc [redacted]

Good day,

Kindly make use of the link below to access the draft Environmental Scoping Report (ESR) for the application below:

Application: Environmental Authorisation, and Integrated Water Use License Application
Applicant: Imerys Refractory Minerals South Africa (Pty) Ltd – Buffelshoek Mine

Link to draft ESR: https://www.dropbox.com/s/v4vpcsunt5oqo1c/Buffelshoek%20draft%20ESR%20LP166MR.pdf?dl=0

Kindly note that there is a 30-day period for comment on the draft ESR.

Please indicate if you would prefer to receive the file in separate emails.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

T: 012 361 9970 F: 012 361 0645 C: 081 598 8698
PO Box 72960, Lynnwood Ridge, 0040
358 Serene Street, Garsfontein, 0081

Addendum 4G: Comments received and responded to

Comments from JAVAVU Game farm and Lodge

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

IMERYS REFRACTORY MINERALS SOUTH AFRICA (PTY) LTD — APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT NO. 107 OF 1998 (AS AMENDED) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT NO. 28 OF 2002 (AS AMENDED) AND AN INTEGRATED WATER USE LICENSE APPLICATION IN TERMS OF THE NATIONAL WATER ACT NO. 36 OF 1998 (AS AMENDED)	
Date: 21-04-2023	

PARTICULARS OF THE INTERESTED AND AFFECTED PARTY	
Name: J.J Jansen van Vuuren	Postal address:
Tel nr: [redacted]	[redacted]
Fax nr:	[redacted]
Cell nr: [redacted]	
e-mail: [redacted]	

COMMENTS REPORT
Concerned about water levels in boreholes
Noise impact as we are in the Eco Tourism business.

DISCLAIMER: As per the Protection of Personal Information Act (Act No. 4 of 2013) please note that there will be a database of stakeholders and I&APs in the reports to follow, however no contact details will be provided. Please inform us if you would like your name omitted from the reports to follow.

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

Chris Delport

From:	Chris Delport
Sent:	Wednesday, 03 May 2023 09:51
To:	Cobus van Vuuren
Cc:	Salome Beeslaar
Subject:	I&AP request to be registered

Tracking:	**Recipient**	**Delivery**
	Cobus van Vuuren	
	Salome Beeslaar	Delivered: 2023/05/03 09:51

Good day J.J. Jansen Van Vuuren,

Your request to be registered is acknowledged, you have now been registered as an interested and affected party for this project.

With regard to your concern regarding groundwater levels, please be informed that groundwater abstraction is not part of the scope of the Integrated Water Use License Application (IWULA) which the mine will be applying for at this stage. However, if this changes you will be informed. Studies have also indicated that the pits will not intersect groundwater. Furthermore, regarding noise, the Environmental Impact Assessment (EIA) Report will include an impact assessment and mitigation measures that will be incorporated to ensure that noise impacts are minimised.

All impacts to groundwater and noise levels will be covered in the EIA report, which you will receive a copy of.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

From: [redacted]
Sent: Friday, April 21, 2023 12:37 PM
To: Chris Delport <chris@becsenv.co.za>
Subject:

Regards
Cobus van Vuuren

Van Vuuren African Safaris
JAVAVU Game farm and Lodge
[redacted]

1

*NOTE: In accordance with the Protection of Personal Information Act (Act No. 4 of 2013) personal details are omitted.

Comments from Grootfontein Private Game Reserve

Chris Delport

From: Chris Delport
Sent: Friday, 19 May 2023 08:07
To: Bertus Grobler
Subject: RE: Notification: Imerys Refractory Minerals SA application for EA and IWULA

Good day Bertus,

I hope you are well.

Your registration form has been received and you have been registered as an I&AP for this project. Both of your email addresses have been taken down.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

From: Bertus Grobler <[redacted]
Sent: Tuesday, April 25, 2023 8:18 PM
To: Chris Delport <chris@becsenv.co.za>
Subject: RE: Notification: Imerys Refractory Minerals SA application for EA and IWULA

Hi good day Chris

Please email registration form as an I&AP.

Attached is p.7 of the comment report – filled in.

Regards / Thanks / Dankie

Bertus Grobler
[redacted]
For E-mail disclaimer see VKB Website

From: Jan Grobler [redacted]
Sent: Thursday, April 20, 2023 4:00 PM
To: Bertus Grobler [redacted]
Subject: Fwd: Notification: Imerys Refractory Minerals SA application for EA and IWULA

1

Begin forwarded message:

From: Chris Delport <chris@becsenv.co.za>
Subject: Notification: Imerys Refractory Minerals SA application for EA and IWULA
Date: 20 April 2023 at 08:36:39 SAST

Good day all,

Kindly find attached a letter for your perusal. Imerys Refractory Minerals is in the process of applying for an Environmental Authorisation and Integrated Water Use License on Portion 4 of the Farm Buffelshoek 351 KQ, the Remaining Extent of the farm Buffelshoek 351 KQ and the Remaining Extent of Portion 1 of the farm Grootfontein 352 KQ, situated in the Waterberg District Municipality and the Thabazimbi Local Municipality of the Limpopo Province.

Please confirm receipt of this email.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

T: 012 361 9970 F: 012 361 0645 C: 081 598 8698
PO Box 72960, Lynnwood Ridge, 0040
358 Serene Street, Garsfontein, 0081

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

2

*NOTE: In accordance with the Protection of Personal Information Act (Act No. 4 of 2013) personal details are omitted.

Chris Delport

From: Chris Delport
Sent: Friday, 12 May 2023 12:20
To: Bertus Grobler; Jan Grobler
Subject: RE: Notification: Imerys Refractory Minerals SA application for EA and IWULA

Good afternoon,

Not a problem. I will send you the minutes afterwards.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

From: Bertus Grobler <[redacted]
Sent: Friday, May 12, 2023 11:49 AM
To: Jan Grobler <[redacted]; Chris Delport <chris@becsenv.co.za>
Subject: RE: Notification: Imerys Refractory Minerals SA application for EA and IWULA

Hi Chris
Stuur minutes asb.
Ek is dan in Pietersburg.

Bertus Grobler
Kredietbestuurder;Credit Manager
[redacted]

For E-mail disclaimer see VKB Website

From: Jan Grobler <[redacted]>
Sent: Friday, May 12, 2023 11:25 AM
To: Chris Delport <chris@becsenv.co.za>
Cc: Bertus Grobler <[redacted]>
Subject: Re: Notification: Imerys Refractory Minerals SA application for EA and IWULA

Dankie...

Ek is in Joburg 18de...Bertus?

Chris, kan jy vir ons die minutes van die meeting aanstuur na die vergadering asb.

1

On 12 May 2023, at 10:11, Chris Delport <chris@becsenv.co.za> wrote:

Good day Jan

Yes, the activities will be South/East of the mountain. It is adjacent to the R510. These are the approximate coordinates: -24.678550, 27.335591.

https://goo.gl/maps/2SDQFzUsExayjNz46

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

From: Jan Grobler <[redacted]>
Sent: Wednesday, May 10, 2023 5:53 PM
To: Chris Delport <chris@becsenv.co.za>
Cc: Bertus Grobler [redacted]
Subject: Re: Notification: Imerys Refractory Minerals SA application for EA and IWULA

Thanks Chris....so basically the new mining activities will be on Buffelsfontein, South/East of the mountain, on the right hand side of the Thaba-Northam Road, before the Makoppa turnoff?

That will be good news from our portion of Grootfontein's perspective.

<image001.png>

> On 10 May 2023, at 13:04, Chris Delport <chris@becsenv.co.za> wrote:
>
> Good day Jan,
>
> You and Bertus have been registered as Interested and Affected parties for the project.
>
> The meeting will take place at 9 A.M. on the 18th of May.
>
> In response to your comment, your farm portion is located behind the Iron formation mountains and within the Dolomite Geological terrain approximately 3.5km straight

2

line distance. The proposed activities will not intersect your potential aquifer. The Historical quarries 1 - 3 are located closer to your property than any of the Buffelshoek future operations and there has been no impact from these quarries in the past. The previous Geohydrological Reports state the following: "No significant groundwater level impacts are expected to occur as a result of the opencast mining. No significant mine dewatering should be required since the quarry floor is planned to remain largely above the local groundwater level. This statement is also supported by a groundwater study conducted for the adjacent Rhino Andalusite Mine, which found that none of the mine's active quarries require any dewatering (Geohydrological Study for Rhino Minerals – Rhino Andalusite Mine, 2010)." Whilst this study is not for the exact same area we plan to operate on Buffelshoek, the vast majority of the operational conditions remain the same and we will be located further away from your property than before.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

From: Jan Grobler <[redacted]
Sent: Tuesday, May 2, 2023 4:36 PM
To: Chris Delport <chris@becsenv.co.za>
Cc: Bertus Grobler <[redacted]
Subject: Re: Notification: Imerys Refractory Minerals SA application for EA and IWULA

Middag Chris,

Kan jy my en my broer Bertus lys as I&AP vir die Rhino aansoeke asb.

Ons verteenwoordig die Jan & Marita Trust, eienaar van die aangrensende Grootfontein KQ714, Portion 3 (2 titelaktes).

Enigste comment vir nou: Ons bied al vir dekades jag, toerisme en akkommodasie en dit sal verseker nadelig wees as op aangrensende plaas gemyn word...met moontlike impak op watertafel ens.

Hoe laat is die vergaderihg op 18 Mei 2023?

Dankie,

*NOTE: In accordance with the Protection of Personal Information Act (Act No. 4 of 2013) personal details are omitted.

Comments from Eskom: 25 April 2023

Chris Delport

From:	Chris Delport
Sent:	Monday, 22 May 2023 12:11
To:	Zwanga Budeli
Cc:	Wayleave Limpopo; Salome Beeslaar
Subject:	RE: Imerys Refractory Minerals Application for EA & IWULA: Draft Environmental Scoping Report (LP166MR)
Attachments:	Response Eskom Wayleave 22 May.pdf

Tracking:	**Recipient**	**Delivery**
	Zwanga Budeli	
	Wayleave Limpopo	
	Salome Beeslaar	Delivered: 2023/05/22 12:11

Good day,

Thank you for your comments, please find attached a response letter for your attention.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

From: Zwanga Budeli [redacted]
Sent: Tuesday, April 25, 2023 4:15 PM
To: Chris Delport <chris@becsenv.co.za>
Cc: Wayleave Limpopo <[redacted]>; Salome Beeslaar <salome@becsenv.co.za>
Subject: RE: Imerys Refractory Minerals Application for EA & IWULA: Draft Environmental Scoping Report (LP166MR)

Good day

Please find the attached comments for you wayleave application.

Kind Regards
Budeli Zwanga Portia
Land and Rights Officer
Distribution Division | Limpopo Operating Unit
PO Box 3499, 92 Hans van Rensburg Street, Polokwane 0700
T: [redacted]

From: Chris Delport <chris@becsenv.co.za>
Sent: Monday, 24 April 2023 15:28
To: Mususumeli Mukhethi <[redacted]>
Cc: Wayleave Limpopo <[redacted]>; Salome Beeslaar <salome@becsenv.co.za>
Subject: [CAUTION:EXTERNAL EMAIL] RE: Imerys Refractory Minerals Application for EA & IWULA: Draft Environmental Scoping Report (LP166MR)

Good day sir,

1

Please see the attached document for the requested information.

Please let me know if you would like any other information.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

From: Mususumeli Mukhethi [redacted]
Sent: Monday, April 24, 2023 1:33 PM
To: Chris Delport <chris@becsenv.co.za>
Cc: Wayleave Limpopo <[redacted]>
Subject: Imerys Refractory Minerals Application for EA & IWULA: Draft Environmental Scoping Report (LP166MR)

Hi Chris

Please send cover letter and locality map including coordinates

Kindly note that we don't accept link documents

Regards
Mususumeli Mukhethi
Land & Rights Negotiator
Pr. Pln A/2122/2015
Distribution Division | Limpopo Operating Unit
PO Box 3499, 92 Hans van Rensburg Street, Polokwane 0700
[redacted]

Disclaimer

NB: This Email and its contents are subject to the Eskom Holdings SOC Ltd EMAIL LEGAL NOTICE which can be viewed at https://www.eskom.co.za/about-eskom/email-legal-spam-disclaimer/

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Eskom

BECS Environmental (Pty) Ltd

Date: 25 April 2023
Enquiries: Zwanga Budeli
[redacted]

ATTENTION: Salome Beeslaar

RE: APPLICATION FOR ENVIRONMENTAL AUTHORISATION WAYLEAVE AT PORTION 4 OF THE FARM BUFFELSHOEK 351 KQ AND THE REMAINING EXTENT OF THE FARM BUFFELSHOEK 351 KQ AND THE REMAINING EXTENT OF PORTION 1 OF THE FARM GROOTFONTEIN 352 KQ AT BUFFELSHOEK MNE IN THE LIPOPO PROVINCE.

We refer to your application dated March 2023

This application does affects any Eskom Distribution's services. The following services are affected : **THABAZIMBI RURAL / GROOTKUIL 22kV Overhead Line, THABAZIMBI COMBINED AMANDEL 132KV, NORTHAM / THABAZIMBI RURAL 88kV LINE Overhead Line, THABAZIMBI RURAL / INMALKAAR 22kV Overhead Line andTHABAZIMBI RURAL / MAKOPPA 22kV Overhead Line**

However,Eskom has no objection to the above mentioned application, the following conditions must be adhered :

a) The rights for the 22 KV lines are protected by a Way leave agreement ensuring a safe environment. However, it is required that each affected erf of the township must be registered, subject to Eskom's servitude and at the developer's expense.
b) Eskom's services and equipment must be acknowledged at all times and may not be tempered with or interfered with.
c) No construction work may be executed closer than ten meters from any Eskom Distribution structure or structure-supporting mechanism.
d) Natural ground level must be maintained within Eskom reserve areas and servitudes.
e) All work within Eskom reserve areas and servitudes must be carried out in accordance with the requirements of the Occupational Health and Safety Act 85 of 1983 as amended. Special attention must be given to the clearances between Eskom's conductors, structures, cables, electrical apparatus and proposed work as stipulated by Regulations R15 of the Electrical Installations Regulations of the aforementioned Act or any other legal requirements.
f) Eskom shall not be liable for the death or injury of any person, or for loss of or damage to any property, whether as a result of the encroachment or use of the area where Eskom has its services, by the, his/her agent, contractors, employees, successors in title and assignees.
g) The applicant indemnifies Eskom against loss, claims or damages, including claims pertaining to interference with Eskom services, apparatus or otherwise.

Limpopo Operating Unit
Land Development
92 has Van Rensburg
Polokwane 0700
[redacted]
Eskom Holdings SOC Limited Reg No 2002/015527/06

Eskom

h) Eskom shall at all times have unobstructed access to and egress from its services.

i) No dumping shall be allowed within Eskom Distribution Services.
j) Any development which necessitates the relocation of Eskom's services will be to the account of the developer.

Should the applicant or his/her contractor damage any of Eskom's services during execution of any work whatsoever, the incident must be reported to Eskom's 24-hour Contact Centre (086 000 1414) immediately.

The above conditions should be accepted in writing before any work within Eskom Services commences.

Yours faithfully,

.....
Budeli Zwanga
For Land Development and Environmental Manager

Limpopo Operating Unit
Land Development
92 has Van Rensburg
Polokwane 0700
[redacted]
Eskom Holdings SOC Limited Reg No 2002/015527/06

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

22 May 2023

Limpopo Operating Unit

Land Development

92 has Van Rensburg

Polokwane 0700

Eskom Holdings SOC Limited

Attention: Zwanga Budeli

Email: BudeliPZ@eskom.co.za

DMRE reference: LP 30/5/1/2/2/166 MR

APPLICATION FOR ENVIRONMENTAL AUTHORISATION WAYLEAVE AT PORTION 4 OF THE FARM BUFFELSHOEK 351 KQ AND THE REMAINING EXTENT OF THE FARM BUFFELSHOEK 351 KQ AND THE REMAINING EXTENT OF PORTION 1 OF THE FARM GROOTFONTEIN 352 KQ AT BUFFELSHOEK MNE IN THE LIPOPO PROVINCE.

Dear Zwanga Budeli

We hereby acknowledge receipt of the Eskom comments dated 25 April 2023. Kindly refer below for responses to the points raised.

This application does affects any Eskom Distribution's services. The following services are affected:

THABAZIMBI RURAL / GROOTKUIL 22kV Overhead Line, THABAZIMBI COMBINED AMANDEL 132KV, NORTHAM / THABAZIMBI RURAL 88kV LINE Overhead Line, THABAZIMBI RURAL / INMALKAAR 22kV Overhead Line andTHABAZIMBI RURAL / MAKOPPA 22kV Overhead Line

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

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

However, Eskom has no objection to the above-mentioned application, the following conditions must be adhered:

a) The rights for the 22 KV lines are protected by a Way leave agreement ensuring a safe environment. However, it is required that each affected erf of the township must be registered, subject to Eskom's servitude and at the developer's expense.

a) Response

This information is duly noted. Kindly furnish the details and process necessary to ensure that the developer can cover the expense for the registration of the affected erfs.

b) Eskom's services and equipment must be acknowledged at all times and may not be tempered with or interfered with.

b) Response

This requirement is noted. The mine will take measures to prevent any tampering or interference with the equipment.

c) No construction work may be executed closer than ten meters from any Eskom Distribution structure or structure-supporting mechanism.

c) Response

This is noted and will be communicated to all individuals on site. Further, the site layout plan will include these areas and a ten-metre buffer to ensure that the infrastructure is not affected.

d) Natural ground level must be maintained within Eskom reserve areas and servitudes.

d) Response

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

Note that the proposed project consists of open pit mining, however the natural ground level will be maintained on all land not used for opening of the pit.

e) All work within Eskom reserve areas and servitudes must be carried out in accordance with the requirements of the Occupational Health and Safety Act 85 of 1983 as amended. Special attention must be given to the clearances between Eskom's conductors, structures, cables, electrical apparatus and proposed work as stipulated by Regulations R15 of the Electrical Installations Regulations of the aforementioned Act or any other legal requirements.

e) Response

The requirements of the aforementioned act will be adhered to throughout the project.

f) Eskom shall not be liable for the death or injury of any person, or for loss of or damage to any property, whether as a result of the encroachment or use of the area where Eskom has its services, by the, his/her agent, contractors, employees, successors in title and assignees.

f) Response

This statement is acknowledged by the mine. Eskom shall not be held liable for any such event.

g) The applicant indemnifies Eskom against loss, claims or damages, including claims pertaining to interference with Eskom services, apparatus or otherwise.

g) Response

This statement is acknowledged by the mine.

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

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

h) Eskom shall at all times have unobstructed access to and egress from its services.

h) Response

This statement is acknowledged by the mine.

i) No dumping shall be allowed within Eskom Distribution Services.

i) Response

Dumping within Eskom Distribution Services will be prohibited and this will be communicated to all employees working on site.

j) Any development which necessitates the relocation of Eskom's services will be to the account of the developer.

j) Response

This is noted. Currently, no such relocation is required.

If you have any other questions or need any further information please contact us.

Regards,

15 May 2023
Christopher Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

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

Cand. EAP (EAPASA): Number 2022/4844

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

Comments from Eskom: 2 May 2023

Chris Delport

From: Chris Delport
Sent: Monday, 22 May 2023 12:15
To: Thomas Mavunda
Subject: RE: Imerys Refractory Minerals Application for EA & IWULA: Draft Environmental Scoping Report (LP166MR)
Attachments: Response Eskom May 22.pdf

Good day,

We acknowledge receipt of your comments and have noted them. Kindly find attached correspondence.

Kind regards,
Chris Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Candidate Environmental Assessment Practitioner: Number 2022/4844
IAIAsa Membership Number: 6643

From: Thomas Mavunda <[redacted]
Sent: Tuesday, May 2, 2023 1:33 PM
To: Chris Delport <chris@becsenv.co.za>
Subject: RE: Imerys Refractory Minerals Application for EA & IWULA: Draft Environmental Scoping Report (LP166MR)

Good day,

Kindly receive our comments.

Kindly be informed that we are affected by this development.

Warm Regards
Thomas Mavunda
[redacted]

Eskom | Powering your world

" A Quitter never wins and a Winner never quits". Napoleon Hill

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

22 May 2023

Limpopo Operating Unit

92 Hans Van Rensburg

PO Box 3499

Polokwane 0700 SA

Eskom Holdings SOC Limited

Attention: Thomas Mavunda

Email: MavundNT@eskom.co.za

DMRE reference: LP 30/5/1/2/2/166 MR

RE: IMERYS REFRACTORY MINERALS SOUTH AFRICA (PTY)LTD- APPLICATION FOR ENVIRONMENTAL AUTHORISATION IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT NO. 107 OF 1988 (AS AMENDED) IN RESPECT OF LISTED ACTIVITIES THAT HAVE BEEN TRIGGERED BY APPLICATIONS IN TERMS OF THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT NO. 28 OF 2002 (AS AMENDED) AND AN INTEGRATED WATER USE LICENSE APPLICATION IN TERMS OF THE NATIONAL WATER ACT NO. 36 OF 1998 (AS AMENDED)

Dear Zwanga Budeli

We hereby acknowledge receipt of the Eskom comments dated 02 May 2023. Kindly refer below for responses to the points raised.

This application affects our Eskom Distribution services. The following services are affected:

- **Thabazimbi rural / Immakaar 22kV power lines**
- **Thabazimbi rural – Makoppa 22kV power lines**
- **Northam / Thabazimbi 88kV lines**

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

BECS Environmental (Pty) Ltd
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- **Amandel / Thabazimbi Combined 132kV power lines**

Eskom Distribution has no objection in principle of the abovementioned application, on the following conditions:

1) There is 9, 11 and 18 meters building and tree restriction on either side of the centre line of the 22kV, 88kV & 132kV power lines respectively, which must be adhered to in all future development.

1) Response

This is noted and no tree or building will be put in place on either side of the centre line of these powerlines as part of the development.

2) Eskom Distribution's services and equipments must be acknowledged at all times and may not be tampered or interfered with.

2) Response

This requirement is noted. The mine will take measures to prevent any tampering or interference with the equipment. This will include buffering the areas adjacent to the equipment.

3) All work within Eskom Distribution reserve area must be done in accordance with the requirements of the Occupational Health and Safety Act No.85 of 1993 as amended.

3) Response

The requirements of the aforementioned act will be adhered to throughout the project.

4) Special attention must be given to the clearances between Eskom's conductors, structures, cables and electrical apparatus and the proposed work as stipulated by

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

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

Regulation R15 of the Electrical Installations Regulations of the aforementioned Act or any other legal requirements.

4) Response

These regulations will be used to ensure that the relevant clearances are maintained between the relevant infrastructure and the proposed works.

5) No construction work may be executed closer than 9 metres from any of Eskom's structures from the middle of the power line and no squatting to be allowed in the restriction area

5) Response

A buffer with a minimum of 9-metres will be implemented when designing the site layout to ensure that no structures are affected. Squatting in the area is prohibited and the mine will endeavour to ensure that no squatting takes place.

6) No tree shall be planted within the restriction area or be allowed to grow to a height in excess of the horizontal distance of that tree from the nearest conductor of any power line or to grow in such a manner as to endanger that line should it fall or be cut down.

6) Response

Tree planting is not expected to take place until rehabilitation, however, should tree planting be necessary, no tree will be planted within the restriction area or be allowed to reach a height that exceeds the horizontal distance of that tree from the nearest conductor.

7) Natural ground level must be maintained within Eskom Distribution restriction area.

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

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

7) Response

Note that the proposed project consists of open pit mining, however the natural ground level will be maintained on all land not used for opening of the pit.

8) Eskom Distribution shall not be liable for the death of or injury to any person or for the loss of or damage to any property whether as a result of the encroachment or of the use of the area where Eskom Distribution has its services, by the applicant, his/her agent, contractors, employees, successors in title and assigns.

8) Response

This statement is acknowledged by the mine. Eskom shall not be held liable for any such event.

9) The applicant indemnifies Eskom against loss, claims or damages including claims pertaining to interference with Eskom Distribution services or apparatus or otherwise. The applicant's attention is drawn to section 27(3) of the Electricity Act 1987, as amended in 1994, which stipulates that the applicant can be fined and/or imprisoned as a result of damage to Eskom's apparatus.

9) Response

The Eskom Distribution Services will be buffered in order to ensure protection. It is the intention of the mine to ensure that no damage occurs.

10) Eskom shall at all times have unobstructed access to and egress from its services.

10) Response

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

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

This statement is acknowledged by the mine. The mine will allow Eskom to access the site at any time.

11) The ineffective management and handling of waste is of crucial importance. No dumping shall be allowed within Eskom Distribution restriction areas. All unwanted waste (gaseous, liquid or solids) should be disposed of at a registered waste disposal site as stipulated under Section 20 of the Environmental Conservation Act (Act 73 of 1989).

11) Response

Dumping within Eskom Distribution restriction areas will be prohibited and this will be communicated to all employees working on site. The mine will implement a waste management procedure that will include the disposal of waste at a registered waste disposal site.

12) Any relocation of Eskom's services, due to this development, will be for the account of the Developer. The Developer will also be responsible for granting Eskom an alternative route for the power line. Please contact Eskom Customer Contact Centre; 08600 37566 in connection with cost.

12) Response

This is noted. Currently, no such relocation is required.

13) The Eskom's authorised area representative for Thabazimbi Technical Service Area, Dumaduma Masimene Telephone Number: 014 777 8273 / 073 528 2696, masimeda@eskom.co.za.

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

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

13) Response

Should we need to contact the representative for the Thabazimbi Technical Service Area, the above details will be used.

If you have any other questions or need any further information please contact us.

Regards,

22 May 2023
Christopher Delport | Environmental Assessment Practitioner
BSc Environmental Science (UP), BSc Honours Geography and Environmental Science (UP)
Cand.Sci.Nat: 144476
Cand. EAP (EAPASA): Number 2022/4844

Director: Salome Beeslaar
Environmental Assessment Practitioners: Chris Delport, Miles Longhurst, Chantelle Tollemache
Telephone: 012 361 9970, Facsimile: 012 361 0645
Email: salome@becsenv.co.za

*NOTE: In accordance with the Protection of Personal Information Act (Act No. 4 of 2013) personal details are omitted.

Addendum 4H: Stakeholder database

Stakeholder
LEDET
SAHRA
DFFE
DWS National
DWS Hartebeespoort
DMRE
Thabazimbi LM - Municipal manager
Waterberg DM - Municipal manager
Ward councillor - Ward 3 TLM
Ward councillor - Ward 6 TLM
DALRRD
LIHRA
DARD Limpopo
DAFF
Istores Primary School
Eskom
Roads Agency

Institution	Physical Address
Thabazimbi Iron Ore Mine Pty Ltd	RE Buffelshoek 351 KQ
Thabazimbi Iron Ore Mine Pty Ltd	Portion 1 Buffelshoek 351 KQ
Thabazimbi Iron Ore Mine Pty Ltd	Portion 3 Buffelshoek 351 KQ
Thabazimbi Iron Ore Mine Pty Ltd	Portion 4 Buffelshoek 351 KQ
Thabazimbi Iron Ore Mine Pty Ltd	RE of Portion 1 Grootfonetin 352 KQ
	Portion 4 Grootfontein 352 KQ
Imerys Refractory Minerals South Africa	Portion 3 Grootfontein 352 KQ
	Langpan 371 KQ
	Portion 1 Haakdoorndrift 374 KQ
	Portion 1 Haakdoorndrift 373 KQ
Alfafa trust	Portion 2 Haakdoorndrift 373 KQ
Alfafa trust	Portion 3 Haakdoorndrift 373 KQ
Thabazimbi Iron Ore Mine Pty Ltd	Portion 1 Wachteenbietjesdraai 350 KQ
Thabazimbi Iron Ore Mine Pty Ltd	Portion 2 Wachteenbietjesdraai 350 KQ
Sandrivier familie trust	Portion 15 Wachteenbietjesdraai 350 KQ
	Portion 16 Wachteenbietjesdraai 350 KQ
	Portion 17 Wachteenbietjesdraai 350 KQ
Combo braai CC	Portion 21 Wachteenbietjesdraai 350 KQ
	Portion 22 Wachteenbietjesdraai 350 KQ
	Portion 23 Wachteenbietjesdraai 350 KQ
	Portion 24 Wachteenbietjesdraai 350 KQ
	Portion 25 Wachteenbietjesdraai 350 KQ
J M De Villiers trust	Portion 45 Wachteenbietjesdraai 350 KQ
	Portion 1 Roodedam 368 KQ
	Portion 9 Roodedam 368 KQ
	Portion 16 Roodedam 368 KQ
	Hanover 629 KQ

Registered I&APs	
	Portion 32 Wachteenbietjesdraai 350 KQ
	Portion 18 Wachteenbietjesdraai 350 KQ

Project properties are indicated in green.

*NOTE: In accordance with the Protection of Personal Information Act (Act No. 4 of 2013) personal details are omitted.

ADDENDUM 5: COMPETENT AUTHORITIES' CORRESPONDENCE

Addendum 5A: Acceptance of environmental application from DMRE

Not yet received.