DRAFT SCOPING REPORT

FOR THE ELAND PLATINUM MINE

CONSOLIDATION PROJECT

FILE REF NO SAMRAD: (NW 30/5/1/2/2/341MR, NW 30/5/1/2/2/280MR, NW30/5/1/2/2/151MR, NW30/5/1/2/2/78MR & NW30/5/1/2/2/363MR) (NW-00273-MR/102)

Report No: JEMS-ELAND- DSR-01

Report Prepared by

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Report Reviewer: Jannie Cronje

Scoping Report in support of the applications for an environmental authorisation; a waste management licence; and the amendment/consolidation of the Environmental Management Programmes for the proposed Eland Platinum Consolidation Project in terms of the National Environmental Management Act, No 107 of 1998 and National Environmental Management: Waste Act, No 59 of 2008 (as amended).

NAME OF APPLICANT:	**Eland Platinum (Pty) Ltd ("EP"), a subsidiary of Northam Platinum Limited ("Northam").**
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FILE REF NO SAMRAD:	**NW 30/5/1/2/2/341MR – Zilkaatsnek EMPRs**
	NW 30/5/1/2/2/280MR – Elandsfontein EMPRs
	NW30/5/1/2/2/151MR
	NW30/5/1/2/2/78MR – Maroelabult EMPRs
	NW30/5/1/2/2/363MR

IMPORTANT NOTICE

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

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

In terms of section 16(3)(b) of the EIA Regulations, 2014, any report submitted as part of an application must be prepared in a format that may be determined by the Competent Authority. 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 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 Regulations 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 complete that 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 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.

OBJECTIVE OF THE SCOPING PROCESS

1) 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; 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 determine the extent of the residual risks that need to be managed and monitored.

EXECUTIVE SUMARY

Eland Platinum Proprietary Limited ("**EP**"), a subsidiary of Northam Platinum Limited ("**Northam**"), owns and operates the Eland Platinum Mine ("**EM**") and Concentrator Plant. EM is located in the North-West Province ("**NWP**") of the Republic of South Africa ("**RSA**") and falls under the local jurisdiction of the Madibeng Local Municipality ("**MLM**"), situated in the larger district of the Bojanala Platinum District Municipality ("**BPDM**"). The town of Brits is located 10km east of the application site, with the Tshwane Metropolitan 60 km to the west. The northern boundary of the area on which the EM surface infrastructure is situated ("**EM Surface Area**") is bounded by the R566 (Brits - Rosslyn) provincial road and N4 Bakwena National Highway (Pretoria-Rustenburg) to the south.

EM is an established (est. 2006) platinum group metals ("**PGMs**") and chrome mining and processing operation and comprises of two mining rights, namely DMR Ref. No: NW 30/5/1/2/2/341MR ("**Zilkaatsnek Mining Right**") and DMR Ref. No: NW 30/5/1/2/2/280MR ("**Elandsfontein Mining Right**").

EP is in the process of acquiring the underground mine bordering EM in the west, known as the Maroelabult Mine ("**MM**"). The MM is also an existing established mining operation (est. 2000's), which is operated under three mining rights NW30/5/1/2/2/151MR, NW30/5/1/2/2/78MR and NW30/5/1/2/2/363MR and was placed under care and maintenance in July 2013.

EP recently concluded a sale agreement to acquire the MM from Barplats ("**Sale Agreement**"), including portions of mining rights NW30/5/1/2/2/151MR and NW30/5/1/2/2/78MR and the entire NW30/5/1/2/2/363MR ("**MR Sale Portion**").

EP has submitted an application under section 102 of the Mineral and Petroleum Resources Development Act 28 of 2002 ("**MPRDA**") to consolidate the following mining rights into the Elandsfontein Mining Right:

- MR Sale Portion and
- Zilkaatsnek Mining Right,

("**Section 102 Application**").

One of the conditions precedent to the Sale Agreement is the grant of the Section 102 Application. The areas held under the Elandsfontein Mining Right, MR Sale Portion and Zilkaatsnek Mining Right is referred to as the "**Consolidated MR Area**".

An integrated environmental authorisation ("**EA**") and waste management license (**"WML**") application under the National Environmental Management Act 107 of 1998 ("**NEMA**") and National Environmental Management: Waste Act 59 of 2008 ("**NEMWA**") was submitted to the Department of Mineral Resources and Energy ("**DMRE**").

The application includes:

- an application for an integrated EA and WML ("**IEA**") for projects proposed by EP to take the EM mining operations forward ("**EP Proposed Projects**"); and

- the consolidation of the existing Environmental Management Programmes ("**EMPrs"**), EAs and WMLs for EM and the portions of the EMPrs ("**Maroelabult EMPrs**") and IEA for the area held under the MR Sale Portion ("**Sale Portion Area**") into the Environmental Impact Assessment ("**EIA**") / EMPr for the Elandsfontein Mining Right (approved by the DMRE on 21 December 2006 – Ref No: (NW) 30/5/1/2/3/2/1/280EM) ("**Environmental Licence Consolidation Application**"),

  (collectively the "**Integrated DMRE Environmental Application**").

EP will also be submitting an application to amend and consolidate the water use licences ("**WUL**") held by EP and MM ("**WUL Consolidation Application**").

The EP Proposed Projects will be for the following activities:

- Mining at MM, including the Boundary Pillar on the UG2 reef horizon between EM and MM;
- Construction and operation of two Run of Mine ("**ROM**") stockpiles at EM;
- Raise-boring and operation two Vent Shafts at EM;
- Mining of the Merensky Reef at EM, including associated infrastructure, Overburden Stockpiles and Waste Rock Dumps ("**WRDs**");
- Mining of the UG1 in the existing Tailings Storage Facilities ("**TSF**") Paddocks 2, 3 and 4 in the area which is included in the Elandsfontein Mining Right;
- Backfilling of existing opencast pits at EM with tailings and the construction of a pipeline to convey the wet tailings from the Concentrator Plant to the opencast pits and a return water pipeline between the existing TSF return water sump and opencast pits ("**Pits Pipelines**");
- Water management infrastructure linking EM and MM, including expansion and construction of pump stations and pipelines for the conveying of dirty water and tailings between EM and MM ("**Water Management Pipelines**");

- Construction of an electrical 11kV substation, distribution line and associated infrastructure at MM;
- Construction and operation of a Chrome Floatation Plant ("**CFP**") and associated infrastructure at the Maroelabult shaft within existing operational area; and
- WRD re-processing at MM.

The application for an IEA includes existing infrastructure at MM for which EP requires an authorisation to continue the operation of.

The DMRE North-West Regional Office will be the competent authority ("**CA**") for the Integrated DMRE Environmental Application. The Draft Scoping Report ("**DSR**") will be submitted in conjunction with the inception of the public participation process ("**PPP**").

JEMS Pty Ltd ("**JEMS**") was appointed by EP as the independent EAP for the Integrated DMRE Environmental Application. JEMS prepared the DSR in line with the requirements contained in Appendix 2 of the 2014 EIA Regulations, promulgated under the NEMA, and the template provided by the DMRE.

The DSR will be available for review and comments for thirty (30) days from 17 August to 16 September 2020 at the following locations:

- EM Security Office;
- MM entrance;
- Madibeng Local Library in Brits;
- Moumong Store in Mmakau
- The Community Library (at the Community Hall) Damonsville;
- The Community Hall in Mothotlung;
- Madibeng Business Support Centre; and
- Mmakau Police Station next to the Bakgatla-Ba-Mmakau Tribal Council offices.

The information provided in the DSR acts as the baseline resource for the relevant authorities and interested and affected parties ("**I&APs**"), and its aim is to ensure that all I&APs and stakeholders have a clear understanding of the EP Proposed Projects and the biophysical and socio-economic environment where the Projects will be undertaken. The interaction and symbiotic relationship between all involved, by means of inputs and guidance received, will contribute to the rationale of the FSR and the subsequent EIA phase.

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LIST OF ABBREVIATIONS

Term/Abbreviation	Definition
2013 WML Regulations	The Regulations published under NEMWA in Government Notice 921 of Government Gazette 37083 on 29 November 2013
2014 EIA Regulations	Environmental Impact Assessment Regulations promulgated in terms of NEMA in GN 982 of Government Gazette 38282 on 4 December 2014 (as amended in 2017).
2006 EIA Regulations	Environmental Impact Assessment Regulations promulgated in terms of NEMA in GN 385 of Government Gazette 28753 of 21 April 2006
BIC	Bushveld Igneous Complex
BID	Background Information Document
BPDM	Bojanala Platinum District Municipality
CA	Competent Authority
CARA	Conservation of Agricultural Resources Act (Act No. 43. of 1983)
CBA	Critical Biodiversity Area
CFP	Chrome Flotation Plant
DEAFF	Department of Environmental Affairs, Forestry and Fisheries
DEIAR	Draft EIA Report
DHSWS	Department of Human Settlements, Water and Sanitation
DMRE	Department of Mineral Resources and Energy

DSR	Draft Scoping Report
DWA	Then former Department of Water Affairs, now Department of Environmental Affairs, Forestry and Fisheries
DWAF	Then former Department of Water Affairs and Forestry, now Department of Environmental Affairs, Forestry and Fisheries
DWS	Then former Department of Water and Sanitation, now Department of Environmental Affairs, Forestry and Fisheries
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EAPASA	Environmental Assessment Practitioners Association of South Africa
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EM	Eland Platinum Mine
EMP	Environmental Management Programme
EMPR	Environmental Management Programme Report
EP	Eland Platinum (Pty) Ltd, a subsidiary of Northam
EPM	Eland Platinum Mines (Pty) Ltd, a subsidiary of GOSA
FEIAR	Final EIA Report
FSR	Final Scoping Report
GDP	Gross Domestic Product
GN	Government Notice
GN 983	Environmental Impact Assessment Regulations promulgated in terms of NEMA in GN 983 of Government Gazette 38282 on 4 December 2014 (as amended in 2017).
GN 984	Environmental Impact Assessment Regulations promulgated in terms of NEMA in GN 984 of Government Gazette 38282 on 4 December 2014 (as amended in 2017).
GN 984	Environmental Impact Assessment Regulations promulgated in terms of NEMA in GN 985 of Government Gazette 38282 on 4 December 2014 (as amended in 2017).
GOSA	Glencore Operations South Africa (Pty) Ltd
Ha	Hectares (measure of area, 10 000 square metres)
HIA	Heritage Impact Assessment
HSEC	Health Safety Environment Community
I&APs	Interested and Affected Parties
IDP	Integrated Development Plan
IEA	Integrated Environmental Authorisation
IWULA	Integrated Water use licence application
km	Kilometres
LOM	Life of Mine
m^2	Square Metres
MAP	mean annual precipitation
MAR	mean annual runoff
MLM	Madibeng Local Municipality
Mm	Millimetres
MM	Maroelabult Mine
MPRDA	Mineral and Petroleum Resources Development Act (Act No. 28 of 2002), as amended
NEMA	National Environmental Management Act (Act No. 107 of 1998), as amended

NEMAQA	National Environmental Management: Air Quality Act (Act No. 39 of 2004), as amended
NEM:BA	National Environmental Management: Biodiversity Act (Act No. 10 of 2004), as amended
NEMPAA	National Environmental Management: Protected Area Act (Act No. 57 of 2003), as amended
NEMWA	National Environmental Management: Waste Act (Act No. 59 of 2008), as amended
2013 WML Regulations	Published in GNR 921 under the NEMWA in *Government Gazette* 37083 on 29 November 2013, as amended in GNR 633 of 24 July 2015
NHRA	National Heritage Resources Act (Act No. 25 of 1999)
NWA	National Water Act (Act No. 36 of 1998), as amended
NWBSP	North West Biodiversity Sector Plan
NWDACE	Then North-West Department of Agriculture, Conservation and the Environment (now North-West Department of Rural, Environment and Agricultural Development)
NWREAD	North West Department of Rural, Environment and Agricultural Development
Northam	Northam Platinum Limited
NWP	North-West Province
PGM	Platinum Group Metals
POS	Plan of Study
PPP	Public Participation Process
Pr. Sci. Nat	Professional Natural Scientists
ROM	Run-of-mine
RWD	Return Water Dam
RSA	Republic of South Africa
SACNASP	South African Council of Natural Scientific Professions
SAHRA	South African National Heritage Resources Agency
SANBI	South African National Biodiversity Institute
SANS	South African National Standards
SHE	Safety Health Environment
SDF	Spatial Development Framework
SLP	Social and Labour Plan
SWD	Stormwater dam
SMS	Short Message Services
TSF	Tailings Storage Facility
WRD	Waste Rock Dump
WTP	Water Treatment Plant
WUL	Water Use Licence
WML	Waste Management Licence
YRS	Years

DRAFT SCOPING REPORT

1. INTRODUCTION:

JEMS Pty Ltd ("**JEMS**") was appointed by Eland Platinum Proprietary Limited ("**EP**") as the independent Environmental Assessment Practitioner ("**EAP**") for the Integrated DMRE Environmental Application.

EP owns and operates the Eland Platinum Mine ("**EM**") and Concentrator Plant at EM. EM is located in the North-West Province ("**NWP**") of the Republic of South Africa ("**RSA**") and falls under the local jurisdiction of the Madibeng Local Municipality ("**MLM**"), situated in the larger district of the Bojanala Platinum District Municipality ("**BPDM**"). The town of Brits is located 10km east of EM, with the Tshwane Metropolitan 60 km to the west. The northern boundary of the EM Surface Area is bounded by the R566 (Brits - Rosslyn) provincial road and N4 Bakwena National Highway (Pretoria-Rustenburg) to the south.

Established in 2006, EM is a platinum group metals ("**PGMs**") and chrome mining and processing operation and is operated under two mining rights, namely DMRE Reference. No: NW 30/5/1/2/2/341MR ("**Zilkaatsnek Mining Right**") and DMRE Ref. No: NW 30/5/1/2/2/280MR ("**Elandsfontein Mining Right**"), granted in terms of the MPRDA by the DMRE, which include opencast and underground mining sections. EP's core business is to extract ore and process PGMs and chromite concentrate at the EM and Concentrator Plant. The EM Surface Area comprises of an area of approximately 1624 hectares (CHEMC, 2019).

The existing combined mining, processing and auxiliary infrastructure on the Consolidated MR Area comprise of the following:

- Workshops and Stores;
- Overburden and Topsoil Stockpiles;
- Opencast Mining Pits;
- Concentrator Plant;
- On-site Laboratory;
- Mine clinic and training centre;
- Water Management Infrastructure (i.e. dams, channels and pipelines);
- Wastewater Treatment Plant and Water Treatment Plant ("**WTP**");
- Decline Shafts (Maroelabult, Kukama and Nyala) and supporting infrastructure;
- TSF, comprising of four Paddocks;
- Waste Rock Dumps ("**WRDs**");

- Offices and auxiliaries;
- Recreational Area (Game Farm);
- Agricultural fields; and
- Haul and internal Roads.

EP recently concluded the Sale Agreement to acquire the underground Maroelabult Mine ("**MM**"), bordering to the west of EM, from Barplats Mines (Pty) Ltd ("**Barplats**"), a subsidiary of Eastplats (Pty) Ltd, including portions of mining rights NW30/5/1/2/2/151MR and NW30/5/1/2/2/78MR and the entire NW30/5/1/2/2/363MR ("**MR Sale Portion**").

MM forms part of the Crocodile River Mine and is operated under mining rights DMR Ref. No. NW30/5/1/2/2/151MR and DMR Ref. No. NW30/5/1/2/2/78MR and DMR Ref. No. NW30/5/1/2/2/363MR.

EP has submitted an application under section 102 of the Mineral and Petroleum Resources Development Act 28 of 2002 (**"MPRDA**") to consolidate the following mining rights into the Elandsfontein Mining Right:

- MR Sale Portion and
- Zilkaatsnek Mining Right,

("**Section 102 Application**").

One of the conditions precedent to the Sale Agreement is the grant of the Section 102 Application.

The MM operation has been in care and maintenance from July 2013. It comprises of an underground operation, accessed via a decline shaft, with the following surface infrastructure (Elemental Sustainability, 2019):

- Administrative offices and parking;
- Main plant area;
- Stockpiles (topsoil, product, etc.);
- Haul roads;
- Two WRDs;
- Laydown areas;
- Water management structures / infrastructure (pollution control dams, stormwater dam ("**SWD**"), stormwater diversion berms / trenches, and associated pumps / piping);
- Conveyor belt system;
- Aboveground diesel tanks; and

- Septic tank.

To take the abovementioned operations forward, EP and Northam have identified the EP Proposed Projects. EP has consequently submitted the Integrated DMRE Environmental Application under the NEMA and NEMWA respectively to the DMRE and will be submitting the WUL Consolidation Application to the Department of Human Settlement, Water and Sanitation ("**DHSWS**") for the following activities:

- Consolidation of the existing Environmental Management Programmes ("**EMPrs"**), EAs and WMLs for EM and the portions of the EMPrs ("**Maroelabult EMPrs**") and IEA for the area held under the MR Sale Portion ("**Sale Portion Area**") into the Environmental Impact Assessment ("**EIA**") / EMPr for the Elandsfontein Mining Right (approved by the DMRE on 21 December 2006 – Ref No: (NW) 30/5/1/2/3/2/1/280EM) ("**Environmental Licence Consolidation Application**");
- Consolidation of the Water Use Licences ("**WUL**") for the Consolidated MR Area;

EP Proposed Projects -

- Mining at MM, including the Boundary Pillar on the UG2 reef horizon between EM and MM;
- Construction and operation of two Run of Mine ("**ROM**") stockpiles at EM;
- Raise-boring and operation of two underground Vent Shafts at EM;
- Mining of the Merensky Reef at EM, including associated infrastructure, Overburden Stockpiles and WRDs;
- Mining of the UG1 in the existing TSF Paddock 2, 3 and 4 at EM;
- Backfilling of existing opencast pits with tailings at EM and the construction of a pipeline to convey the wet tailings to the pits and a return water pipeline between existing TSF return water sump and the opencast pits ("**Pits Pipelines**");
- Water management infrastructure linking EM and MM, including expansion and construction of pump stations and pipelines for the conveying of water and tailings between EM and Maroelabult Mine ("**Water Management Pipelines**");
- Construction of an electrical substation and associated infrastructure at MM;
- Construction and operation of a Chrome Floatation Plant ("**CFP**") and associated infrastructure at the Maroelabult shaft within existing operational area; and
- WRD re-processing at MM.

The Draft Scoping Report ("**DSR**") has been compiled in line with the Appendix 2 of the 2014 EIA Regulations, in the template provided by the DMRE.

2. CONTACT PERSON AND CORRESPONDENCE ADDRESS:

2.1 Details of:

2.1.1 The applicant:

Details of the applicant and the contact details of the responsible person are captured in ***Table 1*** below.

Table 1: Details of the applicant and contact person

Project applicant:	Eland Platinum Proprietary Limited, a wholly owned subsidiary of Northam Platinum Limited	
Registration no:	2016/427918/07	
Trading name:	Eland Platinum	
Responsible person:	Jacques Pretorius (General Manager)	
Physical address:	Farm Elandsfontein 440 JQ, District of Brits, South Africa	
Postal address:	PO Box 3436, Brits, 0250, South Africa	
Telephone no:	087 158 8000	
Fax no:	086 411 8000	
Email:	Jacques.Pretorius@norplats.co.za	
For the purpose of the application process the following people may be contacted at Eland Platinum:		
Mr. M Prinsloo SHEQ Manager Tel No: 087 158 8000 Email: Martiens.Prinsloo@norplats.co.za		Mrs. Keneilwe Makwela Environmental Officer Tel: 087 158 8000 Email: Keneilwe.Makwela@norplats.co.za

2.1.2 The EAP who prepared the report:

JEMS has been appointed as the independent EAP by EP to undertake the Integrated DMRE Environmental Application in terms of the NEMA, NEMWA and the 2014 EIA Regulations and the WUL Consolidation Application in terms of the NWA, 1998.

GS Barkhuizen will be the main EAP for the project, Mr. Ken Smith is the EAP Reviewer of the EA Application with the support of M Potgieter (Junior EAP) and JG Cronje (Project Sponsor).

JEMS is a multi-skilled Environmental and Water Management Consultancy, providing independent and professional services to the industrial, mining, and commercial sectors. It is a proudly South African, level 2 Broad-Based Black Economic Empowerment (“B-BBEE”) company.

Table 2: Details of the EAP

EAP:	Gerhardus Stephanus Barkhuizen		
EAP Reviewer	Ken Smith		
Company:	JEMS (Pty) Ltd		
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Tel:	082 892 4282	083 776 7898	082 291 8316
Fax:	086 658 3132		
Email:	stephan@jems.co.za	jannie@jems.co.za	marilize@jems.co.za

JEMS Team Details				
Designation	**Name**	**Qualification**	**Registration**	**Experience**
Project Manager/reviewer and Sponsor	JG Cronje	Hons. BSc Geohydrology Post Grad Dipl. Terrain Evaluation	Professional Natural Scientists (Pr.Sci. Nat. 400063/93) with the SACNASP	30 Years
Lead EAP	GS Barkhuizen	BTech Landscape Technology Hons. BSc Environmental Monitoring and Modelling	Certified Natural Scientist in the Environmental Sciences Field (Registration number: 115982), with SACNASP EAP registration pending with EAPASA	12 Years
EAP Reviewer	K Smith	BSc. Agric	Pr. Sci. Nat. 400047/93) with the SACNASP in the field of Environmental Science. Certified EAP (interim)	34 Years
Junior EAP	M Potgieter	BSc. Hons in Geography B.A Environmental Management	FGASA: Level II Certificate	12 Years

2.1.3 Expertise of the EAP.

2.1.3.1 Qualifications of the EAP

The qualifications of the EAP (With evidence attached as **Appendix 1**).

Refer to ***Appendix 1*** for copies of the EAP's qualifications as listed above for this project.

2.1.3.2 Summary of the EAP's past experience.

(Attach the EAP's curriculum vitae as **Appendix 2**)

Mr Barkhuizen will be the project lead EAP for the Integrated DMRE Environmental Application and WUL Consolidation Application and has 12 years' experience in the environmental field. His experience is in the management of EIA, EMPR and IWULA processes; coordination and execution of public participation processes ("**PPP**"); and management of multi-disciplinary project teams, mainly for mining related projects. He is also involved in conducting environmental audits and site assessments. Mr. Barkhuizen is a Certified Natural Scientist in the Environmental Sciences Field (Registration number: 115982) with the South African Council for Natural Scientific Professions (SACNASP) and his EAP registration is pending with Environmental Assessment Practitioners Association of South Africa (EAPASA).

Mr. Ken Smith is the EAP reviewer for the application and has 34 years' experience in the Environmental Management and Impact Assessment Sector. Mr. Smith is a Professional Natural Scientists (Pr. Sci. Nat. 400047/93) with the SACNASP in the field of Environmental Science. He is also a Certified EAP with the Environmental Assessment Practitioners of South Africa (EAPSA) Interim Certification Board (ICB).

Mr. Jannie Cronje will be the project sponsor and reviewer of the Environmental Scoping and EIAR. He is a director of JEMS, with 30 years' experience in the environmental and geohydrology consultancy industry. Mr. Cronje is appropriately qualified and registered with the relevant professional bodies. He is registered as a Pr. Sci. Nat (Pr.Sci. Nat. 400063/93) with the SACNASP.

Mrs. Marilize Potgieter will be the environmental junior consultant, aiding in a supplementary role in the Applications. She has over 12 years' experience in the eco-conservation and game management field.

Curriculum Vitae ("**CVs**") of the project team members listed above, with their past experience, can be found in ***Appendix 2***.

2.2 Description of the property:

The town of Brits is located 10km east of EM, with the Tshwane Metropolitan Municipality 60 km to the west. The northern boundary of the EM Surface Area is bounded by the R566 (Brits - Rosslyn) provincial road and N4 Bakwena National Highway (Pretoria-Rustenburg) to the south.

The surrounding communities and their proximity to EM include (CHEMC, 2019):

- Brits (10km west);
- Damonsville (1 km north);
- Mothotlung (2 km north);
- Moumong (1.2 km north-east);
- Mmakau (3 km north); and
- De Wildt (3.7 km east).

Land surrounding EM is mainly used for livestock grazing, agriculture, mining (EM is adjacent to MM, Hernic Ferrochrome's Smelter and Mine, and granite mining further north); renewable power (construction is in progress of the De Wildt Solar Power Station); and several community residential area and related activities (CHEMC, 2019). The Zilkaatsnek Eco-estate (mixed land-use development), small holdings and other businesses are located directly to the south (across the N4 highway), with a number of conservancy and protected areas further to south (i.e. Magaliesberg Biosphere Area, Peglerae Conservancy and De Wildt Cheetah Research Area, etc.). (Refer to ***Figure 1*** and ***Figure 2***).

A detailed property description of the Consolidated MR Area is listed in ***Table 3***, below:

Table 3: Locality and Property description of the EM and MM Mining Rights

Mining Right	Farm Name
Elandsfontein NW 30/5/1/2/2/280MR	<u>Elandsfontein 440JQ</u> ➢ Portion 9; ➢ Remaining Extent of Portion 91; ➢ Remaining Extent of Portion 15; ➢ Remainder of Portion 16 (a portion of Portion 15); ➢ Portion 37 (a portion of Portion 16); ➢ Portion 38 (a portion of Portion 16); ➢ Remaining Extent of Portion 52 (a portion of Portion 16); ➢ Portion 123 (a portion of Portion 52); ➢ Remaining Extent of Portion 82 (a portion of Portion 52); ➢ Portion 83 (a portion of Portion 82) (now known as “Damonsville Ext 1 Township”); ➢ Portion 89 (a portion of Portion 16); ➢ Remaining Extent of Portion 17 (a portion of Portion 15); ➢ Portion 30 (a portion of Portion 17); ➢ Portion 39 (a portion of Portion 17); ➢ Remaining Extent of Portion 18 (a portion of Portion 15); ➢ Remaining Extent of Portion 32 (a portion of Portion 18); ➢ Portion 61 (a portion of Portion 32); ➢ Portion 85 (a portion of Portion 18); ➢ Remaining Extent of Portion 19 (a portion of Portion 15); ➢ Remaining Extent of Portion 40 (a portion of Portion 19); ➢ Portion 43 (a portion of Portion 40); ➢ Remaining Extent of Portion 58 (a portion of Portion 19); ➢ Remaining Extent of Portion 59 (a portion of Portion 58); ➢ Portion 87 (a portion of Portion 59); ➢ Remaining Extent of Portion 63 (a portion of Portion 58); ➢ Portion 88 (a portion of Portion 63); ➢ Portion 86 (a portion of Portion 58);

Mining Right	Farm Name
	➢ Portion 78 (a portion of Portion 19); ➢ Portion 45 (a portion of Portion 15); ➢ Portion 84 (a portion of Portion 15); ➢ Portion 44 (a portion of Portion 15); ➢ Portion 46 (a portion of Portion 15); and ➢ Portion 47 (a portion of Portion 15).
Zilkaatsnek NW 30/5/1/2/2/341MR	<u>Zilkaatsnek 439 JQ</u> ➢ Portion 97 (a portion of Portion 4); ➢ Portion 84 (a portion of Portion 58); ➢ Remaining Extent of Portion 58; ➢ Portion 80 (a portion of Portion 58); ➢ Portion 81 (a portion of Portion 58); ➢ Portion 82 (a portion of Portion 58); and ➢ Portion 87 (a portion of Portion 58). <u>Schietfontein 437 JQ</u> ➢ Portion 13 (a portion of Portion 2); and ➢ Portion 14 (a portion of Portion 2).
Maroelabult - a portion of NW30/5/1/2/2/151MR	<u>Farm De Kroon 444 JQ</u> ➢ Remaining Extent of Portion 48; ➢ Remaining Extent of Portion 49; ➢ Remaining Extent of Portion 141 (a portion of Portion 49); ➢ Portion 142 (a portion of Portion 49); ➢ portions of Portion 353[1]; ➢ Remaining Extent of Portion 50; ➢ Portion 51; ➢ Portion 52;

[1] Mining Rights 151 MR and 78 MR, and the Sale Portion MR, are held over the whole of Portion 353.

Mining Right	Farm Name
	➢ Portion 119; ➢ Portion 121; ➢ Portion 122; ➢ Portion 123; ➢ Remainder of Portion 165; ➢ Portion 333 of Portion 165; ➢ Portion 166 (portion of portion 47); ➢ Portion 167 (portion of portion 47); ➢ Portion 168 (portion of portion 47); ➢ a portion of Portion 296; and ➢ a portion of Portion 297.
Maroelabult NW30/5/1/2/2/363MR	<u>Farm De Kroon 444 JQ</u> ➢ Portion 115; and ➢ Portion 160.
Maroelabult: A portion of NW30/5/1/2/2/78MR	<u>Farm De Kroon 444 JQ</u> ➢ Remainder of Portion 157 (portion of portion 47); ➢ A portion of Portion 353; ➢ Portion 159 (portion of portion 115); and ➢ Portion 161 (portion of portion 115).

Table 4: Locality and Property description of the EP Proposed Project Area

EA Application Property Description incl. 21-digit Surveyor General Code for each farm portion:	The EP Proposed Projects will be located on the following properties: **Elandsfontein 440JQ:** ➢ Remaining Extent of Portion 58 (a portion of Portion 19) - T0JQ00000000044000058 ➢ Remaining Extent of Portion 59 (a portion of Portion 58) - T0JQ00000000044000059 ➢ Remaining Extent of Portion 32 (a portion of Portion 18) - T0JQ00000000044000032 ➢ Portion 61 (a portion of Portion 32) - T0JQ00000000044000061 ➢ Portion 30 (a portion of Portion 17) - T0JQ00000000044000030 ➢ Portion 37 (a portion of Portion 16) - T0JQ00000000044000037 ➢ Portion 39 (a portion of Portion 17) - T0JQ00000000044000039 ➢ Remaining Extent of Portion 63 (a portion of Portion 58) - T0JQ00000000044000063 **Zilkaatsnek 439JQ:** ➢ Remaining Extent of Portion 58 - T0JQ00000000043900058 ➢ Portion 80 (a portion of Portion 58) - T0JQ00000000043900080 ➢ Portion 81 (a portion of Portion 58) - T0JQ00000000043900081 ➢ Portion 82 (a portion of Portion 58) - T0JQ00000000043900082 ➢ Portion 84 (a portion of Portion 58) - T0JQ00000000043900084 ➢ Portion 87 (a portion of Portion 58) - T0JQ00000000043900087 ➢ Portion 97 (a portion of Portion 4) - T0JQ00000000043900097 **De Kroon 444 JQ** ➢ Remaining Extent of Portion 48 - T0JQ00000000044400048 ➢ Remaining Extent of Portion 50 - T0JQ00000000044400050 ➢ Portion 121 - T0JQ00000000044400121 ➢ Portion 122 - T0JQ00000000044400122 ➢ Portion 123 - T0JQ00000000044400123 ➢ Remainder of Portion 141 - T0JQ00000000044400141 ➢ Portion 142 - T0JQ00000000044400142 ➢ Remainder of Portion 157 - T0JQ00000000044400157

	➢ Portion 159 - T0JQ00000000044400159 ➢ Portion 160 - T0JQ00000000044400160 ➢ Portion 161 - T0JQ00000000044400161 ➢ Remainder of Portion 165 - T0JQ00000000044400165 ➢ Portion 166 - T0JQ00000000044400166 ➢ Portion 296 - T0JQ00000000044400296
Application area (Ha):	The entire EM Surface Area is approximately 1624 Ha in extent, and MM surface area is approximately 231.6 Ha in extent. The EP Proposed Projects will take place on an area of +/- 227 Ha within the EM Surface Area and Sale Portion Area.
Province:	North-West Province
District Authority	Bojanala Platinum District Municipality
Local Authority	Madibeng Local Municipality
Magisterial district:	Brits
Municipal Wards	Ward 21
Distance and direction from nearest town:	EM is located near the town of Brits (10 km west). Surrounding communities include Damonsville, Mothotlung, Mmakau, De Wildt and private landowners and farmers.
Catchment	Crocodile River Catchment and the Quaternary Sub-Catchment A21J
Servitudes	Several servitudes, including Eskom power lines, are located within the area on which the EP Proposed Projects will be situated ("**Project Area**"). Servitudes to North and South of the EM Surface Area Boundary include a railway and national road route (N4 – Bakwena)
Major roads and routes	The R566 forms the northern boundary of the EM Surface Area, linking Brits and Rosslyn. The N4 Bakwena national highway is located directly south of EM, linking Pretoria with Rustenburg, Brits and Mafikeng.

Table 5: Landowner details of the EP Proposed Project Activity Areas.

Property Description	Landowner Details
The Farm Zilkaatsnek 439JQ	
Remaining Extent of Portion 58	Salene Mining (Pty) Ltd
Portion 82 (a portion of Portion 58)	
Portion 84 (a portion of Portion 58)	Eland Platinum Proprietary Limited
Portion 197 (a portion of Portion 113).	
The Farm Elandsfontein 440 JQ	
Remaining Extent of Portion 58 (a portion of Portion 19)	Eland Platinum Proprietary Limited
Remaining Extent of Portion 59 (a portion of Portion 58)	
Remaining Extent of Portion 63 (a portion of Portion 58)	
Remaining Extent of Portion 32 (a portion of Portion 18)	
Portion 30 (a portion of Portion 17)	
Portion 39 (a portion of Portion 17)	
Portion 37 (a portion of Portion 16)	
Portion 61 (a portion of Portion 32)	Land claim by Daniel Lebelwane
The Farm De Kroon 444 JQ	
Remaining extent of Portion 48	Barplats Mines Proprietary Limited
Remaining extent of Portion 49	
Remaining extent of Portion 50	
Remaining extent of Portion 141 (a portion of Portion 49)	
Remaining extent of Portion 142 (a portion of Portion 49)	
Portion 51	
Portion 52	
Portion 119	
Portion 121	
Portion 122	
Portion 123	
Remainder of Portion 165 (A portion of Portion 47)	
Remainder of Portion 166 (A portion of Portion 47)	
Remainder of Portion 167 (A portion of Portion 47)	
Remainder of Portion 168 (A portion of Portion 47)	
A portion of Portion 297	
Portion 159 (a portion of Portion 115);	
Portion 161 (a portion of Portion 115);	
Remainder of Portion 157 (a portion of Portion 50)	
Remaining extent of Portion 115	Kleinsmit Familie Trust
Portion 160 (a portion of Portion 115);	MC Botha
Portion 353	Hernic Ferrochrome
Portion 333 of Portion 165	
A portion of Portion 296	

2.3 Locality Map

(Show the nearest town, scale not smaller than 1: 250000 attached as Appendix 3)

Refer to ***Figure 1*** and ***Figure 2*** for the Regional and Aerial map.

2.4 Legal framework

2.4.1 Eland Mine

EM is an operational mine and is governed by the requirements of the MPRDA and Regulations thereunder. NEMA and the 2014 EIA Regulations also apply to EM. In this regard, apart from the Elandsfontein and Zilkaatsnek Mining Rights ("**Eland Mining Rights**"), EP also operates with the following environmental approvals, licenses and permits for the area held under the Eland Mining Rights ("**EM Mine Area**"). (This list does not cover occupational health and safety legislation requirements) (CHEMC, 2019):

i) *Elandsfontein Mining Right:* the EIA and EMP for this Mining Right (compiled by Metago Environmental Engineers (Pty) Ltd ("**Metago**"), with reference E016-01, and dated September 2006 ("**2006 Eland EIA/EMP"**) were approved by the DMRE on 21 December 2006 – Ref No: (NW) 30/5/1/2/3/2/1/280EM) ("**Elandsfontein 2006 EMPR**"). The 2006 Eland EIA/EMP was for the construction and operation of the following:
   - Opencast Mining Activities and Pits;
   - Underground Mining Activities and Infrastructure;
   - Concentrator Plant;
   - Temporary Topsoil Stockpiles;
   - Ore Stockpiles;
   - WRD;
   - Access Roads;
   - Haul Roads;
   - TSF;
   - Sewage Treatment Plant ("**STP**");
   - WTP;
   - Water and Power Supply Reticulation;
   - Fuel, Lubricant and Chemical Storage Infrastructure; and
   - Offices, Change houses and Workshops.

ii) EA from the then North-West Department of Agriculture, Conservation and the Environment ("**NWDACE**") (now North-West Department of Rural, Environment and Agricultural Development ("**NWREAD**")) in terms of the old Environment Conservation Act, 73 of 1989 ("**ECA**"), for listed activities associated with the initial mine development plan, pursuant to the 2006 Eland EIA/EMP. This was obtained under the 2006 EIA Regulations and issued on 13 March 2007 - Ref No: EIA 518/2005NW ("**2007 NWDACE EA**"). The EA was for the construction and operation of the following:
   - Concentrator Plant and associated infrastructure;

- WRD;
- Establishment of Access Control;
- Powerlines;
- TSF;
- STP;
- WTP;
- Fuel, lubricant and chemical storage facilities; and
- Offices, Change houses and Workshops.

iii) *Zilkaatsnek Mining Right*: the EIA and EMP for this mining right (compiled by Metago, with refence number E016-12 and dated January 2008) were approved by the DMRE – Ref No: (NW) 30/5/1/2/3/2/1/341EM ("**Zilkaatsnek 2008 EMPR**"). The EIA and EMP was for the construction and operation of the following:

- Opencast Mining operations;
- Internal haul roads;
- Water pipelines (pit dewatering); and
- Temporary topsoil and waste stockpiles.

iv) *Section 102 amendment and update of the Zilkaatsnek 2008 EMPR to include Portions 84 and 97 of the Farm Zilkaatsnek 439 JQ*: (compiled by Metago, with reference number E016-21) and dated June 2010) ("**2010 Zilkaatsnek 84/97 EMP Amendment**"). This EMP Amendment was approved by the DMRE on 19 November 2010 (Ref No: (NW) 30/5/1/2/3/2/1/341EM) for the following infrastructure:

- Opencast Mining operations;
- Internal haul roads;
- Water pipelines (pit dewatering); and
- Temporary topsoil and waste stockpiles.

v) *EP received an EA from the North West Department of Economic Development, Environment, Conservation and Tourism* (now NWDACE) on 8 August 2012 (Ref No: NWP/EIA/441/2007) ("**2012 Proposed Concentrator Plant EA**") pursuant to the EIA and EMP compiled by SLR Consulting Africa (Pty) Ltd and dated December 2012 ("**2012 Proposed Concentrator Plant EIA / EMP**"). The EA was issued for listed activities associated with the proposed concentrator plant expansion project (obtained under the 2006 EIA Regulations) for the construction and operation of the following:

- Construction of an additional concentrator plant;
- Dense media separator ("**DMS**") plant;

- DMS WRD;
- DMS run-off dam;
- New Access route;
- Supportive infrastructures, including administration, training and induction building;
- Stores, change house and ablution, clinic, laboratory facilities;
- Explosive magazine upgrade;
- Communication towers; and
- Helipad and greenhouse.

All the above activities have been undertaken, except for the concentrator expansion, DMS Plant, DMS Waste Rock Dump and DMS run-off dam.

vi) A WUL from the then Department of Water Affairs ("**DWA**"), under section 21 of the NWA, for water uses associated with the EM Mine Area, including the proposed planned concentrator plant expansion project. The WUL was issued on 23 October 2012 (License No: 03/A21J/ABCGIJ/1547) ("**EP WUL**") and licenses the following water uses:

- Section 21 (a): Taking of water from a water resource

  EP is licensed for water abstraction from a resource via scavenger boreholes at nine (9) different locations on the Elandsfontein Mining Right area and six (6) different locations at the Zilkaatsnek Mining Right area. The points and locations are as follow:

Table 6: Section 21(a) water uses as licensed in the Eland Platinum WUL.

Abstraction Point	Volume (m^3/a)	Purpose
Dewatering using scavenger borehole No. 1	120 000	Re-use water for mining purposes
Dewatering using scavenger borehole No. 2	300 000	Re-use water for mining purposes
Dewatering using scavenger borehole No. 3	8 500	Re-use water from opencast and the underground mine for use in the Platinum Concentrator Plant
Dewatering using scavenger borehole No. 4	15 000	Re-use water for use in the mine
Dewatering using scavenger borehole No. 5	425 000	Re-use water from opencast and the underground mine
Dewatering using scavenger borehole No. 6	285 000	Re-use water from opencast and the underground mine
Dewatering using scavenger borehole No. 7	120 000	Re-use water from opencast and dewatering for mining purpose
Dewatering using scavenger borehole No. 8	120 000	Borehole, re-use water from opencast and dewatering for mining purpose
Dewatering using scavenger borehole No. 9	120 000	Borehole, re-use water from opencast and dewatering for mining purpose
Dewatering using scavenger borehole No. 10	1 000	Borehole, re-use water from opencast and dewatering for mining purpose
Dewatering using scavenger borehole No. 11	1 000	Borehole, re-use water from opencast and dewatering for mining purpose

Abstraction Point	Volume (m^3/a)	Purpose
Dewatering using scavenger borehole No. 12	1 000	Borehole, re-use water from opencast and dewatering for mining purpose
Dewatering using scavenger borehole No. 13	1 000	Borehole, re-use water from opencast and dewatering for mining purpose
Dewatering using scavenger borehole No. 14	1 000	Borehole, re-use water from opencast and dewatering for mining purpose
Dewatering using scavenger borehole No. 15	3 000	Borehole, re-use water from opencast and dewatering for mining purpose

- Section 21 (c): Impeding or diverting the flow of water in a watercourse:

  EP is licensed to divert the Kareespruit Tributary at three points, namely, the eastern and western diversions of the Kareespruit Tributary and a road crossing.

- Section 21 (g): Disposing of waste in a manner which may detrimentally impact on a water resource:

  EP is licensed for the following waste management activities, which have the potential to impact on a water resource:

Table 7: Section 21(g) water uses as licensed in the EP WUL.

Waste and/or wastewater Management Activity	Volume	Location
Farm Dam contains grey water from rainfall runoff	1 200 000	Portion 39 of the Farm Elandsfontein 440 JQ
SWD at Plant, contain storm water runoff	4 380	Portion 39 of the Farm Elandsfontein 440 JQ
TSF - the tailings generated by the mining process and deposited into the TSF	5 000 000	Portion 39 of the Farm Elandsfontein 440 JQ and Portions 30, 32, 37, 39 and 200 of the Farm Zilkaatsnek 440JQ
Return Water Dam ("**RWD**")	500 000	Portion 39 of the Farm Elandsfontein 440 JQ
ROM stockpiles, processing of ore	200 000 tons	Portion 39 of the Farm Elandsfontein 440 JQ
WRD	100 000 tons	Portion 37 of the Farm Elandsfontein 440 JQ
Western Quarry stores water from the Lapa Dam, canal, direct rainfall and overflow from the Eastern Quarry	400 000	Portion 39 of the Farm Elandsfontein 440 JQ
Eastern Quarry stores water from Settler - 1 (from TSF and declines dewatering) and direct rainfall	230 000	Portion 39 of the Farm Elandsfontein 440 JQ
Lapa Dam - this serves as backup source of dirty water that can supply (PWD) and stores water from the Farm Dam and Borehole ELW29	33 750	Portion 37 of the Farm Elandsfontein 440 JQ
Direct use for dust suppression at the Concentrator	142 000	Portion 39 of the Farm Elandsfontein 440 JQ
Drying beds	150 m^3	Portion 39 of the Farm Elandsfontein 440 JQ

- Section 21 (i): Altering the bed, banks course or characteristics of a watercourse: EP is licensed for the altering of the banks and profile of the Kareespruit Tributary at three points, namely, the eastern and western diversions of the Kareespruit Tributary and a road crossing.

- Section 21 (j): Removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people. EP is licensed for the removal of a maximum volume of 1 663 500 cubic metres from the opencast and underground mine per annum from the following points:

Table 8: Section 21(j) water uses as licensed in the Eland Platinum WUL.

Abstraction Point	Volume (m^3/a)	Purpose
Dewatering borehole No. 1	120 000	For mining purposes and domestic use
Dewatering borehole No. 2	300 000	To be stored at the Farm Dam and used for mining
Dewatering borehole No. 3	8 500	Domestic use and gardening
Dewatering borehole No. 4	15 000	Domestic use and gardening
Dewatering borehole No. 5	425 000	For mining purpose
Dewatering borehole No. 6	285 000	For mining purpose
Dewatering borehole No. 7	120 000	For mining purposes and domestic use
Dewatering borehole No. 8	120 000	For use at the platinum Concentrator Plant
Dewatering borehole No. 9	120 000	Direct use at the Mine
Dewatering borehole No. 10	142 000	Direct use for dust suppression at the Concentrator Plant
Dewatering borehole No. 11	1 000	Domestic use for admin offices and garden irrigation
Dewatering borehole No. 12	1 000	Domestic use for admin offices and garden irrigation
Dewatering borehole No. 13	1 000	Domestic use for admin offices and garden irrigation
Dewatering borehole No. 14	1 000	Domestic use for admin offices and garden irrigation
Dewatering borehole No. 15	1 000	Domestic use for admin offices and garden irrigation

vii) Exemption received from DWA to register TSF Paddock 1 as a dam with a safety risk on the 26 September 2007.

viii) *Section 102 EMP amendment of the 2008 Zilkaatsnek EMP* to include Portions 13 and 14 of the Farm Schietfontein 439 JQ, compiled by Metago, with reference E-016-21 and dated December 2011) (DMR Ref No: (NW) 30/5/1/2/3/2/1/341EM ("**2010 Zilkaatsnek Schietfontein EMP Amendment**"). This EMP Amendment was approved by the DMR on 19 March 2013 for the following infrastructure:

- Opencast mining operations;
- Underground mining operations;

- Internal haul roads;
- Water pipelines (pit dewatering); and
- Temporary topsoil and waste stockpiles.

ix) The 2012 Proposed Concentrator Plant EIA / EMP was submitted to the DMRE on 19 July 2012 for section 102 approval for the amendment and update of the 2006 Eland EIA/EMP (DMRE Ref No: (NW) 30/5/1/2/3/2/1/280EM) ("**2012 Pending Proposed Concentrator Plant EMP Amendment Application**"). No decision had been issued by the DMRE on the Application and the EMP approval is still pending.

x) Amended IEA, granted by the DMRE in terms of the 2014 EIA Regulations and NEMWA, 2008 WML Activities List, and issued on 10 February 2020 - Ref No: NW 30/5/1/2/3/2/1/280EM ("**Re-mining 2020 IEA**") for the Elandsfontein Mining Right area, pursuant to an EIA/EMP compiled by CHEMC Environmental (Pty) Ltd ("**CHEMC**") and dated January 2019 ("**2019 Re-mining EIA/EMP")**. The Re-mining 2020 IEA was granted for the following activities:
    - Re-mining of the tailings in Paddock 1;
    - Construction and upgrading of affected and clean water storage infrastructures;
    - Drilling of dewatering borehole;
    - Construction of a Grout Plant; and
    - Bulk sampling of the Merensky Reef and construction and commissioning of associated activities and infrastructure.

Note: As EM was purchased by EP, all the authorisations, licenses and permits have been transferred from the previous owner (i.e. Eland Platinum Mine (Pty) Ltd ("**EPM**"), a subsidiary of Glencore Operations South Africa (Pty) Ltd ("**GOSA**") (formerly "Xstrata South Africa (Pty)_Ltd")) to EP.

EP also holds the following EAs in respect of pending prospecting rights applications for properties bordering the Zilkaatsnek Mining Rights area:

i) EA from the DMRE in terms of the 2014 EIA Regulations, issued on 1 November 2019 (DMRE Ref No: NW 30/5/1/1/3/2/1/12469EM) ("**Zilkaatsnek Prospecting Right EA**"), pursuant to a basic assessment report ("**BAR"**), compiled by CHEMC and dated 23 January 2019. The EA was granted for prospecting activities on Portions 83, 86 and 197 (a portion of Portion 113) of the Farm Zilkaatsnek 439JQ.

ii) EA from the DMRE in terms of the 2014 EIA Regulations, issued on 12 February 2020 (DMRE Ref No: NW 30/5/1/1/3/2/1/12604EM ("**Schietfontein and Krelingspost Prospecting Right EA**"), pursuant to a BAR, compiled by CHEMC and dated 11 November 2019. The EA was granted for the prospecting activities on Remaining Extents of Portions 5, 32, 99 and Portions 24 (a portion of Portion 2), 33 (a portion of Portion 32), 34 (a portion of Portion 2), Portions 100 and 101 (portions of Portion 99) of the Farm Schietfontein 437 JQ and Portions 2, 3 and Portions 70, 71, 72, 73, 74 and 75 (portions of Portion 67), 76, 79 and 80 of the Farm Krelingspost 425 JQ.

2.4.2 Maroelabult

MM is an existing mine, which is currently in the process of being acquired by EP. MM is owned and operated by Barplats, a subsidiary of Eastplats (Pty) Ltd and has been in care and maintenance since July 2013. MM is governed by the requirements of the MPRDA and the Regulations thereunder. NEMA and the 2014 EIA Regulations also apply to MM. In this regard, apart from the three valid mining rights, MM also operates with the following environmental approvals, licenses and permits (This list does not cover occupational health and safety legislation requirements):

i) *EMP compiled by SRK Consulting and dated August 2000*, with reference number 269179, for the MM and Zandfontein Mine for Mining Rights 151, 78 and 363 MR, approved by the DMRE on 30 January 2001 ("**Initial 2000 MM EMP**"). The Initial 2000 EMP includes the following at the MM:
   - Three overburden dumps from initial development of the workings;
   - STP;
   - Potable WTP;
   - Water storage dam and pump station;
   - Ventilation Shafts;
   - 11kV sub-station; and
   - Three ore stockpiles, one for underground and two for opencast ore.

ii) An exemption under section 21(4) of the Water Act No 54 of 1956, from the then Department of Water Affairs and Forestry ("**DWAF**"), under reference number 2108B, dated 31 May 2001, for the authorisation of use for industrial purposes a maximum quantity of 2,036,700m^3 of water per annum ("**Exemption 2108B**"). The basis of this annual volume of water in respect of MM is:
   - 5475 m^3 – treated sewage effluent from the Maroelabult Section;

- 51100 m^3 - from the Crocodile River Mine for use at the concentrator, shaft make-up water, offices, gardens and other industrial uses;
- 73000 m^3 - Hartbeespoort Irrigation Channel for Maroelabult Section.

In addition, annual effluent and contaminated water disposal authorisation was granted under the same Exemption Number for 4398 m^3 - of mining effluent to settling ponds at shafts for settling, evaporation and reuse at Maroelabult Section.

iii) *EMPr for 78 MR*, compiled by Metago and dated October 2005, with reference number B012-01, approved by the DMRE on 31 October 2005 ("**78MR EMP**"). The 78MR EMP was submitted as part of the application for 78 MR, to extend the underground mining on the properties held under it.

iv) *EMPr for 363 MR*, compiled by Metago and dated September 2008, with reference number B012-24, approved by the DMRE on 29 January 2008 ("**363MR EMP**"). The 363MR EMP was submitted as part of the application for 363 MR, to extend the underground mining on the properties held under it.

v) A WUL from the then DWS under section 21 of the NWA for water uses associated with the MM area. The WUL was issued on 15 June 2017 (License No: 04/A21J/ABCFGIJ/5045) ("**MM WUL**") and licenses the following water uses:
   - Section 21 (a) of the Act: Taking water from a water resource from the following points:

Table 9: Section 21(a) water uses as licensed in the MM WUL.

Abstraction Point	Volume (m^3/a)	Property	Purpose
Abstraction of water at the highwall entrance point to the incline, pump out of incline for dewatering	686 712	Portion 297 of the Farm De Kroon 444 JQ	Underground water from the aquifer out of the shaft, for mining use and some will be discharged into the stream

- Section 21(b) of the Act: Storing of water at the following points:

Table 10: Section 21(b) water uses as licensed in the MM WUL.

Storage Point	Volume (m^3/a)	Property	Purpose
Circular Steel Water tank at the top of the incline for storage of potable water	1 221	Remaining Extent of Portion 48 of the Farm De Kroon 444 JQ	Storing of potable water for domestic use
Circular Steel Water tank just before the underground portal for the storage of potable water	74	Portion 297 of the Farm De Kroon 444 JQ	Storing of potable water for domestic use
Circular Steel Water tank for the storage of potable water to be used in the event of fire, for fire suppression	74	Remaining Extent of Portion 48 of the Farm De Kroon 444 JQ	Storing of potable water to be used in the event of fire, for fire suppression

- Section 21(c) and (i) of the Act for impeding or diverting the flow of water in a watercourse and altering the bed, banks, course or characteristic of a watercourse for the following structures:

Table 11: Section 21(c) and (i) water uses as licensed in the MM WUL.

Description	Co-ordinates	Property	Purpose
Bridge over watercourse	S25º38'26.57" E27º50'37.99"	Portion 123 of the Farm De Kroon 444 JQ	Bridge over the watercourse to gain access to the Maroelabult Mining Section

- Section 21(f) of the Act: Discharging Waste or Water Containing Waste into a Water Resource, through a pipe, canal, sewer or other conduit for the following volumes:

Table 12: Section 21(f) water uses as licensed in the MM WUL.

Description	Co-ordinates	Property	Volumes (m^3/a)
Discharge of excess water into the unnamed tributary to the Crocodile River	S25º 38'48.18" E27º 50'22.57"	Portion 119 and 120 of the Farm De Kroon 444 JQ	315 865

- Section 21 (g) of the Act: Disposing of Waste in a manner which may detrimentally impact on a Water Resource for the following areas:

Table 13: Section 21(g) water uses as licensed in the MM WUL.

Waste and/or wastewater Management Activity	Capacity	Location
Disposal of waste rock from overburden onto WRD 1 (existing - will not expand).	1 456 456 m^3	Remaining extent of Portion 48, Remaining Extent of Portions 49 and Portion 297 of the Farm De Kroon 444 JQ
Disposal of waste rock from overburden onto WRD 2 on the eastern side of the mining area.	783 087 m^3	Portion 161 of the Farm De Kroon 444 JQ
Disposal of underground water, for dewatering the mine and water used in mining, from underground into Settling Ponds (2 dams and reed beds - one unit).	7 692 m^3	Remaining extent of Portion 48 and Portion 119 of the Farm De Kroon 444 JQ
Disposal of water from the Settling Ponds, into the bottom dam	16 720 m^3	Portions 119 and 120 of the Farm De Kroon 444 JQ
Dust suppression with water from the bottom dam on the dirt road to the entrance of the Maroelabult mining section	16 608 m^2 (area to be suppressed)	Remaining Extent of Portions 48, 119, 120 and 123 of the Farm De Kroon 444 JQ
Disposal of waste rock from WRDs 1 and 2 for backfilling of the underground workings and sealing of the shaft		Portion 297 of the Farm De Kroon 444 JQ

- Section 21 (j) of the Act: 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 for the following points and volumes:

Table 14: Section 21(j) water uses as licensed in the MM WUL.

Abstraction Point	Volume (m^3/a)	Property	Purpose
Abstraction of water at the highwall entrance point to the incline, pump out of incline for dewatering	686 712	Portion 297 of the Farm De Kroon 444 JQ	Underground water from the aquifer out of the shaft, for mining use and some will be discharged into the stream

vi) Amended IEA issued by the DMRE on 5 October 2018 in terms of the 2014 EIA Regulations and 2013 WML Regulations - Ref No: NW 30/5/1/2/3/2/1/ (78, 151, 307, 332 & 363) EM ("**MM 2018 IEA**"), pursuant to an EIA and EMP, compiled by Envass Environmental Assurance (Pty) Ltd and dated January 2015. The IEA was granted for the following waste management activities in respect of MM:

- STP;
- Existing salvage yard; and
- Existing 2 WRDs.

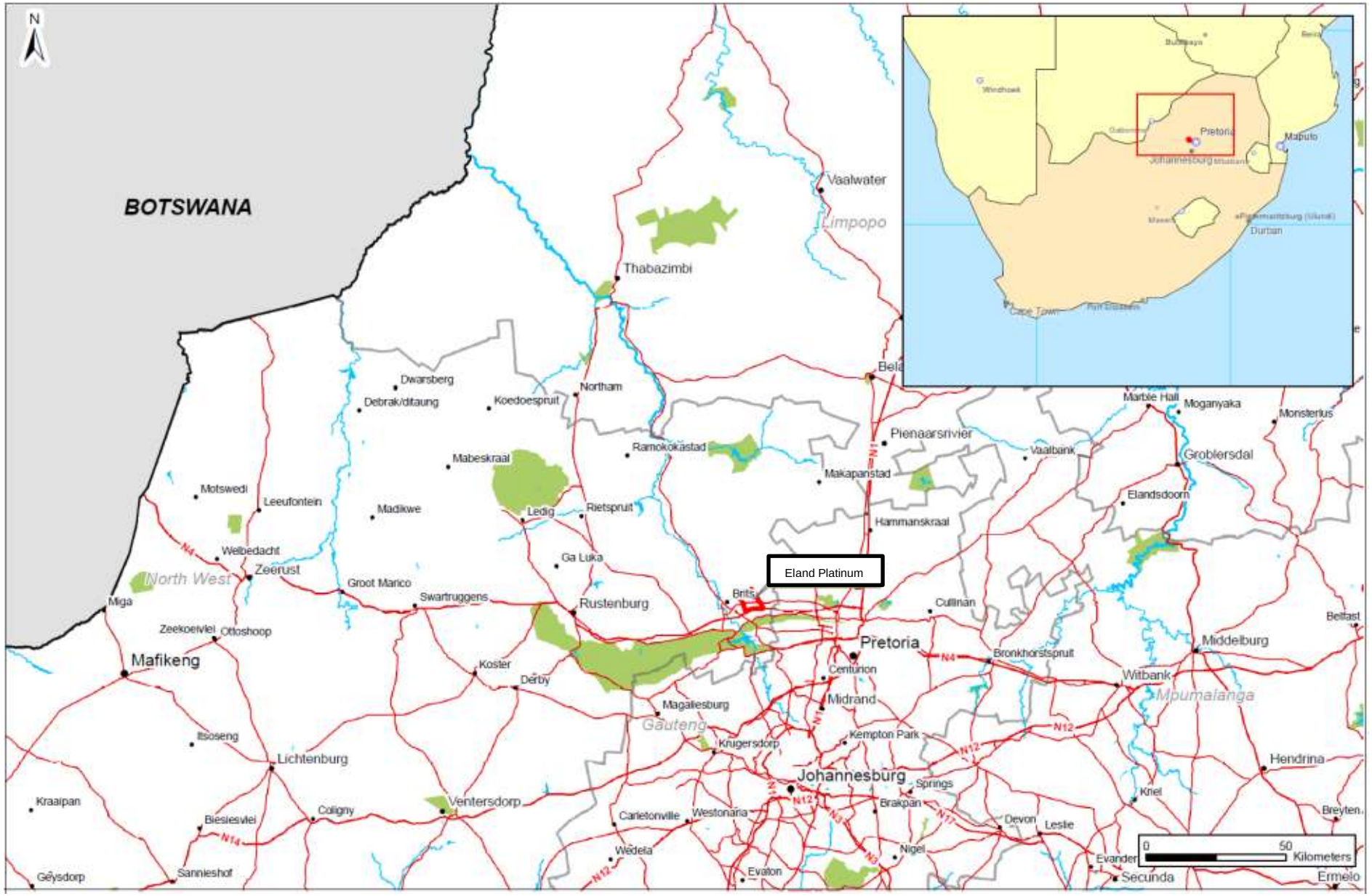

Figure 1: Regional locality map of Eland Platinum Mine (Highlands Hydrology, 2018)

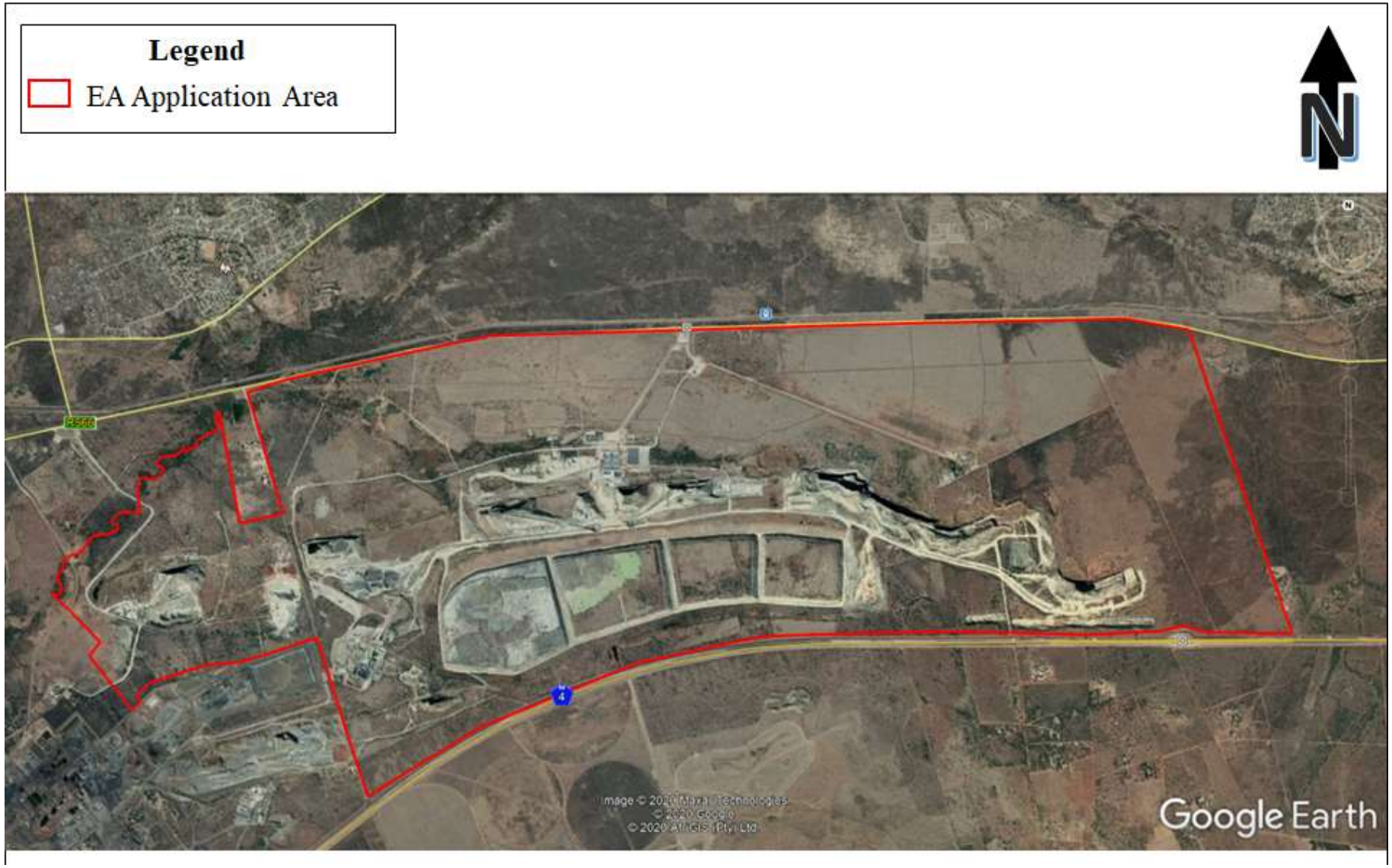

Figure 2: Aerial locality map of Study Area

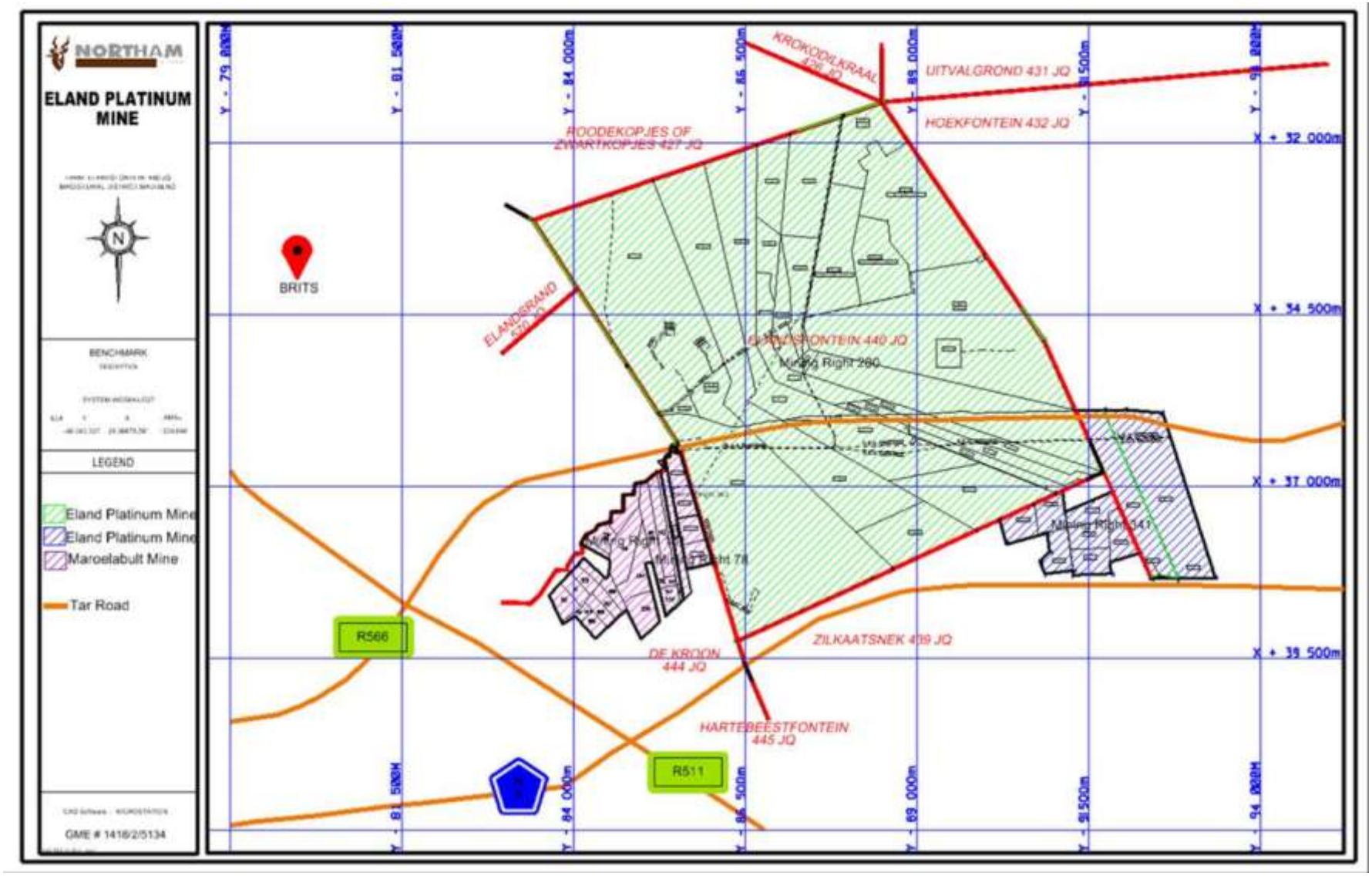

Figure 3: Property Boundaries of the Consolidated MR Area

3. DESCRIPTION OF THE SCOPE OF THE PROPOSED OVERALL ACTIVITY:

3.1 Listed and specified activities

Provide a plan drawn to a scale acceptable to the competent authority but not less than 1: 10 000 that shows the location, and area (hectares) of all the aforesaid main and listed activities, and infrastructure to be placed on site and attach as **Appendix 4.**

3.1.1 Overview of Operation

3.1.1.1 Eland Mine Operations

I. Mine Overview

EM is an established mine, with a Concentrator Plant that produces PGM and chromite concentrate. A description of the operational mining and processing activities is provided below (Refer to ***Figure 4***).

II. The Mining Processes

Two different mining methods are undertaken at EM at two sections, namely underground mining at Elandsfontein and opencast mining at Zilkaatsnek. The different mining sections and methods are descried below.

a. Elandsfontein

- *Previous Opencast Section*

Opencast mining operations commenced in 2006 prior to the commissioning of the Concentrator Plant, to build up an ore stockpile. The opencast workings were accessed via two boxcuts, located along the length of the UG2 outcrop. Mining took place on both sides of each of the boxcuts (SLR, 2012). Excess waste rock was used for the construction of the TSF Paddocks and roads.

The opencast reserves on the Farm Elandsfontein have been mined out (SLR, 2012). There are currently six void areas within the opencast mining area. These include:

- a western void – authorised water reservoir;
- the two portals for the underground decline systems – Kukama and Nyala Shafts;
- two small void areas adjacent to each of the declines; and
- an eastern void on the Farm Elandsfontein, located adjacent to the Zilkaatsnek Mining Right area – which will be backfilled as part of the Integrated DMRE Environmental Application.

- *Underground*

The underground mining operation is divided into two mining blocks. These areas are accessed through two decline portals in the high wall of the initial opencast boxcuts (SLR, 2012). These are referred to as the Nyala (eastern portal) and Kukama (western portal) Shafts. Each portal contains two declines, providing access to the underground workings.

b. Zilkaatsnek

- *Opencast*

The mining method for the Zilkaatsnek opencast operation comprise of a series of boxcuts, which, once the ore has been removed, the next cut of overburden will be removed and the initial void backfilled. Voids will be backfilled as part of this project.

c. Tailings Re-mining

EP has been authorised to re-mine the tailings in Paddock 1. The tailings are re-mined using hydro-mining, where the slurried tailings are piped to the Concentrator Plant where the PGM and chromite minerals are extracted.

d. Ore from outside sources (unprocessed tailings)

EP is also currently processing ore from outside sources. The ore is hauled by truck from local sources to EM. The ore is stored on the existing approved ROM Stockpile and is hydro-mined and pumped to the Concentrator Plant where it is milled and further processed.

e. Run-of-mine from neighbouring mines

EM receives run-of-mine ("**ROM**") from a neighbouring mine, which is transported to the Concentrator Plant where it is crushed and milled. In the FSR waste management plan will include these external sources.

Note: As part of this application EP is proposing to undertake

- Opencast extraction of the Merensky Reef to the North of the existing opencast pits and

- Upper Group 1 (UG1) extraction inside Paddocks 2, 3 and 4 of the TSF. These activities are further discussed under ***Section 3.2*** below.

III. The processing processes

The current mineral processing operations comprise of one Concentrator Plant, with the option of adding an additional concentrator plant in future. The expansion has been authorised as detailed in the 2012 Proposed Concentrator Plant EA (SLR, 2012).

The existing Concentrator Plant comprises of the following: ROM ore stockpiling, ore storage (silo), crushing and screening, milling and flotation circuits, concentrate handling, a chromite recovery circuit and a TSF. The Concentrator Plant has a capacity to process 250 000 tonnes per month and is designed to produce PGM and chromite concentrate.

- *ROM Processing*

Underground mining will take place at the EM's Kukama Shaft and Nyala Shafts. The ROM will be transported to the Concentrator Plant, where it will be crushed and milled. PGM will be extracted from the milled ore by floatation. The tailings from the floatation will then be fed to a Chrome Extraction Plant, where chrome concentrate will be extracted using gravity separation. The final tailings will then be deposited on the existing TSF Paddocks. The PGM concentrate will be transported off mine to a Smelter for further processing and the chromite concentrate sold to the market.

Note: EP is investigating the sourcing of outside ROM from nearby mines, and subsequently will be developing two additional ROM stockpiles to accommodate the upscale in ROM processing.

- *Tailings Re-mining*

The hydro-mining and reprocessing of the tailings in the existing TSF Paddock 1 has been authorised by the DMRE. PGM is extracted from the re-mined tailings by floatation. The tailings from the floatation is fed to a Chrome Extraction Plant, where chrome concentrate is extracted by using gravity separation. The final tailings is deposited on the existing TSF Paddocks. The PGM concentrate is transported off mine to a Smelter for smelting and the chromite concentrate sold to the market.

Note: EP is proposing to backfill the existing opencast pits at EM with re-processed tailings. This activity will form part of this Integrated DMRE Environmental Application and is further discussed under ***Section 3.2***.

- *Ore from outside source*

Ore sourced from outside sources is transported and stockpiled on the existing ROM stockpile area. The stockpiled ore is hydro-mined and pumped to the Concentrator Plant, where it is

milled (CHEMC, 2019). PGM is extracted from the milled ore by floatation. The tailings from the floatation is fed to a Chrome Extraction Plant, where chrome concentrate is extracted using gravity separation. The final tailings is deposited on the existing TSF Paddocks. The PGM concentrate is transported off mine to a Smelter for smelting and the chrome concentrate sold to the market.

- *Grout plant/backfill plant*

Limited quantities of the tailings stored in the TSF is processed in a backfill plant to produce cementitious backfill, which is pumped underground for ground support.

3.1.1.2 Maroelabult Operations

I. Mine Overview

Mining at MM commenced in the early 2000's and was a formerly successful opencast mine that was converted to an underground operation accessed via decline shafts.

II. The Mining Processes

MM is equipped with an access decline on the reef out of high wall for primary access. It reached maximum high wall depth at approximately 60m in March 2002. After this, it was transitioned to underground mining following the 1.4m high reef with two decline shafts, using a low-profile mechanised operation to conveyor. The access decline at MM is used for entrance to the mine and material transportation, by conveyor system.

III. The Concentrator processes

Platinum ore from the mining operation was originally processed at the existing Zandfontein Concentrator Plant. However, MM was placed in care and maintenance in 2012. EP is currently in the process of acquiring the MM, which is one of the reasons for lodging of this Application.

Note: The MM will be consolidated with the existing neighbouring EM. Once the mining operations re-commence at MM, the ROM from MM will be processed at the EM Concentrator Plant. In addition, the Boundary Pillar on the UG2 reef horizon between MM and EM will be mined, which will allow for future underground infrastructure and resource abstraction synergies.

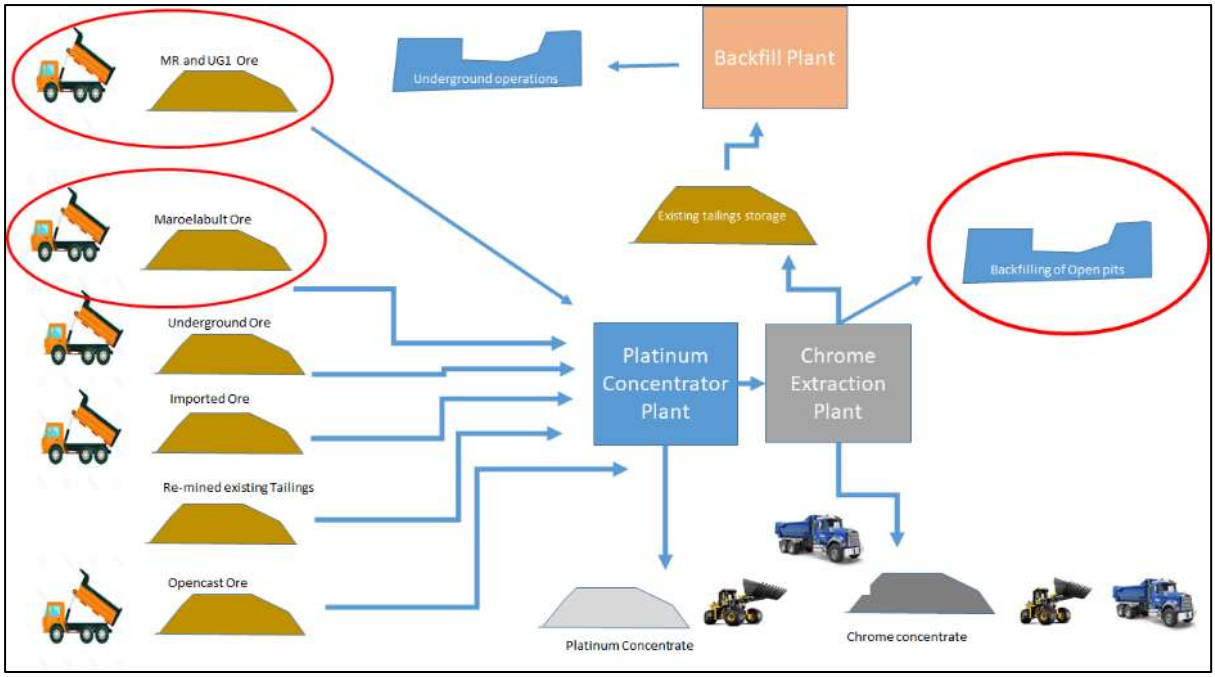

Figure 4: Eland Platinum Operation Process Flow Diagram (red circles represent the proposed additions to the process flow).

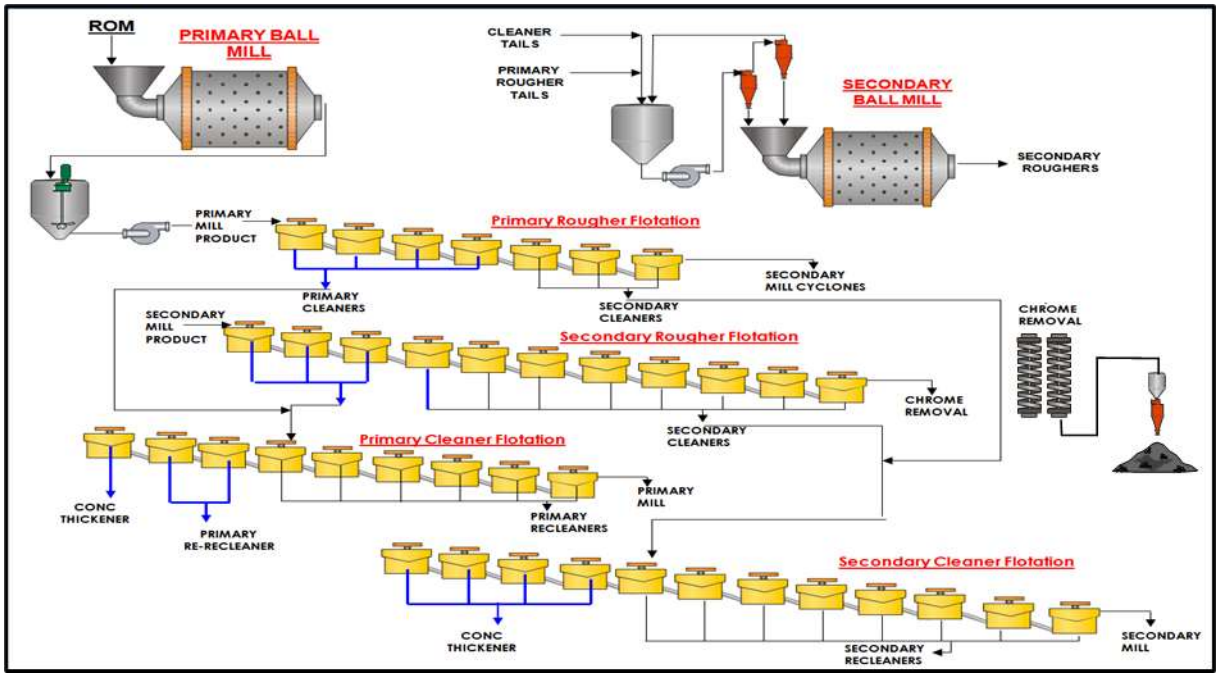

Figure 5: Processing Plant Flow Diagram

3.1.2 Proposed Activities

The purpose of the Integrated DMRE Environmental Application is:

- the Environmental Licence Consolidation Application (for the consolidation of the existing EMPrs, EAs and WMLs for EM ("**EM Environmental Licences**") and the Maroelabult EMPrs and IEA for the Sale Portion Area ("**MM Environmental Licences**") into the Elandsfontein 2006 EMPR); and
- apply for an IEA for the EP Proposed Projects ("**EP Proposed Projects IEA Application**").

The project will also include consolidating the EP and MM WULs and IWULA.

The proposed listed activities in NEMA and NEWA will be triggered as part of the EP Proposed Projects IEA Application:

Table 15: List of proposed activities

NAME OF ACTIVITY (All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)	AERIAL EXTENT OF THE ACTIVITY Ha OR m²	LISTED ACTIVITY Mark with an X where applicable or affected.	APPLICABLE LISTING NOTICE (GNR 544, GNR 545 or GNR 546) /NOT LISTED
1. Establishment of temporary construction camp	+/- 1000 m²	N/A	Not listed
2. **Backfilling of the existing opencast pits with current tailings produced**	**+/- 40 Ha**	**X**	**GNR984 GN.633 Category B Section 21(g)**
3. **Construction and operation of Topsoil, WRDs and Overburden Stockpiles for the Merensky Reef mining Area**	**+/- 5 Ha**	**X**	**Section 21 (g) GNR 984 GN.633 Category B**
4. **Upgrading and expansion of haul roads for the transportation of material and general equipment movement**	**+/- 2 Ha**	**X**	**GNR 983 GNR 985**
5. **Expansion of existing pipelines; development of the Water Management Pipelines and Pits Pipelines; and operation of two pipelines present on the Sale Portion, conveying wastewater from the underground workings to the Pre-Settler Dams and Final Dam ("Sale Portion Pipelines")**	**+/-1 Ha**	**X**	**GNR 983 GNR 985**
6. **Vegetation clearance and topsoil stripping for the opencast mining of the Merensky Reef and associated infrastructure at EM, including Overburden Stockpiles and WRDs; two ROM Stockpiles at EM; 11kV substation and electricity distribution line at MM; two new Ventilation Shafts at EM; pipelines and associated infrastructure; and new haul roads at EM.**	**+/- 90 Ha**	**X**	**GNR 984 GNR 985**

NAME OF ACTIVITY (All activities including activities not listed) (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.)	AERIAL EXTENT OF THE ACTIVITY Ha OR m²	LISTED ACTIVITY Mark with an X where applicable or affected.	APPLICABLE LISTING NOTICE (GNR 544, GNR 545 or GNR 546) /NOT LISTED
7. **Mining of the UG1 Reef inside Paddocks 2, 3 and 4.**	**+/- 61 Ha**	**X**	**GNR 984**
8. **Construction and operation of a CFP and associated infrastructure at the MM shaft within existing operational area**	**+/- 2 Ha**	**X**	**GNR 984**
9. **Development and operation of two ROM stockpiles**	**+/- 16 Ha**	**X**	**GNR 984 Section 21 (g)**
10. **Mining of MM, including the Boundary Pillar on the UG2 reef horizon between MM and EM and operating infrastructure at MM directly related to mineral resource extraction, including the conveyor, ventilation shaft and decline shaft**	**+/- 2.4 Ha**	**X**	**GNR 984**
11. **Construction of new electricity substation and distribution infrastructure**	**+/- 1 Ha**	**X**	**GNR 983 GNR 985**
12. **Raise-boring of two Ventilation Shafts at EM**	**+/- 2 Ha**	**X**	**GNR 984 GNR 985**
13. **Crushing and re-working of WRD at MM**	**10 Ha**	**X**	**GNR984 GN.633 Category B**
14. **Construction and expansion of infrastructure in proximity or across watercourses, including the pump stations and the Water Management Pipelines**	**+/- 1 Ha**	**X**	**GNR 983 GNR 985 Sections 21 (c) and (i)**
15. **Operating an existing hydrocarbon storage tank at MM**	**200 m²**	**X**	**GNR 983 GNR 985**
16. **Operating the existing conveyor at MM**	**+/- 1 Ha**	**X**	**GNR 984**
17. Building rubble and construction waste will be generated during the construction of the EP Proposed Projects.	+/- 500 m²	N/A	Not listed
18. Decommissioning of the temporary construction camp	+/- 1000 m²	N/A	Not listed
19. Rehabilitate and replace the topsoil	Unknown	N/A	Not listed
20. Continued ground and surface water monitoring	Unknown	N/A	Not listed
21. **Dust suppression and monitoring**	**Unknown**	**N/A**	**Section 21(g)**
22. Maintaining and training of emergency preparedness and response plan	unknown	N/A	Not listed

3.2 Description of the activities to be undertaken

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

a) Consolidation of the Mining rights, IEAs and EMPr(s) into one integrated EMPr

EM is an established mining and processing operation and is operated under the two mining rights, namely Zilkaatsnek and Elandsfontein Mining Rights. EP recently concluded the Sale Agreement to purchase MM, which is owned by Barplats. MM was placed under care and maintenance in July 2013. The MM is situated to the west of EM.

As noted above, EP has submitted the Section 102 Application. As part of the Environmental Licence Consolidation Application, EP has applied to consolidate all the EM Environmental Licences and MM Environmental Licences ("**EM / MM Environmental Licences**") into the Elandsfontein 2006 EMPR, as one integrated EMPr. The EM / MM Environmental Licences to be integrated into the Elandsfontein 2006 EMPR include:

- 2007 NWDACE EA;
- Zilkaatsnek 2008 EMPR;
- 2010 Zilkaatsnek 84/97 EMP Amendment;
- 2012 Proposed Concentrator Plant EA;
- 2010 Zilkaatsnek Schietfontein EMP Amendment;
- 2012 Pending Proposed Concentrator Plant EMP Amendment Application;
- 2019 Re-mining EIA/EMP;
- the portion of the Initial 2000 MM EMP relevant to the Sale Portion Area;
- the portion of the 78MR EMP relevant to the Sale Portion Area;
- 363MR EMP; and
- the portion of the MM 2018 IEA relevant to the Sale Portion Area.

This is referred to as the "**Consolidated EMPR**."

The granting of the Environmental Licence Consolidation Application will facilitate a more streamlined and simplified environmental management implementation process and support the mining rights consolidation.

b) Consolidation of the Water Use Licenses ("WUL") for EM and Maroelabult

EM and MM both have WULs, issued in terms of section 21 of the NWA. The license conditions for both independent WULs would be unnecessary onerous and would have double cost implications in the long run if they are not consolidated. It also creates an additional administrative burden for the DHSWS. Therefore, the two WULs will be consolidated into one WUL that will include an integrated approach for all water uses for the Consolidated MR Area through the WUL Consolidation Application. The WUL Consolidation Application will also include application for the amendment of the existing EP WUL, with the inclusion of the following water uses, listed under section 21 of the NWA, and GNR. 704 exemptions:

- *sections 21 (a) and (j) water uses*: for additional dewatering points at EM for the removal of water from mine workings;

- *sections 21(c) and (i) water uses*: for the construction of mining infrastructure within 500m of possible wetlands and watercourses; and
- *section 21(g) water uses*: for two new ROM Stockpiles, dust suppression with mine affected water, WRDs and backfilling of the opencast pits at EM with current tailings produced.

c) ***Mining at Maroelabult, including the Boundary Pillar on the UG2 reef horizon between EM and Maroelabult***

EP intends to conduct underground mining at MM, including the Boundary Pillar on the UG2 reef horizon between the MM and EM. The mining and interconnecting the two operations will have potential long-term ventilation and safety direct benefits for EP and indirect socio-economic benefits for the surrounding communities.

d) ***Addressing Gaps identified in the Maroelabult EMPr(s)***

EP is in the process of acquiring the MM, however there are gaps in the Maroelabult EMPrs The Consolidated EMPr will include all infrastructure on the Sale Portion Area and address and update the gaps. The application for an IEA will also include facilities and activities that EP requires authorisation for the operations of under the 2014 EIA Regulations.

e) ***Construction and operation of two ROM stockpiles***

EP intends to construct two new ROM stockpile areas at EM in the following locations: (i) to the west of the Concentrator Plant on an existing disturbed laydown area; and (ii) on a backfilled opencast pit to the west of the Kukama Shaft.

f) ***Construction and commissioning of associated infrastructure***

To facilitate the abovementioned activities of the EP Proposed Projects and future mining development, EP will require associated infrastructure for the conveyance and transportation of the mine material (i.e. pumping of tailings etc.), water (clean and dirty) and electricity within and between the EM Surface Area and the area on which infrastructure is situated at MM ("**MM Surface Area**").

g) Raise-boring and operation two Vent Shafts

EP is proposing to sink two Ventilation Shafts at EM. The Shafts will be crucial for the underground development of mine workings and to ensure the health and safety of workers underground (refer to Figure 7). One of the ventilation shafts is required by the neighbouring mine to access the MG1 and MG2 reefs below the EP Concentrator Plant and TSF.

h) Mining of the Merensky Reef, including associated infrastructure

EP has identified a feasible amount of minerals in the Merensky Reef outcrop, situated to the north of the existing UG2 opencast section of EM. It is proposing to mine the Merensky Reef via opencast truck and shovel and process the material at the Concentrator Plant. The project will include vegetation clearance; topsoil stripping; and the construction of haul roads, stormwater berms and infrastructure and Overburden Stockpiles and WRDs. The Merensky Reef will be mined in four sections, and provision will be made for the rehabilitation and restoration of the area post-mining.

i) Mining of the UG1 in the existing TSF Paddocks 2, 3 and 4

EP has identified a feasible amount of minerals in the UG1 Reef situated inside the existing approved and licensed TSF Paddocks 2, 3 and 4. It is proposing to mine the UG1 within the Eland Mining Rights Area via opencast truck and shovel and process the material at the Concentrator Plant. TSF Paddocks 2, 3 and 4 have already been constructed and will remain after the UG1 material has been mined-out and continue to function as authorised.

j) Backfilling of existing opencast pits with tailings

EM has a number of opencast pits that are due for rehabilitation. Currently EP is authorised to dispose of its current tailings arising in the licensed TSF. However, based on preliminary modelling and chemical analyses it is considered highly feasible to use the current tailings arising as backfilling material in the opencast pits. EP is therefore proposing to use tailings as backfill material for rehabilitation and safe-making purposes ("**Opencast Pits Backfilling Project**"). The backfilling will require construction of the Pits Pipelines.

k) Construction and operation of a Chrome Floatation Plant (CFP) and associated infrastructure

EP is proposing to construct and operate a new CFP and associated infrastructure at MM Shaft, on the existing disturbed MM Surface Area. The chrome rich material will be sourced from different sources: EM, MM and third parties.

l) Waste rock dump re-processing

On the EM and MM there are several WRDs and Overburden Stockpiles. EP is proposing to re-process (i.e. crushing and screening) the a WRD at MM on Portion 161 of De Kroon 444 JQ ("**MM WRD**") for material for secondary uses.

The Integrated DMRE Environmental Application is therefore submitted for the abovementioned activities. The Project Area will consist of a total footprint of **+/- 227 Ha**.

The EP Proposed Projects will be constructed and operated within the EM Surface Area and MM Surface Area ("**Consolidated MR Surface Area**").

Refer to the ***Figure 6 - 10*** below for an indication of the location of the EP Proposed Projects. Technical specifications and engineering drawings will be included as part of the EIAR.

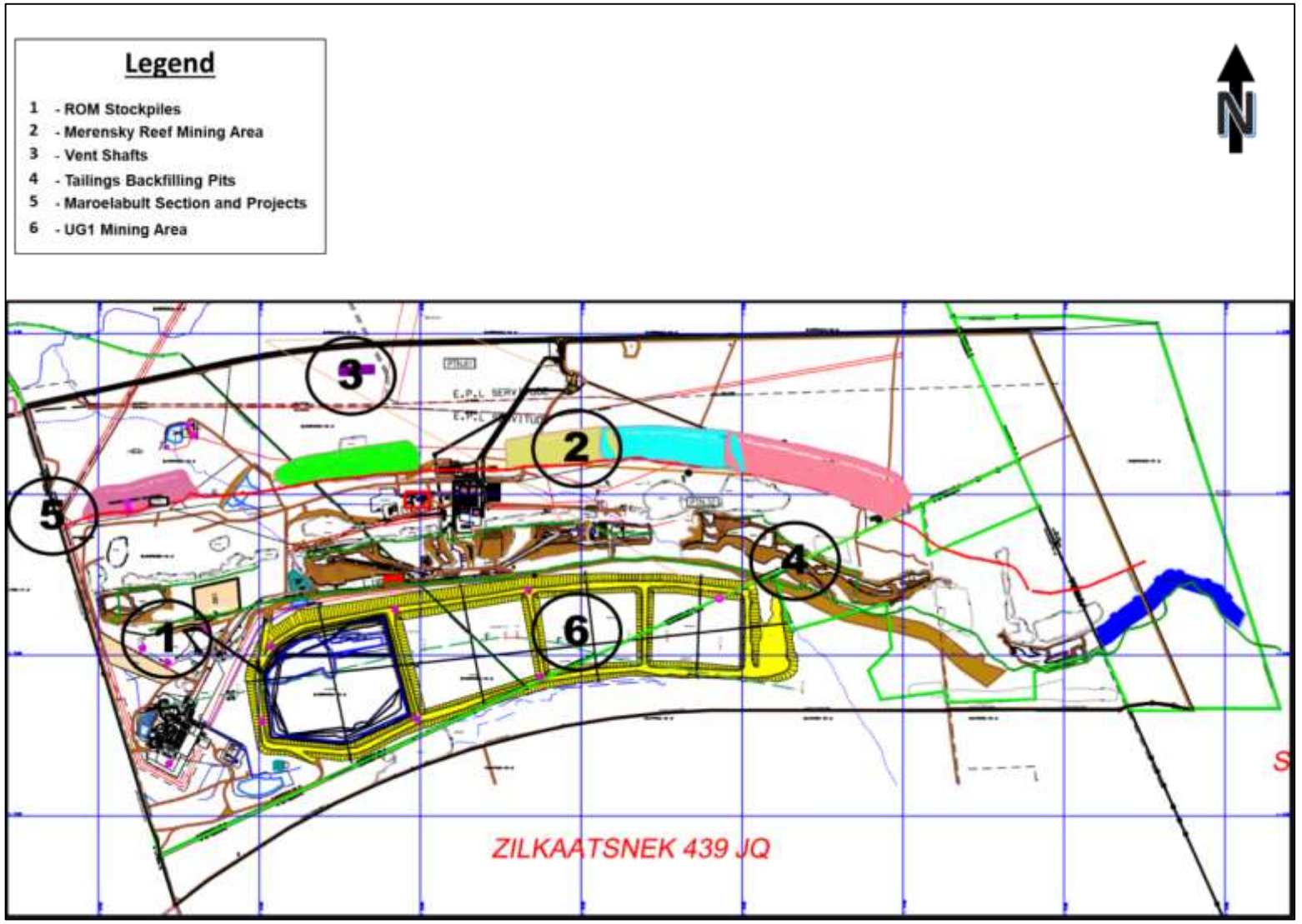

Figure 6: Surface Plan indicating the location of the EP Proposed Projects

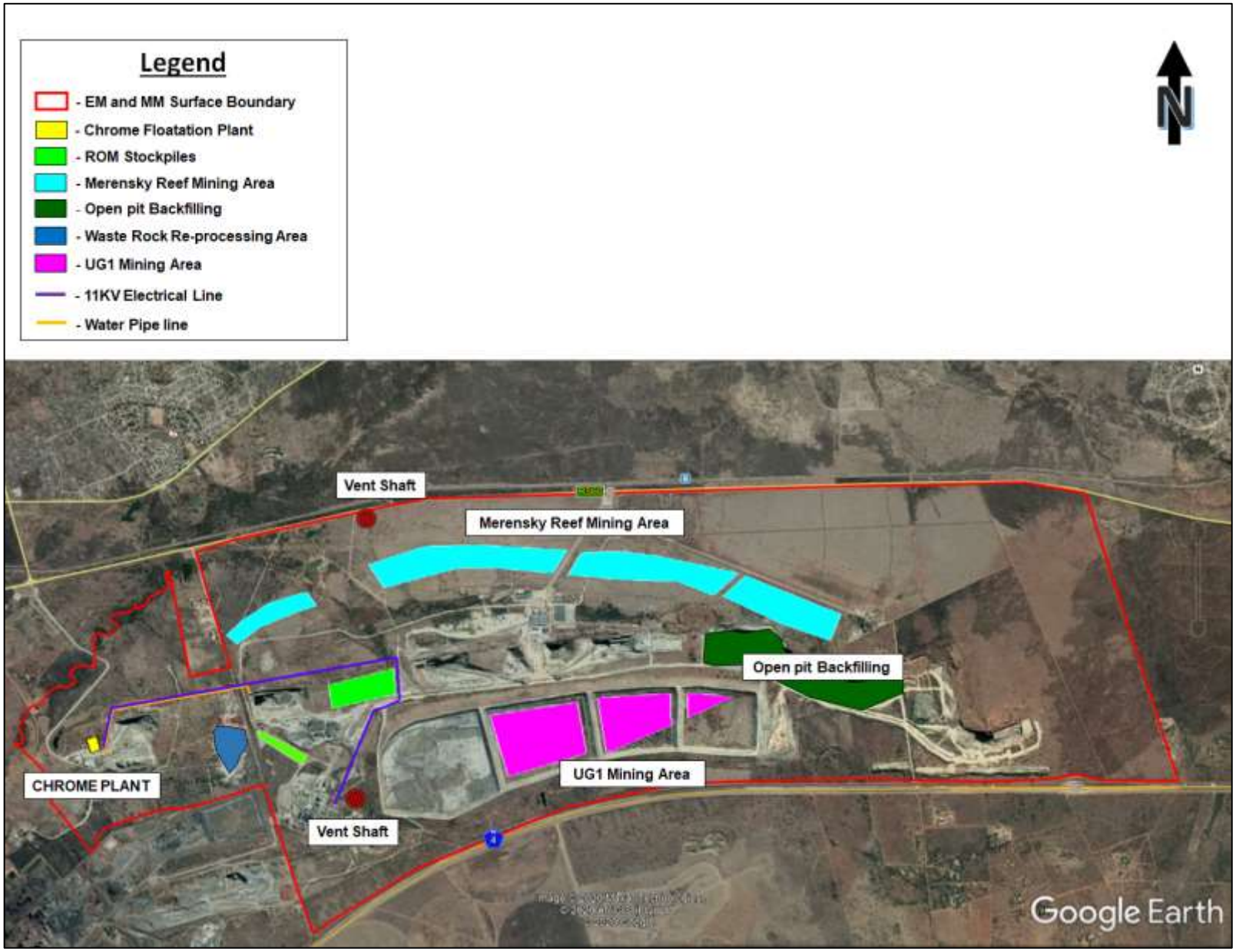

Figure 7: Map illustrating the location of the EP Proposed Projects

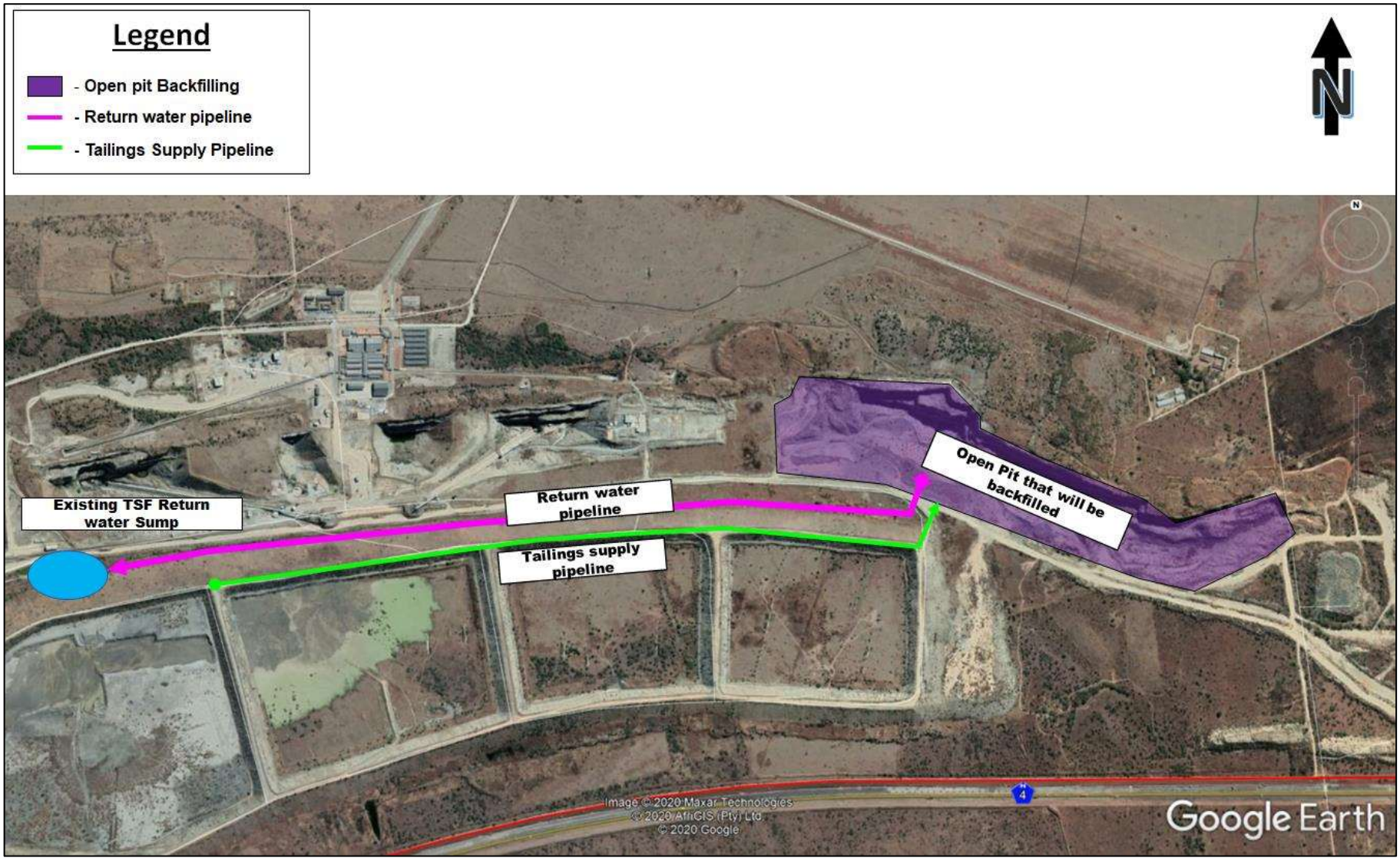

Figure 8: Aerial Map of the Opencast Pits Backfilling Project, including associated infrastructure.

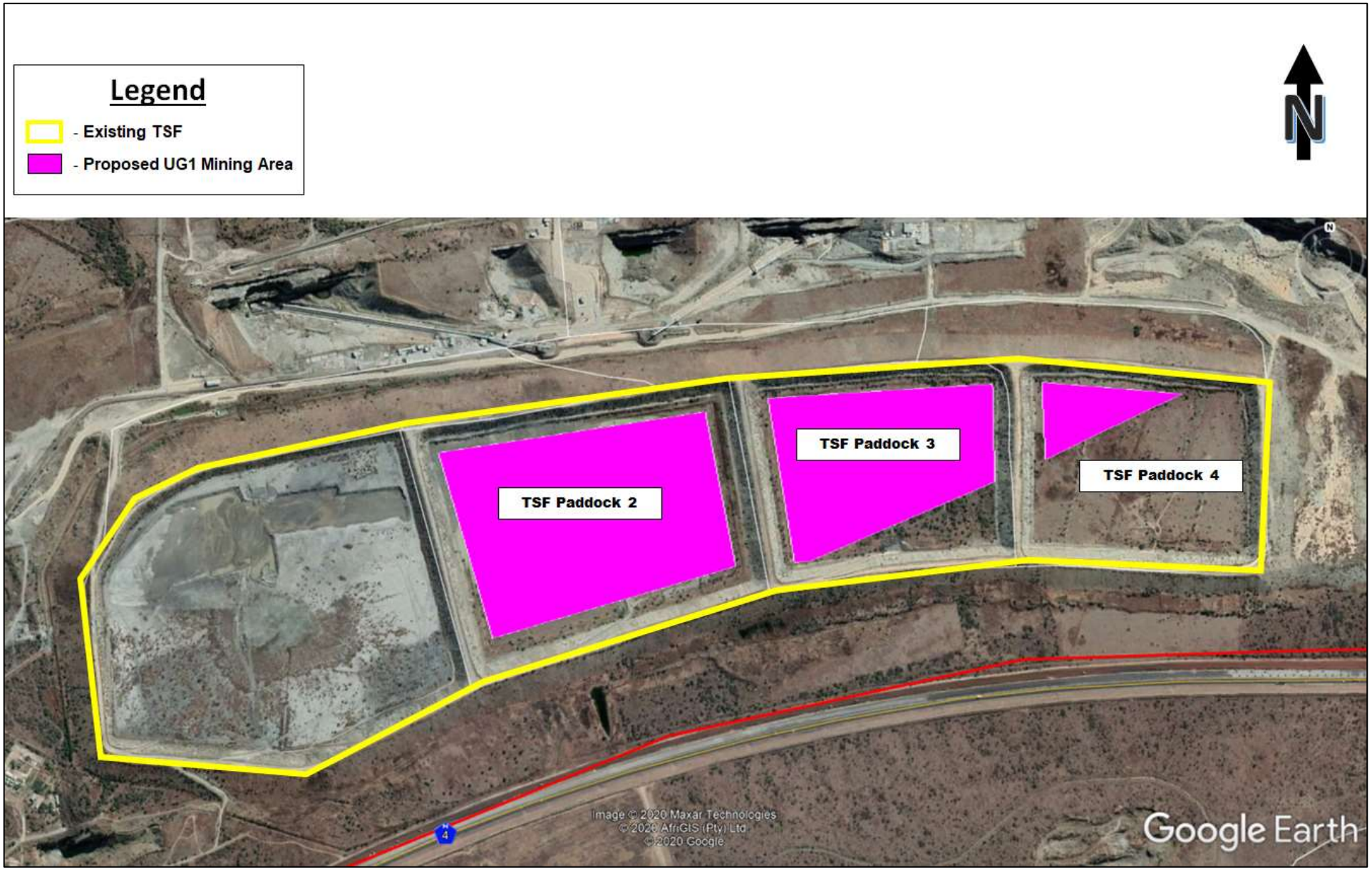

Figure 9: Aerial Map of the proposed UG1 mining area inside the existing TSF Paddocks.

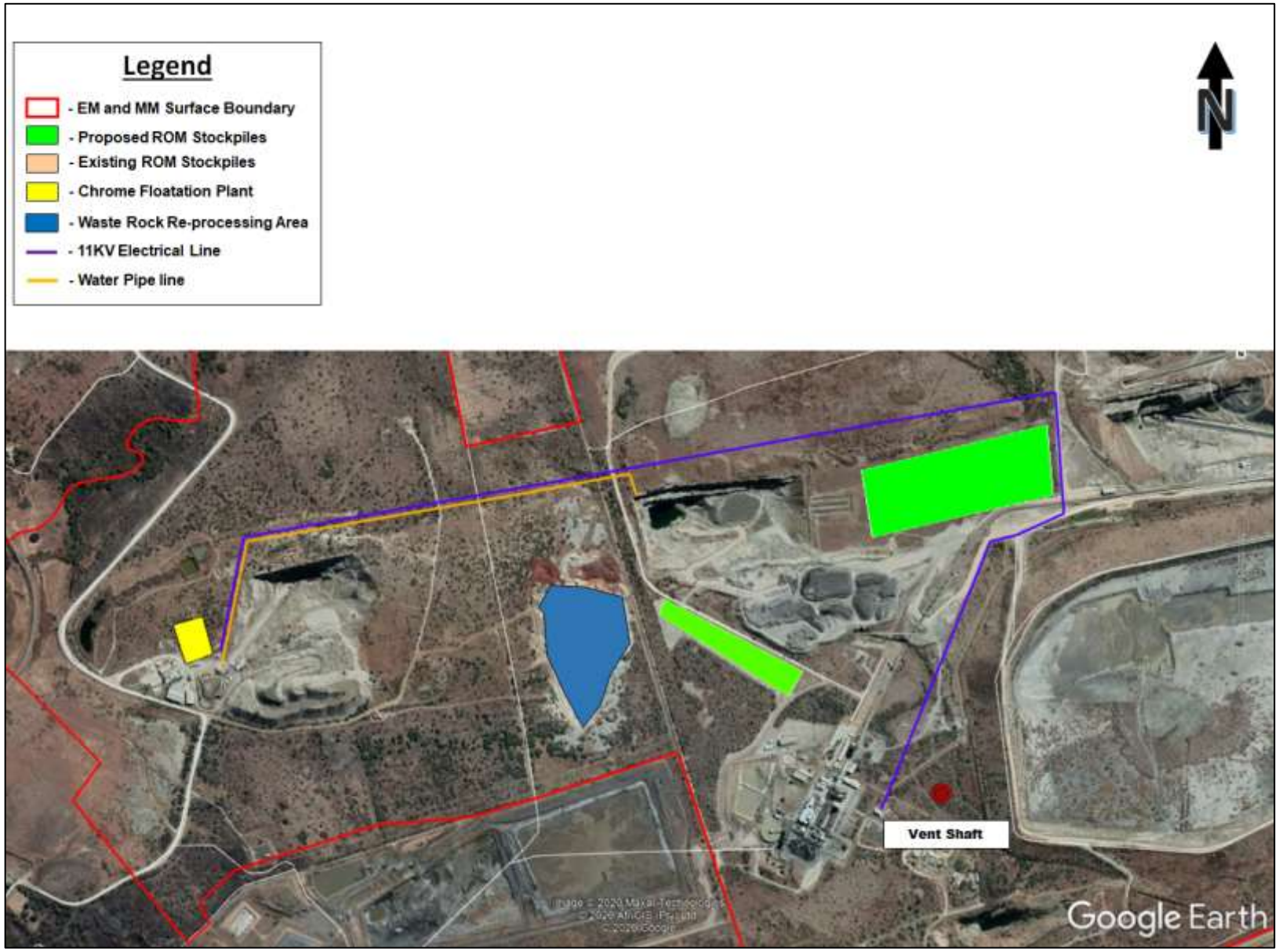

Figure 10: Aerial Map of the proposed location and extent of the Vent Shaft, ROM stockpiles, Pipelines and Electrical Supply lines and Waste Rock Dump Re-Processing Area

4. POLICY AND LEGISLATIVE CONTEXT

Table 16: Policy and legislative context of the Integrated DMRE Environmental Application

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED
1. <u>Constitution of the Republic of South Africa (Act No. 108 of 1996)</u> Environmental legislation is shaped by the Bill of Rights of the Constitution of the Republic of South Africa ("**Constitution**"). Section 24 of the Constitution, known as the '**Environmental Right**', guarantees every person the right to an environment that is not harmful to their health or well-being; provides for the protection of the environment against pollution; and degradation and centres sustainable development as the cornerstone of South Africa's environmental law regime. This right is binding on the State and people, both natural and juristic. In fulfilment of its constitutional mandate to take reasonable legislative measures that gives effect to section 24 of the Constitution, the government has promulgated several environmental laws. These laws provide a legal framework that embodies internationally recognised legal principles. The principal act governing activities that affect the environment is NEMA.	The EP Proposed Projects have the potential to cause harm to the environment and poses a risk to the health and wellbeing of people. They, however, also have the potential to secure sustainable utilisation of resources through the application of the waste hierarchy, development on existing disturbed areas and ensuring safe working conditions for employees, visitors and contractors. EP has the overall responsibility to ensure that the rights of people in terms of section 24 of the Constitution are protected in terms of the development activity. The Scoping/EIA and EMPr will be compiled considering the obligation as set out in the Constitution.
2. <u>National Environmental Management Act (NEMA) (Act No. 107 of 1998)</u> In terms of sections 24(2) and 24D of NEMA the Minister of Environmental Affairs promulgated certain activities that may not commence without an EA. Activities promulgated in terms of GN983 and GN9835 require a basic assessment process, while activities promulgated in terms of GN984 require that a full Scoping and EIA process be conducted. GN 983, 984 and 985 are promulgated under NEMA in Government Gazette 38282 of 4 December 2014 (as amended in 2017). The requirements for an EIA and EMP are specified in Appendixes 3 and 4 of GN 982 promulgated under NEMA in Government Gazette 38282 of 4 December 2014 (as amended in 2017) ("**2014 EIA Regulations**"). Section 24C(2A) of NEMA indicates that where listed activities are directly related to the extraction and primary processing of a mineral or petroleum resource the Minister of Mineral Resources is the CA or officials at the DMRE to whom he has delegated his authority, being the Regional Managers.	The EP Proposed Projects include activities listed in terms of GN R983, GN R984 and G.N. R985 which require an EA from the CA, in terms of 2014 EIA Regulations. This EA must be obtained prior to the commencement of the activities. The application for the EA will thus be made to the Regional Manager of the DMRE North West Regional Office. A closure and rehabilitation plan will be developed as part of the EIA process and submitted with the EIAR and EMP. The applicant is committed to at all times during construction, operation and decommissioning of the EP Proposed Projects to comply with the duty of care as set out in Section 28. The duty of care applies to all

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED
Section 28 of NEMA also obligates a duty of care on all persons to prevent, limit or remediate any pollution or degradation of the environment.	activities taking place at the Consolidate MR Area and is not solely focused on the listed activities being applied for.
3. <u>EIA Regulations (2014 EIA Regulations)</u> Chapter 6 of the 2014 EIA Regulations provides for the requirements for PPP, which must be carried out as part of the Integrated DMRE Environmental Application process. In terms of Regulations 21 and 23, the outcome of the PPP must be reported in the FSR and EIAR submitted to the CA. The PPP, "*must give all potential or registered interested and affected parties, including the competent authority a period of at least 30 days to submit comments on each of the EMPR, scoping report and environmental impact assessment report, and where applicable the closure plan, as well as the report contemplated in regulation 32, if such reports or plans are submitted at different times*" (Regulation 40 (1)). The PPP must also: ➢ provide access to all information that reasonably has or may have the potential to influence any decision regarding an application; ➢ involve consultation with the CA, every state department that administers a law relating to the environment relevant to the application, all relevant organs of state, and all I&APs; and ➢ provide opportunity for I&APs to comment on reports and plans prior to submission of an application but must be provided with an opportunity to comment on such reports once an application has been submitted to the CA. The process must include: ➢ notification of the application to all I&APs, as stipulated in Regulation 41; ➢ registration of all I&APs, as required in Regulations 42 and 43; and ➢ a record of comments and responses and records of meetings of and with I&APs, as outlined in Regulation 44. Regulation 39 of the 2014 EIA Regulations requires that: "*(1) If the proponent is not the owner or person in control of the land on which the activity is to be undertaken, the proponent must, before applying for an*	An integrated PPP will be undertaken to make provision for the consultation process during the Integrated DMRE Environmental Application and WUL Consolidation Application. Most of the properties where the EP Proposed Project will be undertaken are owned by EP and Barplats. In terms of the Sale Agreement, EP will purchase the properties in the MR Sale Portion that are owned by Barplats, subject to certain conditions precedent first being satisfied. Where the properties are owned and/or managed by different parties, the EAP will also notify them as part of PPP process.

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environmental authorisation in respect of such activity, obtain the written consent of the landowner or person in control of the land to undertake such activity on that land. *(2) Sub regulation (1) does not apply in respect of—* *(a) linear activities;* *(b) activities constituting, or activities directly related to prospecting or exploration of a mineral and petroleum resource or extraction and primary processing of a mineral or petroleum resource; and* *(c) strategic integrated projects as contemplated in the Infrastructure Development Act, 2014."*	

4. NEMA Listed Activities (GN983, 984 and 985)

A scoping and EIA process is being followed in terms of the EIA Regulations for activities listed under GN983, GN984 and GN 985. This report constitutes the scoping report circulated to I&APs and State Organs, in the EIA process being undertaken. The listed activities applicable to the EP Proposed Projects are given in the Table below.

Number and date of relevant notice	Activity No.	Description of each listed activity as per the GN.	Description of the proposed activities in relation to the listed activities being applied for.
GN R. 983	10	The development and related operation of infrastructure exceeding 1 000m in length for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes – (i) with an internal diameter of 0,36m or more.	This listed activity will be triggered by the construction of the Pit Pipelines, Water Management Pipelines and the operation of the Sale Portion Pipelines by EP.
GN R. 983	12	The development of— (i) dams or weirs, where the dam or weir, including infrastructure and water surface area, exceeds 100m^2; or (ii) infrastructure or structures with a physical footprint of 100m^2 or more, where such development occurs - (a) within a watercourse; (c) if no development setback exists, within 32m of a watercourse, measured from the edge of a watercourse;	EP is proposing to construct additional infrastructure in proximity to watercourses. These activities include the mine infrastructure, pump stations and Water Management Pipelines.
GN R. 983	14	The development and related operation of facilities or infrastructure, for the storage, or for the storage and handling, of a dangerous good, where such storage occurs in containers with a combined capacity of 80 m^3 or more but not exceeding 500m^3.	EP will continue to operate an existing hydrocarbon storage tank on the Sale Portion Area.
GN R. 983	19	The infilling or depositing of any material of more than 10m^3 into, or the dredging, excavation, removal or moving of *inter alia* soil, sand, pebbles or rock of more than 10m^3 from a watercourse.	There is a possibility that some infrastructure will have to cross watercourses. Should this be the case, 10m^3 or more of soil will have to be excavated from the watercourse.

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GN R. 983	24	The development of a road— (ii) with a reserve wider than 13,5m, or where no reserve exists where the road is wider than 8m.	EP is proposing to undertake opencast mining on undisturbed areas within the EM mine area. It is likely that new haul roads will have to be constructed to allow for the movement of mining vehicles. The new roads will likely be wider than 8m.
GN R. 983	45	The expansion of infrastructure for the bulk transportation of water or storm water where the existing infrastructure—(i) has an internal diameter of 0,36m or more; and (a) where the facility or infrastructure is expanded by more than 1 000m in length;	There are existing water pipelines that will possibly have to be expanded within the Consolidated MR Area.
GN R. 983	46	The expansion and related operation of infrastructure for the bulk transportation of sewage, effluent, process water, wastewater, return water, industrial discharge or slimes where the existing infrastructure has: (i) an internal diameter of 0,36m^2 or more; or (ii) a peak throughput of 120 litres per second or more; and where the: (a) facility or infrastructure is expanded by more than 1 000m in length; or (b) throughput capacity of the facility or infrastructure will be increased by 10% or more.	Existing pipelines will likely have to be expanded to convey the return water and tailings to the opencast pits for the Opencast Pits Backfilling Project. Pipelines may also be expanded to accommodate for the Sale Portion Area.
GN R. 983	48	The expansion of: (i) infrastructure or structures where the physical footprint is expanded by 100m^2 or more; or (ii) dams or weirs, where the dam or weir, including infrastructure and water surface area, is expanded by 100m^2 or more, where such expansion occurs: (a) within a watercourse; (c) if no development setback exists, within 32m of a watercourse, measured from the edge of a watercourse.	There is existing infrastructure that will possibly have to be expanded within the Consolidated MR Area that will be located within 32m of a watercourse.
GN R. 983	56	The widening of a road by more than 6m, or the lengthening of a road by more than 1km— (i) where the existing reserve is wider than 13,5m; or (ii) where no reserve exists, where the existing road is wider than 8m, excluding where widening or lengthening occur inside urban areas.	EP is proposing to undertake opencast mining on undisturbed areas within the EM Mine Area. It is likely that some existing haul roads will have to be widened to allow for the movement of mining vehicles.
GN R. 984	6	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.	EP is proposing develop the following activities at EM, which will require that the EP WUL needs to be amended to include further water uses under section 21(g) of the NWA: • Two new ROM Stockpiles; • Backfilling with tailings in the existing opencast pits; and • Overburden Stockpiles and WRDs for the Merensky mining area.
GN R. 984	7	The development and related operation of facilities or infrastructure for the bulk transportation of dangerous goods - (iii) in solid form, outside an industrial complex, using funiculars or conveyors with a throughput capacity of more than 50 tons per day.	EP is applying to operate the existing conveyor on the Sale Portion Area.
GN R. 984	15	The clearance of an area of 20 Ha or more of indigenous vegetation.	EP is proposing develop the following activities, which will require the clearance of indigenous vegetation with a combined footprint of more than 20 Ha: • Two new ROM Stockpiles; • Overburden Stockpiles and WRDs for the Merensky mining area; • Merensky Reef mining areas;

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			• 11kV substation and distribution line; • Construction of two new Vent Shafts; • Pipelines, pump stations and associated infrastructure footprint; and • New haul roads.
GN R. 984	17	Any activity, including the operation of that activity, which requires a mining right, as contemplated in terms of section 22 of the MPRDA, including—(b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing.	EP is proposing to develop the following mining activities, which will require a mining right on its own: • Two new ROM Stockpiles; • Mining at the Sale Portion, including the Boundary Pillar on the UG2 reef horizon between EM and MM, and operating infrastructure on the Sale Portion Area directly related to the extraction of mineral resources, including the conveyor, ventilation shaft and decline shaft, to be used as a secondary escape; • Mining the UG1 inside Paddocks 2, 3 and 4 of the existing TSF; • Overburden Stockpiles and WRDs for the Merensky mining area at EM; • Mining of the Merensky Reef mining areas, including construction and operation of associated infrastructure; • Construction of two new vent shafts; • Construction and operation of a CFP and associated infrastructure on the Sale Portion Area within an existing disturbed area; and • The MM WRD re-processing.
GN R. 985	4 (h) (iv) & (vi)	The development of a road wider than 4 metres with a reserve less than 13,5 metres, whereas the development takes place: iv) Critical biodiversity areas as identified in systematic biodiversity plans adopted by the ("**CBAs**"); vi) Areas within 5km from protected areas identified in terms of National Environmental Management: Protected Areas Act 57 of 2003 ("**NEMPAA**") or from a biosphere reserve.	EP is proposing to undertake opencast mining on undisturbed areas within the mine boundary. It is likely that new haul roads will have to be constructed to allow for the movement of mining vehicles. The new roads will likely be wider than 8 meters. The proposed haul roads will be located inside the EM Surface Area. The proposed activities are within / near the Marikana Thornveld ecosystem and is situated in a CBA, as per the North-West Biodiversity Sector Plan ("**NW BSP**"). The Consolidated MR Area is within 5km of the Mnandi Nature Reserve and falls within the Magaliesberg Biosphere Buffer Area.
GN R. 985	10 (h)(iv)	The development and related operation of facilities or infrastructure for the storage, or storage and handling of a dangerous good, where such storage occurs in containers with a combined capacity of 30m^3 but not exceeding 80m^3: (iv) CBAs.	EP will continue to operate existing hydrocarbon storage tank on the Sale Portion Area. The tank is situated within the CBA, as per the NW BSP.
GN R. 985	12 (h)(iv) & (vi)	The clearance of an area of 300m^2 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) in the North-West Province on land situated within; iv) CBA; and vi) Areas within 5km from protected areas identified in terms of NEMPAA or from a biosphere reserve.	Vegetation will be cleared for the following activities: • Two new ROM Stockpiles at EM; • Overburden Stockpiles and WRDs for the Merensky mining area. • Merensky Reef mining areas, including associated infrastructure at EM; • Construction of two new Vent Shafts at EM; • Pipelines and associated infrastructure footprint; and • New haul roads. It is likely that the impacted vegetation will include indigenous vegetation and is within / near the Marikana Thornveld ecosystem and is/or situated in a CBA as per the NWBSP.

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			The Consolidated MR Area is within 5km of the Mnandi Nature Reserve and falls within the Magaliesberg Biosphere Buffer Area.
GN R. 985	14 (h), (iv) and (vi)	The development of infrastructure or structures with a physical footprint of 10m^2 or more; where such development occurs – (a) within a watercourse; or (c) if no development setback has been adopted, within 32m of a watercourse, measured from the edge of a watercourse in the North-West Province in iv) CBAs; and vi) Areas within 5km from protected areas identified in terms of NEMPPA or from a biosphere reserve.	EP is proposing to construct additional infrastructure in proximity to watercourses. These activities include pump stations and the Water Management Pipelines. It is not foreseen that these activities will be undertaken within 32m of a watercourse. However, provision is made to include the listed activity should this be required. The proposed activities are within / near the Marikana Thornveld ecosystem and is situated in a CBA as per the NWBSP. The Consolidated MR Area is within 5km of the Mnandi Nature Reserve and falls within the Magaliesberg Biosphere Buffer Area.
GN R. 985	18 (h), (ii) and (v)	The widening of a road by more than 4m, or the lengthening of a road by more than 1km, in the North-West Province in: ii) CBAs; and v) Areas within 5km from protected areas identified in terms of NEMPPA or from a biosphere reserve.	EP is proposing to undertake opencast mining on undisturbed areas within the EM Mine Area. It is likely that existing haul roads will have to be widened to allow for the movement of mining vehicles. The new roads will likely be wider than 8m. The proposed activities are within / near the Marikana Thornveld ecosystem and is situated in a CBA as per the NWBSP. The Consolidated MR Area is within 5km of the Mnandi Nature Reserve and falls within the Magaliesberg Biosphere Buffer Area.
GN R. 985	23 (h), (iv) and (vi)	The expansion of: i) dams or weirs where the dam or weir is expanded by 10m^2 or more; or (ii) infrastructure or structures where the physical footprint is expanded by 10m^2 or more; where such expansion occurs— (a) within a watercourse; (c) if no development setback has been adopted, within 32m of a watercourse, measured from the edge of a watercourse, in the North-West Province in: iv) CBAs; and vi) Areas within 5 kilometres from protected areas identified in terms of NEMPPA or from a biosphere reserve.	EP is proposing to construct additional infrastructure in proximity to watercourses. These activities include Pump Stations and pipelines. It is not foreseen that these activities will be undertaken within 32m of a watercourse. However, provision is made to include the listed activity should this be required. The proposed activities are within / near the Marikana Thornveld ecosystem and is situated in a CBA as per the NWBSP. The Consolidated MR Area is within 5km of the Mnandi Nature Reserve and falls within the Magaliesberg Biosphere Buffer Area.
5. <u>National Environmental Management: Air Quality Act (Act No. 39 of 2004</u>) NEMAQA was promulgated to ensure the protection and regulation of air quality and provide measures that will prevent pollution and sustainability. Under NEMAQA, the Minister of Environmental Affairs must identify substances in ambient air which present a threat to health, well-being or the environment and establish national standards for ambient air quality, including the permissible quantity or concentration of each substance in ambient air. The following regulations promulgated under NEMAQA were considered for the EP Proposed Projects:			The Consolidated MR Area falls within the Waterberg-Bojanala National Priority Area, as contemplated in section 18(1) of NEMAQA. A dust fallout monitoring network and programme is in place for EM and MM. EP is continuously monitoring the dust fallout impacts at both the EM and MM. Dust control measures will be included in the EMPR.

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➢ *Listed Activities and Associated Minimum Emission Standards, published under GN 893 in GG 37054 of 22 November 2013*, which lists activities that could result in atmospheric emissions requiring an Atmospheric Emissions Licence before being undertaken. Examples of such activities include: ▪ the use of combustion installations; ▪ storage of petroleum products; ▪ slag processes; ▪ carbonisation and coal gasification; ▪ mineral processing; and ▪ disposal of hazardous and general waste by way of incineration. ➢ *Waterberg-Bojanala National Priority Area, GN1207/2015 in GG 39489 on 9 December 2015*: The Waterberg-Bojanala National Priority Area was established due to the exceedance of the ambient air quality standards or alternatively that a situation exists within the area which is causing or may cause a significant negative impact on air quality in the area and the area requires specific air quality management action to rectify the situation. ➢ *National Dust Control Regulations, published under GN827 in GG 36974 of 1 November 2013*, which provide that an acceptable dust fallout rate for a non-residential area is considered more than 600 mg/m2/day but less than 1200 mg/m2/day (30-day average), with maximum allowable two exceedances per year, provided these exceedances do not take place in consecutive months. Where the dust fallout rate is exceeded, a dust fall monitoring programme, as prescribed in terms of the Regulations, must include: ▪ the establishment of a network of dust monitoring points, using method ASTM D1739:1970 (or an equivalent standard), sufficient in number to: establish the contribution to dust fallout in residential and non-residential areas near the premises; monitor	

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identified or likely sensitive receptor locations; and establish the baseline dust fall for the district; and ▪ a schedule for submitting to the air quality officer dust fallout monitoring reports annually or at more frequent intervals, if requested by the air quality officer. ➢ Greenhouse gases have been declared priority pollutants under the Declaration of Greenhouse Gases as Priority Air Pollutants published GN 710 in GG 40996 of 21 July 2017, in terms of NEMAQA, with potential reporting requirements for EM and MM.	
6. <u>National Environmental Management: Biodiversity Act (Act No. 10 of 2004)</u> In line with the Convention on Biological Diversity, the National Environmental Management: Biodiversity Act (Act No. 10 of 2004) ("**NEM:BA**") aims to legally provide for biodiversity conservation, sustainable use and equitable access and benefit sharing. NEM:BA creates a basic legal framework for the formation of a national biodiversity strategy and action plan and identification of biodiversity hotspots and bioregions, which may then be given legal recognition. It imposes obligations on landowners (state or private) regarding alien invasive species. NEM:BA requires that provision be made by a site developer to remove any aliens which have been introduced to the site or are present on the site. The NEM:BA also provides for listing of threatened or protected ecosystems in one of four categories: critically endangered, endangered, vulnerable or protected. Threatened ecosystems are listed to reduce the rate of ecosystem and species extinction, by preventing further degradation and loss of structure, function and composition of threatened ecosystems. The purpose of listing protected ecosystems is primarily to conserve sites of exceptionally high conservation value.	The vulnerable Marikana Thornveld Ecosystem is located over sections of the Consolidated MR Area. As part of the application, indigenous vegetation clearance and removal will likely be undertaken. A biodiversity specialist has been appointed to determine the impact of the proposed application on the biodiversity and the findings/recommendations will be included in the EIAR.
7. <u>National Environmental Management: Waste Act (Act No. 59 of 2008)</u> The purpose of the NEMWA is to: assist in regulating waste management; ensure the protection of human health; and prevent pollution and environmental degradation through sound waste management principles and guidelines. It furthermore provides for:	The following activities will be triggered by the EP Proposed Projects: Category B of the 2013 WML Regulations (GN 921) (triggers a scoping and EIA process) – • Activity 4(9) – "*The disposal of inert waste to land in excess of 25 000 tons, excluding the disposal of such waste for the purpose of*

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➢ national norms and standards for regulating the management of waste by all spheres of government; ➢ licensing and control of waste management activities; ➢ remediation of contaminated land; ➢ a national waste information system; and ➢ provision for compliance and enforcement. The NEMWA defines waste broadly as "*any substance, material or object, that is unwanted, rejected, abandoned, discarded or disposed of, or that is intended or required to be discarded or disposed of, by the holder of that substance, material or object, whether or not such substance, material or object can be reused, recycled or recovered*". It also regulates processing of mining residue deposits or stockpiles. The NEMWA imposes a general duty upon waste holders to take reasonable measures to avoid waste generation and, where this is impossible, to: minimise the toxicity and quantities of waste generated; reuse, reduce, recycle and recover waste; and ensure that it is treated and disposed of in an environmentally sound way. Failure to do so is a criminal offence, with a maximum fine of R10 million or imprisonment of up to 10 years, or both. It is necessary to hold a WML for defined waste management activities. The DEA promulgated the 2013 WML Regulations, which provides that a WML is required for undertaking certain waste management activities ("**Waste Listed Activities**"). The Waste Listed Activities are separated into three categories, namely Category A, Category B and Category C. Category A and B Waste Listed Activities require a WML, for which either a basic assessment or an EIA process needs to be undertaken that complies with the 2014 EIA Regulations. The procedures for licensing Waste Listed Activities are stipulated in Chapter 5 of Waste Act and will have to be considered in the overall EIA process. Category C activities do not require a WML but must comply with *inter alia* the Norms and Standards for Storage of Waste, 2013 (published in GN 926 of *Government Gazette* 37088 on 29 November 2013). Such facilities need to be registered with the DEA 90 days before construction commences.	*levelling and building which has been authorised by or under other legislation.*" - **EP is proposing to backfill opencast pits with reprocessed tailings from the Concentrator Plant. The volume of tailings will exceed 25 000tons.** • Activity 4(10) **-** "*The construction of a facility for a waste management activity listed in Category B of this Schedule (not in isolation to associated waste management activity).* - **EP is proposing develop the following residue deposits and/or stockpiles: Overburden Stockpiles and WRDs for the Merensky mining area.** • Activity 4(11) - *"The reclamation of a residue stockpile or residue deposit resulting from activities which require inter alia a mining right in terms of the MPRDA."* - **EP is proposing to develop Overburden Stockpiles and WRDs for the Merensky mining area and reprocess the MM WRD.** A scoping and EIA process is required for Category B activities. An integrated IEA application has been submitted by EP for the EP Proposed Projects. A Waste Assessment and Classification of the tailings and ROM material will form part of the EIAR.

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Classification of certain waste streams is required in terms of the Waste Classification and Management Regulations, published in GN634 of *Government Gazette* 36784 on 23 August 2013, to ensure that the correct waste management standards and disposal methods are implemented. The National Norms and Standards for the Assessment of Waste for Landfill Disposal and the National Norms and Standards for the Disposal of Waste to Landfill (published under GN R635 and GN R636 respectively in GG 36784 of 23 August 2013) provide the norms and standards for disposal of waste to landfill. This includes liner requirements and design specifications. In 2014 the National Environmental Management: Waste Amendment Act, No 25 of 2014 was promulgated to include residue deposits and residue stockpiles from: ➢ Mineral excavation; ➢ Physical and chemical processing of metalliferous minerals; ➢ Physical and chemical processing of non-metalliferous minerals; and ➢ Drilling operations. Residue deposits are defined in the MPRDA as "*any residue stockpile remaining at the termination, cancellation or expiry of a prospecting right, mining right, mining permit, exploration right or production right*". Residue stockpiles, in turn, are defined in the MPRDA as "*any debris, discard, tailings, slimes, screening, slurry, waste rock, foundry sand, beneficiation plant waste, ash or any other product derived from or incidental to a mining operation and which is stockpiled, stored or accumulated for potential re-use, or which is disposed of, by the holder of a mining right, mining permit, production right or an old order right*". The Regulations regarding the Planning and Management of Residue Stockpiles and Residue Deposits ("**Residue Regulations**"), published under GN R632 in GG 39020 of 24 July 2015, provide for the planning, management and reporting of residue stockpiles and residue deposits, which obligations include: ➢ The assessment of impacts and analyses of risks relating to the management of residue stockpiles; ➢ Residue deposits, characterisation of residue stockpiles and residue deposits;	

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➢ Classification of residue stockpiles and residue deposits; ➢ Investigation and the selection of site for residue stockpiling; ➢ Design of the residue stockpiles and residue deposits; ➢ Impact management; ➢ Duties of the holder of right or permit; ➢ Monitoring and reporting systems; ➢ Dust management and control; and ➢ Decommissioning, closure and post closure management requirements. The Residue Regulations provide the tools for and correspond to the statutory provision relating to managing residue stockpiles and residue deposits in the manner prescribed in section 43A of the NEMWA.	
8. <u>National Heritage Resources Act (Act No. 25 of 1999)</u> The protection and management of South Africa's heritage resources are controlled by the National Heritage Resources Act (Act No. 25 of 1999) ("**NHRA**"). The national enforcing authority for the NHRA is the South African Heritage Resources Agency ("**SAHRA**"). In terms of the NHRA, historically important features such as graves, archaeology and fossil beds are protected. Similarly, culturally significant symbols, spaces and landscapes are also afforded protection. In terms of section 38 of the NHRA, SAHRA can call for a heritage impact assessment ("**HIA**") for certain categories of development as follows: *Section 38 states:* *"(1) (a): The construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300 m in length;* *(c): Any development or other activity which will change the character of a site -* *i. exceeding 5 000 m² in extent;* *ii. involving three or more existing erven or subdivisions thereof;* *iii. involving three or more erven or divisions thereof which have been consolidated within the past 5 years; or* *iv. the costs of which will exceed a sum in terms of regulations by SAHRA or a provincial heritage resource authority."*	The Project Area has already been fundamentally transformed by agricultural, mining and processing activities. HIAs have been conducted for the Consolidated MR Area in the past and will be updated as part of the EIAR. There are graves located within the Consolidated MR. However, they are not impacted on by EP, and families are accommodated for purposes of visiting the graves.

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Section 38(8) of the NHRA however makes provision for the assessment of heritage impacts as part of an EIA process and, if such an assessment complies with the NHRA, a separate application for consent under the NHRA is not required.	
9. <u>National Water Act (Act No. 36 of 1998</u> ("**NWA**") The NWA is the primary legislation controlling and managing the use of water resources and pollution thereof. It provides for fundamental reformation of legislation relating to water resource use. The preamble to the NWA recognises that the ultimate aim of water resource management is to achieve sustainable use of water for the benefit of all users and that water resources quality protection is necessary to ensure sustainability of the nation's water resources in the interests of all water users. The NWA's purpose is stated in section 2 and enforced by the DWS. Section 2 of the NWA relates to the following: • *Promoting the efficient, sustainable and beneficial use of water in the public interest;* • *Facilitating social and economic development;* • *Protecting aquatic and associated ecosystems and their biological diversity;* • *Reducing and preventing pollution and degradation of water resources; and* • *Meeting international obligations.* The NWA presents strategies to facilitate sound management of water resources; provides for the protection of water resources; and regulates use of water by means of Catchment Management Agencies, Water User Associations, Advisory Committees and International Water Management. As the NWA is founded on the principle of trusteeship, the government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest. Industry (including mines) can therefore only be entitled to use water if the use is permissible under the NWA. In terms of section 21 of the NWA, certain consumptive and non-consumptive water uses are identified and can only commence once authorised. Where a water use constitutes a Scheduled 1 Use (permissible use without an authorisation	EP and MM both hold WUL(s), namely the EP WUL and MM WUL (Refer to Section 2.3.1). EP is proposing to consolidate the WUL(s) into one integrated WUL. As part of this Integrated DMRE Environmental Application, various changes and alterations to the existing EP WULs must be made, including: • Addition and changes to the sections 21(a) and (j) abstraction points for the dewatering and abstraction of groundwater; • Inclusion of sections 21(c) and (i) water uses for watercourse crossings and mining activities possibly undertaken within 500m of wetlands and watercourses; • Possible amendment of the section 21(f) discharge volumes; • Inclusion and alteration of section 21(g) water uses for the ROM Stockpiles, dust suppression with mine affected water, backfilling of the opencast pits and new mining related infrastructure.

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requirement); permissible water use in terms of section 22 of the NWA; or is authorised in terms of a General Authorisation, a WUL is not required. The NWA further requires that: ➢ a motivation in terms of section 27 be submitted as part of a water use licence application ("**IWULA**"). This will be included in the main application report; ➢ the necessary water use application forms be compiled and submitted in support of the IWULA; ➢ the requirements of GN704 and detail surrounding these activities will be considered in the IWULA; and ➢ an integrated waste and water management plan be submitted in support of the IWULA.	
10. <u>GN 704</u> GN 704 was promulgated in terms of section 26(1) of the NWA and is specifically aimed at the protection of water resources associated with mining related activities. It provides minimum requirements which need to be adhered to for the protection of the water resources on a mine. GN 704 regulates the use of water; management of dirty and clean water infrastructure; and related activities at mines. This includes minimum requirements for infrastructure that hold dirty water. A mine can apply for exemptions from these requirements and could be granted approval, should sufficient management measures be put in place to ensure environmental protection. Regulation 4 of GN 704 places some restrictions in terms of the locality of certain infrastructure which could have an impact on water resources.	The EM stormwater system is designed to comply to the provisions of the GNR 704 provisions. However, several exemptions will need to be applied for, which include using tailings as backfilling material and mining infrastructure within the 1:100-year flood line.
11. <u>Mineral and Petroleum Resources Development Act (Act No. 28 of 2002)</u> The MPRDA aims at the equitable access and the sustainable development of the RSA's mineral resources. It provides mechanisms that will ensure the protection of the environment throughout the LoM. Social and environmental sustainability is enhanced through the requirement to submit a Social and Labour Plan ("**SLP**"), which records a company's obligations	The Sale Agreement is subject to the Minister of Mineral Resources and Energy's consent to the Section 102 Application. As part of the Section 102 Application, EP has submitted an updated SLP and mine works programme.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED
to improve social development. This includes a commitment to training and social investment, with the goal of transferring skills that can be used after mine closure. Section 5A of the MPRDA indicates that: "*No person may prospect for or remove, mine, conduct technical co-operation operations, reconnaissance operations, explore for and produce any mineral or petroleum or commence with any work incidental thereto on any area without – (a) an environmental authorisation"*. Section 37 of the MPRDA requires all mining and prospecting operations and related activities to be carried out in terms of the environmental management principles set out in section 2 of NEMA. Section 102(1) of the MPRDA states that: "*(1) A reconnaissance permission, prospecting right, mining right, mining permit, retention permit, technical corporation permit, reconnaissance permit, exploration right, production right, prospecting work programme, exploration work programme, production work programme, mining work programme environmental management programme or an environmental authorisation issued in terms of the National Environmental Management Act, 1998, as the case may be, may not be amended or varied (including by extension of the area covered by it or by the additional of minerals or a shares or seams, mineralised bodies or strata, which are not at the time the subject thereof) without the written consent of the Minister."*	
12. <u>Conservation of Agricultural Resources Act, No 43 of 1998</u> ("**CARA**") In terms of CARA, landowners are legally responsible for the control of weeds and alien vegetation. CARA makes provision for three categories of alien and invasive plant species: ➢ *Category 1a*: must immediately be removed and destroyed; ➢ *Category 1b*: need to be immediately be removed and contained; ➢ *Category 2*: requires a permit to retain the species on site and it must be ensured that they do not spread. All category 2 plants in riparian zones need to be removed; and ➢ *Category 3*: require a permit to retain these species. All category 3 plants in the riparian zone need to be removed.	EP is obligated to manage alien and invasive species occurring on the EM Surface Area and, once the Section 102 Application is granted, the MM Surface Area. It has developed an Alien and Invasive Plant Removal Procedure that will be provided in the EIAR.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED
CARA is also clear in terms of the conservation of soil and states that degradation of the agricultural potential is illegal. It furthermore requires the protection of land against soil erosion and the prevention of water logging and associated salinization.	
13. <u>Mine Health and Safety Act (Act No. 29 of 1996)</u> ("MHSA") The MHSA aims to provide for protection of the health and safety of all employees and other personnel at RSA mines. Its main objectives are: ➢ Protection of the health and safety of all persons at mines; ➢ Requiring employers and employees to identify hazards and eliminate, control and minimise the risks relating to health and safety at mines; ➢ Giving effect to the public international law obligations of South Africa that concern health and safety at all mines; ➢ Providing for – 1. employee participation in matters of health and safety through health and safety representatives and the health and safety committees at mines; 2. effective monitoring of health and safety conditions at mines; 3. enforcement of health and safety measures at mines; 4. investigations and inquiries to improve health and safety at mines; and ➢ To promote: 5. a culture of health and safety in the mining industry; 6. training in health and safety in the mining industry; and 7. cooperation and consultation on health and safety between the State, employers, employees and their representatives.	EP already complies with the MHSA and it will be applicable to the Consolidated MR Surface Area.
14. <u>Hazardous Substance Act (Act No. 15 of 1973)</u> ("**HSA**") The HSA provides for the: ➢ Control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitizing or flammable nature or the generation of pressure thereby in certain circumstances; ➢ Control of certain electronic products;	EP will take cognisance of the requirements of the HSA in relation to hazardous substances that may be used for the EP Proposed Projects.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED
➢ Division of such substances or products into groups in relation to the degree of danger; ➢ Prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products; and ➢ Matters connected therewith.	
15. <u>Other Legislation, Policy & Guidelines</u> Other legislation and associated regulations (where applicable) considered as part of the application process include: ➢ The National Development Plan 2030. ➢ National Veld and Forest Fire Act, 101 of 1998. ➢ Transvaal Nature Conservation Ordinance, 12 of 1983. ➢ National Forestry Act, No 84 of 1998. ➢ DMR Consultation Guidelines. ➢ Spatial Planning and Land Use Management Act, No 16 of 2013. ➢ Traditional Leadership and Governance Framework Amendment Act, No 41 of 2003 and National House of Traditional Leaders Act, No 22 of 2009. ➢ Restitution of Land Rights Act 22 of 1994. ➢ Municipal Systems Act, No 32 of 2000. ➢ Regulations of Gatherings Act, No. 205 of 1993 ➢ Protection of Personal Information Act, No. 4 of 2013. ➢ Disaster Management Act: Regulations relating to Covid-19	EP takes note of the requirements of the mentioned provisions and will comply with them where relevant.
16. <u>Provincial and Municipal Bylaws</u> The MLM and BPD and NWP have developed local bylaws and various policies relating to waste disposal, water, economic development, air quality etc. The following provincial and Municipal Bylaws are applicable to EM: ➢ Spatial Development Framework, 2016: North West Province; ➢ Madibeng Local Municipality: Air Quality Management By-Laws, 2013; ➢ Madibeng Local Municipality: Waste Management By-Laws, 2008; ➢ Madibeng Local Municipality: Storm water management By-laws, 2013; and	EP will ensure that such policies and bylaws are adhered to during the commencement and operation of the EP Proposed Projects and its operations in general.

APPLICABLE LEGISLATION AND GUIDELINES USED TO COMPILE THE REPORT	REFERENCE WHERE APPLIED
➢ Madibeng Local Municipality: Water & Sanitation By-Laws, 2015.	
17. <u>Guidelines</u> In addition to the abovementioned Acts and their associated Regulations, the following guidelines and reports have been be taken cognisance of during the application process: • BPDM Integrated Development Plan, 2012. • BPDM SDF, 2016. • MLM IDP, 2017-2018. • Madibeng Environmental Management Framework, 2009. • SANS 10103 of 2008. • SANS 10210 of 2004. • NEMA Implementation Guidelines: Sector Guidelines for Environmental Impact Assessment Regulation (published under GN 654 in GG 3333 of 29 June 2010). • DEA (2011): A user friendly guide to the National Environmental Management: Waste Act, 2008. South Africa, Pretoria. • Department of Environmental Affairs and Tourism (2004): Criteria for determining Alternatives in EIA, Integrated Environmental Management, Information Series 11. • Guideline for Implementation: Public Participation in the EIA Process (published in under GN 807 in GG 35769 of 10 October 2012).	EP will ensure that such policies and standards, as far as possible, are adhered to during the Proposed Project.
18. <u>Eland Platinum Safety Health and Environmental Policy (SHE)</u> A copy of EP's SHE Policy can be found under ***Appendix 5***.	EP will ensure that its HSEC Policy is adhered to during the EP Proposed Projects' operational phase.

5. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES.

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

EM was previously operated and maintained by EPM, a subsidiary of GOSA, and the operations was placed under care and maintenance in 2015. EP, a subsidiary of Northam, purchased EM in 2017 and is responsible for its operation and maintenance going forward. The operations on EM have gradually recommenced on the EM Surface Area. The MM was also placed under care and maintenance in July 2013 and continues to be in care and maintenance.

EP has undertaken various feasibility studies and financial cost models to identify further strategic and sustainable projects. These projects are based on optimising existing infrastructure, upscaling production and processing capacities and efficiency, reducing liabilities, safe working and operational practices, optimising resource utilisation and environmental considerations. Based on this, EP has identified synergies with the neighbouring MM and thus concluded the Sale Agreement. In conjunction with this, the EP Proposed Projects will be implemented to establish and ensure the LoM of in excess of 20 years of EM going forward.

The Proposed Project's probable need and desirability have been identified as the following:

a) Continuance of the current land use

The EM Mine Area has been impacted from mining activities since it commenced in 2006 (SLR, 2012). The MM is also an existing operation and mining practices commenced in the early 2000's. The EP Proposed Projects will be situated within the Consolidated MR Surface Area, where the necessary mining, processing infrastructure (i.e. the Concentrator Plant, etc.), and services (i.e. roads, electricity, water and sewage) have already been established.

b) Economic benefit

The EP Proposed Projects have economic benefits for the local, provincial and national spheres of the RSA. This is due to increased mineral production and socio-economic benefits associated with job creation; capital and operational expenditure on contractors, materials and equipment; and downstream spending.

c) ***Job Creation***

It is likely that the EP Proposed Projects will create temporary (construction phase) and permanent (operational phase) job opportunities. Both skilled and unskilled temporary employment opportunities would be created through the EP Proposed Projects. This will have a beneficial impact on the local economy through salaries and local spending.

d) ***Promotion of sustainable development by proficiently utilising natural resources***

EP is proposing to re-use the re-processed tailings as backfill material of opencast pits for rehabilitation purposes. The re-processed tailings would have been disposed to the existing TSF as a long-term tailing management option. In addition, EP will be re-processing (i.e. crushing and screening) the existing waste rock for future purposes. The re-use of the tailings and waste rock promotes the waste management hierarchy, as detailed in the National Waste Management Strategy, 2012.

The waste management hierarchy is a tiered approach where waste management options are organised in an order of significance, which starts with the avoidance of waste; the subsequent reduction, reuse, recycling, recovery; and the last resort of treatment and disposal (DEA, 2012b).

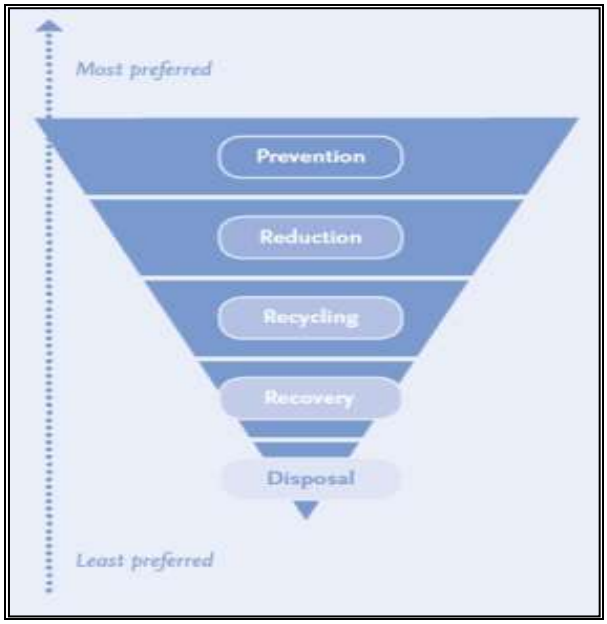


Figure 11: Waste management hierarchy, (DEA, 2012)

e) Reduce Environmental Liability

The tailings will be used as backfill material in the opencast pits. The opencast pits are a significant environmental liability that has a potential cumulative financial knock-on effect on the closure liability for EM.

Utilising the tailings for backfill material will likely increase the sequencing of implementing concurrent rehabilitation that has significant environmental and financial benefits. The effect(s) on the groundwater will be considered in the Impact Assessment specialist studies.

f) Reduced Evaporation and increased water recoveries

The existing TSF has a footprint of approximately 180 Ha and, due to its size, the TSF has a high evaporation footprint. The wet tailings produced by the Concentrator Plant is currently disposed on the TSF and a significant amount of water is lost through evaporation. The utilisation of the tailings as backfill material will allow EP to recover significant volumes of water that can be re-used on EM's operation and process circuit.

5.1 Period for which the environmental authorisation is required

The EP Proposed Projects form an important part of the EP mining and processing operations going forward.

It will be required for the LoM of EM and MM operations. The EA will thus for a minimum be required for an estimated thirty-year period for the LOM of EM and MM.

5.2 Description of the process followed to reach the proposed preferred site.

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

As mentioned previously, the EP Proposed Projects will be located within the Consolidated MR Surface Area. The **site selection** was done primarily on the location of the ore reserves and previous operations with their existing footprints, and more specifically, by taking cognisance of the following factors:

- Location of existing disturbed footprints;
- Existing and future infrastructure and servitudes e.g. future plant upgrades etc.;

- Position in relation to other mine infrastructure;
- Distance from the Concentrator Plant;
- Area and footprint available for proposed activities;
- Environmental and social constraints;
- General topography;
- Geology of the site;
- Surface geotechnical conditions in the footprint zone;
- Geohydrological features and optimal resource locations;
- Watercourse locations;
- Land use;
- Burial and archaeological sites; and
- Proximity to settlements.

Alternatives considered for the EP Proposed Projects comprise of the following:

- Alternative infrastructure routes for the:
  - Pits Pipelines;
  - Water Management Pipelines; and
  - Haul road routes.
- Alternative infrastructure routes for the 11kV electricity distribution line.
- Technology Alternatives for the following:
  - ROM Stockpile Liner composition;
  - Opencast Pit Backfilling methodology and management; and
  - CFP to reclaim chrome product.
- Layout alternatives for the:
  - 11kV Substation;
  - ROM stockpiles;
  - Merensky Reef opencast mining areas; and
  - CFP.

No location alternatives were selected for the mining of the UG1 Reef in the Eland Mine Area inside Paddock 2, 3 and 4 of the TSF, as the TSF is an existing facility.

5.3 Details of all alternatives considered.

With reference to the site plan provided as Appendix 4 and the location of the individual activities on site, provide details of the alternatives considered with respect to:
(a) the property on which or location where it is proposed to undertake the activity;
(b) the type of activity to be undertaken;
(c) the design or layout of the activity;
(d) the technology to be used in the activity;
(e) the operational aspects of the activity; and
(f) the option of not implementing the activity.

5.3.1 Alternative 1 (proposed, preferred Alternative)

The EP Proposed Projects have been identified with the goal of optimising existing infrastructure; upscaling production and processing capacities and efficiency; reducing liabilities; safe working and operational practices; and optimising resource utilisation.

The **preferred alternative** was based on the following:

- The proposed activities are located within the established Consolidated MR Surface Area, where the necessary services (i.e. electricity supply, roads and water supply) have already been developed.
- The majority of the Project Area, except for the Merensky Reef mining area and Ventilation Shafts, has previously been disturbed by mining and agricultural activities.
- Mining of MM, including the Boundary Pillar on the UG2 reef horizon between the EM and MM underground workings, will enable additional resource extraction; future underground development; and optimisation of underground infrastructure;
- The Opencast Pits Backfilling Project:
    - promotes the waste management hierarchy;
    - will reduce environmental and rehabilitation liabilities;
    - enhances water saving and reduces water losses through evaporation – provisionally, without a significant, negative cumulative impact on surrounding groundwater qualities;
- Economic benefits due to resource optimisation.

The preferred alternative will be situated on the following properties, refer to ***Table 17:*** List of the Alternative 1 (preferred alternative) activities and the applicable property description.

Table 17: List of the Alternative 1 (preferred alternative) activities and the applicable property description.

Activities	Property Description		
Consolidation of the Mining rights and EMPr(s) into one integrated EMPr	<u>Elandsfontein 440JQ</u> - Portion 9; - Remaining Extent of Portion 91; - Remaining Extent of Portion 15; - Remaining Extent of Portion 16 (a portion of Portion 15); - Portion 37 (a portion of Portion 16); - Portion 38 (a portion of Portion 16); - Remaining Extent of Portion 52 (a portion of Portion 16); - Portion 123 (a portion of Portion 52); - Remaining Extent of Portion 82 (a portion of Portion 52); - Portion 83 (a portion of Portion 82) (now known as Damonsville Ext 1 Township); - Portion 89 (a portion of Portion 16); - Remaining Extent of Portion 17 (a portion of Portion 15); - Portion 30 (a portion of Portion 17); - Portion 39 (a portion of Portion 17); - Remaining Extent of Portion 18 (a portion of Portion 15); - Remaining Extent of Portion 32 (a portion of Portion 18); - Portion 61 (a portion of Portion 32);	<u>Zilkaatsnek 439 JQ</u> - Remaining Extent of Portion 58; - Portion 80 (a portion of Portion 58); - Portion 81 (a portion of Portion 58); - Portion 82 (a portion of Portion 58); - Portion 84 (a portion of Portion 58); - Portion 87 (a portion of Portion 58); and - Portion 97 (a portion of Portion 4). <u>Schietfontein 437 JQ</u> - Remaining Extent of Portion 13 (a portion of Portion 2); and - Portion 14 (a portion of Portion 2).	<u>Farm De Kroon 444 JQ</u> - Remaining Extent of Portion 48; - Remaining Extent of Portion 50; - Portion 49; - Portion 51; - Portion 52; - Portion 119; - Portion 121; - Portion 122; - Portion 123; - Portion 115; - Portion 160; - Portion 157; - Portion 159; - Portion 161; - Portion 165 (portion of portion 47); - Portion 166 (portion of portion 47); - Portion 167 (portion of portion 47); - Portion 168 (portion of portion 47); and - Portion 199 (a portion of portion 48).

Activities	Property Description		
	- Portion 85 (a portion of Portion 18); - Remaining Extent of Portion 19 (a portion of Portion 15); - Remaining Extent of Portion 40 (a portion of Portion 19); - Portion 43 (a portion of Portion 40); - Remaining Extent of Portion 58 (a portion of Portion 19); - Remaining Extent of Portion 59 (a portion of Portion 58); - Portion 87 (a portion of Portion 59); - Remaining Extent of Portion 63 (a portion of Portion 58); - Portion 88 (a portion of Portion 63); - Portion 86 (a portion of Portion 58); - Portion 78 (a portion of Portion 19); - Portion 45 (a portion of Portion 15); - Portion 84 (a portion of Portion 15); - Portion 44 (a portion of Portion 15); - Portion 46 (a portion of Portion 15); and - Portion 47 (a portion of Portion 15).		
Consolidation of the WUL for EM and Maroelabult;	<u>Farm De Kroon 444 JQ</u> - Portion 297; - The Remaining Extent of Portion 48; - Portion 161; - The Remaining Extent of Portion 49; - Portions 119; - Portion 120; and - Portion 123.	<u>Elandsfontein 440JQ</u> - Portion 30 (a portion of Portion 17); - Remaining Extent of Portion 32 (a portion of Portion 18); - Portion 37 (a portion of Portion 16); - Portion 39 (a portion of Portion 17); - Remaining Extent of Portion 58 (a portion of Portion 19);	<u>Zilkaatsnek 439 JQ</u> - Remaining Extent of Portion 58; - Portion 80 (a portion of Portion 58); - Portion 81 (a portion of Portion 58); - Portion 82 (a portion of Portion 58); - Portion 83 (a portion of Portion 58); - Portion 84 (a portion of Portion 58); - Portion 85 (a portion of Portion 58); - Portion 86 (a portion of Portion 58);

Activities	Property Description		
		- Remaining Extent of Portion 59 (a portion of Portion 58); - Portion 61 (a portion of Portion 32); and - Remaining Extent of Portion 63 (a portion of Portion 58). <u>Schietfontein 437 JQ</u> - Remaining Extent of Portion 13 (a portion of Portion 2); and - Portion 14 (a portion of Portion 2).	- Portion 87 (a portion of Portion 58); - Portion 97 (a portion of Portion 4); - Portion 197; and - Portion 200.
Mining of the Boundary Pillar on the UG2 reef horizon between EM and Maroelabult;	<u>Farm De Kroon 444 JQ;</u> - -Portion 159; - -Portion 160; and - -Remaining Extent of Portion 151. <u>Elandsfontein 440JQ</u> - Portion 37		
Construction and operation of two ROM stockpiles;	Portion 37 (a portion of Portion 16) of the Farm Elandsfontein 440JQ		
Raise-boring and operation of two Vent Shafts;	<u>Elandsfontein 440JQ</u> - Portion 37 (a portion of Portion 16); and - Portion 61 (a portion of Portion 32)		
Mining of the Merensky Reef, including associated infrastructure	<u>Elandsfontein 440JQ</u> - Remaining Extent of Portion 32 (a portion of Portion 18); - Portion 37 (a portion of Portion 16); - Portion 39 (a portion of Portion 17); - Remaining Extent of Portion 59 (a portion of Portion 58); - Portion 61 (a portion of Portion 32); and - Remaining Extent of Portion 63 (a portion of Portion 58).		
Mining of the UG1 in the existing TSF Paddock 2, 3 and 4;	<u>Elandsfontein 440JQ</u> - Portion 30 (a portion of Portion 17); - Remaining Extent of Portion 32 (a portion of Portion 18); and - Portion 37 (a portion of Portion 16). <u>Zilkaatsnek 439 JQ</u> - Portion 197;		
Backfilling of existing opencast pits with tailings;	<u>Elandsfontein 440JQ</u> - Remaining Extent of Portion 32 (a portion of Portion 18). <u>Zilkaatsnek 439 JQ</u>		

Activities	Property Description
	- Remaining Extent of Portion 58; - Portion 82 (a portion of Portion 58); and - Portion 84 (a portion of Portion 58).
Expansion and construction of pipelines for the conveying of water and tailings;	Elandsfontein 440JQ - Portion 30 (a portion of Portion 17); - Remaining Extent of Portion 32 (a portion of Portion 18); and - Portion 37 (a portion of Portion 16). Zilkaatsnek 439 JQ - Remaining Extent of Portion 58; and - Portion 84 (a portion of Portion 58).
Construction and operation of a Chrome Floatation plant and associated infrastructure;	Remaining Extent of Portion 48 of the Farm De Kroon 444 JQ
Construction of an electrical substation and associated infrastructure; including water management pipelines	Portion 37 (a portion of Portion 16) of the Farm Elandsfontein 440JQ Farm De Kroon 444 JQ - Remaining Extent of Portion 48; - Remaining Extent of Portion 49; - Remaining Extent of Portion 50; - Portion 142; - Remaining Extent Portion 157; - Portion 159; and - Portion 297.
MM WRD re-processing	Farm De Kroon 444 JQ - Portion 161

5.3.2 Alternative 2 (alternative)

Alternatives for the proposed project will include technology, layout and route alternatives for comparison to the preferred alternatives listed above in para. 5.3.1. Refer to ***Table 18***: Detail of the Alternative 2 (Alternative) activities that will be considered.

Table 18: Detail of the Alternative 2 (Alternative) activities that will be considered.

Preferred Activities	Alternative
Construction and operation of two ROM stockpiles	- Alternative liner specification. No other disturbed areas available, make use of disturbed areas
Raise-boring and operation Two Vent Shafts	- Alternative layout.
Mining of the Merensky Reef, including associated infrastructure	- Alternative footprint size of the opencast mining area. - Alternative routes for the haul roads. - Alternative location for the topsoil and overburden stockpiles. - Avoidance of any permanent infrastructure.
Backfilling of existing opencast pits with tailings	- Alternative technology/methodology of depositing the tailings. - Alternative route for the tailings pipeline from the Concentrator Plant to the opencast pits. - Alternative route for the return water pipeline.
Expansion and construction of pipelines for the conveying of water	- Alternative route for the pipelines.
Construction and operation of a CFP and associated infrastructure at the MM Shaft	- Alternative layout of the CFP. No other disturbed areas available, make use of disturbed areas
Construction of an electrical substation and associated infrastructure	- Alternative route for the electrical distribution infrastructure and location for the substation.
WRD reprocessing	- Alternative technology/methodology of re-processing the WRD.

5.3.3 No Go Alternative

The no-go option entails that none of the EP Proposed Projects are undertaken. Based on the preliminary risk identified if the No Go Alternative is considered and described below in Table 19: No Go Alternative option and the preliminary risks identified for each activity:

Table 19: No Go Alternative option and the preliminary risks identified for each activity.

No Go Alternative	Risks
- Consolidation of the EM / MM Environmental Licences into one integrated EMPr. - Consolidation of the MM WUL and EM WUL.	- Loss of PGM and chromite resource. - Loss of economic value. - Loss of employment opportunity. - Significant administrative burden. - Additional costs for EP. - Significant environmental liabilities if managed separately. - Limitation to underground development.
Mining of the Merensky Reef, including associated infrastructure	- No vegetation clearance. - Loss of PGM and chromite resource. - Loss of economic value. - Loss of employment opportunity. - No disturbance of the soil profile. - No additional surface and groundwater pollution.
Construction of an electrical substation and associated infrastructure;	- Reduced energy supply. - Possible power outages.
Mining at MM, including the Boundary Pillar on the UG2 reef horizon between EM and MM	- Loss of PGM and chromite resource. - Loss of economic value. - Loss of employment opportunity. - Reduced potential water management liability.
Mining of the UG1 in the existing TSF Paddock 2, 3 and 4	- Loss of PGM and chromite resource. - Loss of economic value. - Loss of employment opportunity. - No disturbance of the TSF barrier profile. - No additional surface and groundwater pollution.
Expansion and construction of pipelines for the conveying of mine affected water and tailings	- No risk of pollution of the surface and groundwater. - Loss of employment opportunity. - Loss of synergies in water management.
Raise-boring and operation two Vent Shafts;	- Limitation to underground development. - Possible risk to the safety of the underground workers.
Construction and operation of a CFP and associated infrastructure at the MM Shaft	- Loss of PGM and chromite resource. - Loss of economic value. - Loss of employment opportunity.
Construction and operation of two ROM stockpiles	- No optimisation of existing disturbed areas. - No vegetation clearance. - Reduced space for ROM stockpiling. - No disturbance of the soil profile. - No additional surface and groundwater pollution. - Loss of employment opportunities.
Construction and commissioning of associated surface and underground infrastructure.	- Loss of employment opportunity. - No land disturbance.
The MM WRD re-processing	- Loss of an additional economic benefit. - Loss of backfill material. - Loss of employment opportunity. - Minimise Rehabilitation liabilities.

No Go Alternative	Risks
Backfilling of existing opencast pits with tailings.	- Possible water recovery opportunity lost. - Increased evaporation/water loss on the TSF. - Significant environmental and financial liability. - Loss of resource. - Long-term liability. - Groundwater contamination.

6. DETAILS OF THE PUBLIC PARTICIPATION PROCESS (PPP) FOLLOWED

Describe the process undertaken to consult interested and affected parties including public meetings and one on one consultation. NB the affected parties must be specifically consulted regardless of whether or not they attended public meetings. (Information to be provided to affected parties must include sufficient detail of the intended operation to enable them to assess what impact the activities will have on them or on the use of their land.

The Stakeholder Engagement Process that will be undertaken during the project announcement phase is included in the DSR and will be undertaken in terms of Regulations 40 and 41 of the GN 982 of 8 December 2014, as amended. The following tasks will be performed during the PPP to inform stakeholders and I&Ps.

Public participation will adhere to the requirements of the Covid19 Regulations as captured in the (Disaster Management Act (Act no. 57 of 2002): Directions for alert level 3 regarding measures to address, prevent and combat the spread of COVID-19 relating to national environmental management permits and licences in Government Gazette 43412 Government Notice 650).

Evidence of PPP that will be conducted will be appended under ***Appendix 6 – I&AP Consultation Report***:

- Newspaper advertisements will be placed in at least two local newspapers;
- SMS and electronic mobile messages will be sent to I&APs;
- Site notices will be erected at the following locations:
  - Site Entrance of the EM and MM;
  - Madibeng Local Library;
  - Mmakau Police Station Notice Board;
  - Mothotlung Municipal Services Building;
  - Damonsville Community Library;
  - Entrance of Maroelabult Mine;
  - Oukasie Primary School;
  - Odi Primary School;

- Botlhabelo High School;
- Moumong Store in Mmakau;
- De Wild Helpmekaar Offices;
- Corner of Jasmyn Street and De Wilt Road in the Damonsville Community; and
- Easy Build Hardware Shop in the De Wild Community.

- Public notices / flyers and letters was distributed to the following stakeholders and I&APs:
  - NWREAD;
  - DHSWS;
  - DEAFF;
  - DMRE;
  - MLM;
  - BDPM;
  - Eskom Holdings SOC Ltd;
  - Ward No. 21 Councillor in the MLM;
  - Surrounding Ward Councillors (Wards 13, 17, 18, 19, 20, 21 and 35 of the MLM);
  - Bakgatla-Ba-Mmakau Tribal Council;
  - Landowner and neighbouring farms surrounding the Consolidated MR Area;
  - Villages, Townships and Small Dorpies (VTSD) Forum;
  - Land Claims Commissioner. The required notice will be given under section 11 of the Restitution of Land Rights Act No 22 of 1994 regarding the activities to be undertaken on Portions 61 and the Remainder of Portion 32 of the Farm Elandsfontein 440JQ, which properties are subject to land claims;
  - Ex-EPM employees and contractors;
  - Surrounding Mines; and
  - Community Members.
- Correspondence will be uploaded to online platforms.
- A public meeting will be held during the Scoping and EIA Phases (considering the Covid19 regulations and restrictions).
- Stakeholder forum meetings will be held with Farmers, community forums and other stakeholders.

The I&APs Register will continuously be maintained and updated. The existing Stakeholder Database from EP will be utilised as the baseline. The I&APs Register will be continuously updated as necessary (i.e. with new contact details, new I&APs etc.) in terms of 13 (1) (f) (ii) where … :"access to that information is protected by law in terms of the Protection of Personal Information Act (Act No. 4 of 2013)",

- on registration, I&APs will be asked to indicate whether or not their personal contact details may be recorded in the (public) FSR and Database of the NHRA, and if this is not forthcoming, the contact details will only be included in the I&AP register submitted as a confidential document to the CA, and

- the details will be retained by the CA, Applicant, the P2 Practitioner and the EAP for the duration of the LOM until closure of the mine to ensure that the I&APs can be contacted to communicate for example, ongoing monitoring reports, audits and any potential changes to the EMPr during potential future applications for environmental authorisations.

All comments received from the I&APs during the project announcement phase will be incorporated into the FSR together with a preliminary response from the Applicant, for example, if and where relevant to this application, how it would be incorporated into the specialist studies of the EIA. The I&APs will be informed of the availability of the DSR for comment; where/how these reports can be accessed and the commenting timeframes; and how comments can be submitted to the EAP. Proof of the PPP undertaken during the Impact Assessment Phase will be appended to all reports produced. Tasks to be performed to inform the registered I&APs of the availability of the documents for comment is as follows:

- All registered and I&APs will be informed of the availability of the reports for comment by means of notices sent via a legal notice in a newspaper, registered letters, e-mails, facsimile and SMS;
- The draft Reports will be made available to the public for a 30-day commenting period;
- The final Reports will be made available to the public for a 7-day commenting period;
- These reports will be made available for comment at following locations:
    - EM Security Office;
    - MM entrance;
    - Madibeng Local Library in Brits;
    - Moumong Store in Mmakau;

- The Community Library (at the Community Hall) Damonsville;
- The Community Hall in Mothotlung;
- Madibeng Business Support Centre; and
- Mmakau Police Station next to the Bakgatla-Ba-Mmakau Tribal Council offices.

6.1 Summary of issues raised by I&AP's

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

Table 20: Table summarising comments and issues raised, and reaction to those responses

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Date Comments Received	Issues raised	EAP's Response to the issues raised	Section and paragraph reference in this report where the issues and or response were incorporated.
Affected Parties					
Landowners					
Eland Platinum Mines (Pty) Ltd				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Salene Mining (Pty) Ltd					
Republic of South Africa Government					
Hernic Ferrochrome (Pty) Ltd					
Kleinsmit Familie Trust					
M C Botha					
Barplats Mines (Pty) Ltd					
Land claim by Daniel Lebelwane					
Lawful occupier/s of the land					
The EP is the lawful occupier of the land.					*Section 3 and Appendix 6*
Landowners or lawful occupiers on adjacent properties					
Transnet Ltd				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Madibeng Local Municipality					
Jo-Fana Roses CC					
National Housing Board					
Suid - Afrikaanse Ontwikkelings Trust					
Republic of South Africa Government					
Salene Mining (Pty) Ltd					
GOSA					
Hernic Ferrochrome (Pty) Ltd					
Zilkaats Wildlife Estate					

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Date Comments Received	Issues raised	EAP's Response to the issues raised	Section and paragraph reference in this report where the issues and or response were incorporated.
Zolograph Investments (RF) (Pty) Ltd ("Zolograph"),					
Bakwena N1 and N4 Toll Concession					
Madibeng Local Municipality					
National Housing Board					
South African National Roads Agency SOC Ltd					
Municipal councillor					
Ward 21 – Eland Platinum situated in the Ward *Mr MW Motlhasedi*				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Ward 13 – Surrounding Ward *Cllr Molekoa*					
Ward 17 – Surrounding Ward *Mr MA Mokgoko*					
Ward 18 – Surrounding Ward *Mr Barney A Maubane*					
Ward 19 – Surrounding Ward *Mr TS Bogale*					
Ward 20 – Surrounding Ward *Mr Chris Seabi*					
Ward 35 – Surrounding Ward *Ms Nomsa Maqakamba*					
Ward 31 – Surrounding Ward in Tshwane Metropolitan Municipality *Mr Tshepo Kgaje*					
Municipality					
Bojanala District Platinum Municipality;				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Madibeng Local Municipality;					
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWS etc.					
NWREAD				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
DHSWS					
DMRE					
SAHRA					
ESKOM					

Interested and Affected Parties List the names of persons consulted in this column, and Mark with an X where those who must be consulted were in fact consulted.		Date Comments Received	Issues raised	EAP's Response to the issues raised	Section and paragraph reference in this report where the issues and or response were incorporated.
Communities					
Damonsville Community				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Mothotlung Community					
Moumong Community					
Mmakau Community					
De Wildt Community					
Traditional Leaders / Land Claimants					
Bakgatla-Ba-Mmakau Tribal Council;				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Land Claimants for Portion 61					
Bakgatla ba Moiletswane					
Bakgatla Ba Rampakong					
Dept. Environmental Affairs Fisheries and Forestry					
Director: Environmental Authorisations				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Other Competent Authorities					
Department of Public Works Road and Transport				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Department of Rural Development					
Department of Local Government and Traditional Affairs					
Land Claims Commission					
Other Affected Parties					
Agri North West				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
Madibeng Business Support Centre					
VTSD Forum					
Interested Parties					
Culverwell Group of Companies				*Will be notified as part of the project announcement process.*	*Section 3 and Appendix 6*
De Wildt Farmers					
Conservation Areas and NGOs					

7. THE ENVIRONMENTAL ATTRIBUTES ASSOCIATED WITH THE CONSOLIDATED MR AREA

This section describes the existing status of the environment that may be affected by the EP Proposed Projects.

The following information has mostly been extrapolated from previous EMPr(s), recent EIAR and Specialist Studies submitted on behalf of EP and Barplats 2019 (Elemental Sustainability, 2019 and CHEMC, 2019). The purpose of this section is to provide a baseline description for the Consolidated MR Area and surrounds; and to identify the scope of work for the EIA phase. This has been compiled based on the following:

- Available information from the EM / MM Environmental Licences, particularly recently submitted EIARs;
- Specialist reports conducted in and around the Project Area for previous applications lodged;
- South African Weather Service ("**SAWS**");
- South African National Biodiversity Institute ("**SANBI**");
- Statistics South Africa;
- MLM IDP;
- Existing information on the environmental parameters of the Consolidated MR Area and surrounds; and
- Stakeholder and I&AP comments received (from previous EA Applications and processes).

7.1 Baseline Environment

7.1.1 Type of environment affected by the proposed activity.

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

7.1.1.1 Regional Setting

The EP Proposed Projects will be taking place within the Consolidated MR Surface Area. It falls within the MLM and is situated to the eastern part of BPDM (North-West Province). The town of Brits is located 10 km east of the EM and Tshwane Metropolitan (Pretoria) 60 km west. Neighbouring communities in proximity to the Consolidated MR Area include Damonsville, Mothotlung, Moumong, De Wilt and Mmakau.

The Project Area is surrounded by the N4 Bakwena highway to the south and the R566 Brits-Rosslyn Provincial Road to the north. The Consolidated MR Area is located within Ward 21 of the MLM and the nearby towns and residential areas are given in Table 21 (line-of-sight distances).

Table 21: Line of sight distances to nearest towns in terms of the border of Consolidated MR Area

Town	Distance Km	Direction
Damonsville	1 Km	North of the Consolidated MR Area
Moumong	1.2 Km	North-east of the Consolidated MR Area
Mothotlung	2 Km	North of the Consolidated MR Area
Tshwara	2.1 Km	North-east of the Consolidated MR Area
Ramolapong	2.4 Km	North-east of the Consolidated MR Area
Mmakau	3.0 Km	North of the Consolidated MR Area
De Wilt	3.7 Km	East of the Consolidated MR Area
Ga-Kwate	3.7 Km	North-east of the Consolidated MR Area
Brits	10 Km	West of the Consolidated MR Area
Pretoria	60 Km	East of the Consolidated MR Area

More detailed information on the regional and local setting will be provided in the EIAR.

7.1.1.2 Socio Economic Environment

a) Madibeng Local Municipality

The town Brits was founded on 25 May 1924 and it gained municipal status in 1944. During 2000 the Municipalities of Brits and Hartbeespoort were incorporated and named the Madibeng Local Municipality (Madibeng, 2018).

MLM is classified as a Category B Municipality, functioning through the Executive Mayoral System. The Municipality is demarcated into 41 Wards and the Municipal Council is represented by 82 Councillors (Madibeng, 2018).

The Brits and Hartbeespoort areas are the two main economic contributing areas within the MLM. The main primary economies comprise of the agriculture, tourism and mining sector. The Agricultural Sector can be categorized into four classifications, namely, extensive farming (44% of the Municipal area), intensive agriculture (18%), game farming (10%) and subsistence farming (28%) (MLM, 2018).

The tourism sector also contributes significantly to the MLM economy, whereas scenic routes, heritage sites, resorts and nature reserves are some of the main attractions in the tourism sector.

The Mining Sector is dominated primarily by platinum and chromium mining. Quarrying activity plays a pivotal part in the MLM economy.

b) Demographics

The socio-economic environment in the MLM can be summarised as follows:

- Population:

MLM has a population of approximately 536 110 residents (SLP, 2018), with a gender characterisation of 53.6% Male and 46.4% female. The age distribution in the MLM has been recorded as: 1) 0 - 14 years (29.4%); 2) 15 - 34 Years (34.8%); 3) 35 - 64 years (28.0%); and 4) 65+ years (7.8%).

- Economic Activity:

Provincially it was estimated in 2009 that the most dominant sector contributing to the NWP's economy was the mining industry. This was demonstrated by 25% of the economically active population being employed in this industry. The sectors with the smallest contributions to the NWP's Gross Geographic Product were electricity and water and the transportation industry. In the MLM the monthly household income average has been recorded as follow: 1) >R 6 500 = 6.3%; 2) R 800 – R 6 500 = 43.3%; 3) <R 800 = 27.3%; and 4) No Income = 23%.

- Employment Status

It was estimated that the unemployment rate of the NWP in 2009 was 26% (presenting a similar profile to South Africa as a whole – with an unemployment rate of 25% in the same year). In the MLM the unemployment status averages 30.4% versus 69.6% being employed (SLP, 2018).

- Education:

Ten percent (10%) of the working age population has had no formal education. Furthermore, only 18% of the total population in the NWP obtained a grade 12/matric education.

- Basic services:

Most of the population's households have access to piped water (61.3%), with 16.6% receiving water from neighbour/communities, 11.6% from boreholes (groundwater), 5.9% from water carrier and tankers and less than 5% from flowing water and other sources. Approximately 51.4% of households have a pit toilet without a ventilation pipe, 27.3% a flush toilet, 9.3% a pit toilet with a ventilation pipe and 10% a flush toilet connected to a septic tank and other. 2.4% do not have access to sewage and sanitation. In terms of households' dominant energy source, 86% use electricity as the primary means for lighting. Refuse removal services are provided to most households, with a small percentage of the population (an estimated nine percent (9%)) not having any refuse disposal facilities.

- Housing:

Within the NWP it is estimated that 22% of the population reside in informal dwellings (with 15% of the population living in informal settlements and seven percent (7%) in backyards).

The population growth and urbanization information indicate that in future greater pressure on environmental resources, such as open space and water, can be expected in the MLM. Timeous planning is required to provide adequate infrastructure, especially in informal settlements where lack of infrastructure leads to water, soil and air pollution.

A demographic statistical overview, as per census 2011, follows in ***Table 22*** below. The potential impacts associated on the socio-economic environment will be further considered during the Impact Assessment Phase.

Table 22: A demographic statistical overview, as per census 2011 (MLM – IDP, 2017-2018)

Population Size Census 1996 Census 2001 Census 2011	 319 974 347 578 477 381	Population group Black African Coloured Indian or Asian White	 426 192 4 292 2 445 42 691
Average annual Growth Rate	3.17%	Population (Area km²)	3839
Population density	124 per km²	Sex Ratio (Males/100 Females)	114
Number of Households	160 724	Dependency ration	0.44
Average Household Size	3.00	Female headed hh	30.3%
Gender Distribution: Male Female	 53% 47%	Age Distribution/ Structure: Young (0-14 Years) Working age (5-65 Years) Eldery (Older than 65 Years)	 25.70% 69.20% 5.10%
Employment Status - Persons 15 to 65 Years of Age: Employment Unemployment Youth Unemployment(15-34)	 69.60% 30.40% 38.20%	Monthly Income levels: No Income Income up to R800 Income between R800-R 6500 Income above R6500	 23.3% 27.3% 43.3 6.3%
Education levels - Persons Older Than 20 Years: No Schooling Some Primary to Secondary Schooling Grade 12 Higher	7.80% 57.30% 7.30% 27.60%	Formal dwellings 59.2% Housing owned/paid off 54.1% Flush toilet connected to sewerage 27.2%	Agricultural hh 23,621 Piped water inside dwelling 22.2% Electricity for lighting 81%
HIV 45.5% compared against North West Province prevalence rate of 26.7%			Weekly refuse removal 25.7%

7.1.1.3 Climate

EP falls within the Highveld Climatic Zone, as defined by Schulze (1974). The average climate for the Consolidated MR Area is presented in ***Figure 12***, using the outcome of the investigation into rainfall and evaporation for the site. While evaporation is showing as greatly exceeding rainfall, this is representative of the maximum A-Pan equivalent potential evapotranspiration that could occur, assuming no limitations are placed on evaporative demand. The combination of rainfall, evaporation and temperature results in a hot semi-arid climate, according to the Köppen climate classification. Detailed features of this climatic zone are outlined below (CHEMC, 2019):

- Temperatures in this climatic zone are generally mild, but low minima can be experienced in winter due to clear night skies. Average annual precipitation ranges from 650 mm (west) to 900 mm (east);
- Rain generally occurs in summer from October to March;
- 85% of the mean annual precipitation ("**MAP"**) falls during summer thunderstorms. The thunderstorms generally occur every 3 to 4 days in summer and are of short duration and high intensity, accompanied by strong gusty south westerly winds;
- Hail frequency is high tending to occur 4 to 7 times per season;

- Average of 75 storms occurs per year;
- Summer average daily temperatures range from 17 to 27°C, with maxima of 38°C. In winter average daily temperatures range from 0 to 13°C;
- Frosts may occur from May to September for about 120 days; and
- Light north-easterly and south-westerly winds prevail. However, strong gusty south westerly winds often accompany thunderstorms.

Various weather stations managed by both the SAWS and the DHSWS are located close to EM. The SAWS stations and DHSWS stations (A2E001) are located approximately 5km and 7.5km from the from the Consolidated MR Area, respectively. The DHSWS station has a rainfall record length of 91 years (1926 - 2017).

Lynch (2004) was also used as a source of rainfall data for the Consolidated MR Area and is the source of the MAP data. A comparison of DHSWS station A2E001 and Lynch (2004) average monthly rainfall is presented in Table 23. MAP for DHSWS station A2E001 is 686mm. MAP from Lynch (2004) indicates a MAP at the centre of the EM's TSF of 552mm.

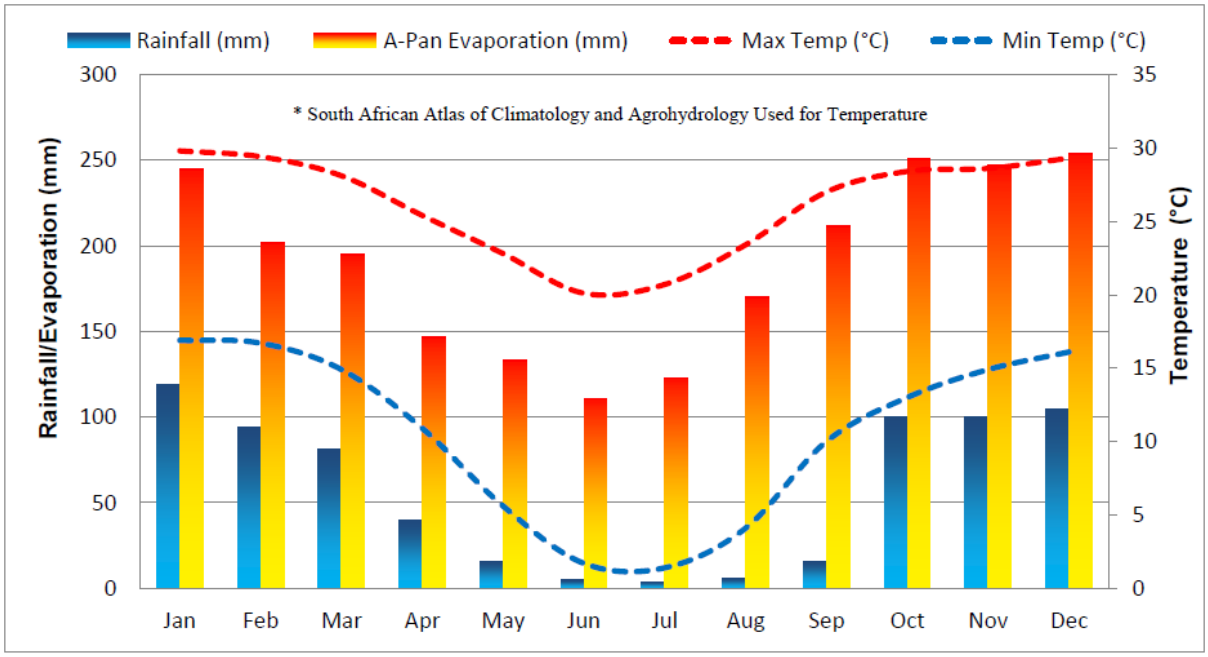


Figure 12: Average Monthly Climate for the Consolidated MR Area (Highlands Hydrology, 2018).

Table 23: Average Monthly Rainfall Distribution (Highlands Hydrology, 2018).

Rainfall (mm)		
Month	**A2E001**	**Lynch (2004)**
Jan	126	119
Feb	94	94
Mar	86	81
Apr	45	40
May	19	16
Jun	8	5
Jul	5	4
Aug	6	6
Sep	15	16
Oct	60	100
Nov	108	100
Dec	114	105

7.1.1.4 Wind Direction and Speed

Winds vary diurnally and between seasons. The predominant wind direction in the Brits area is from the east, with frequent winds also occurring from the north-east and south. During the day there is an increase in winds from the north-west and north-east. At night, wind flow occurs mainly from the east and south, with north-westerly and south-easterly winds decreasing at night. Night-time conditions also reflect a difference in wind speed ranging from 1-4 m/s at night in comparison to daily wind speed, which ranges between 2 – 13 m/s. During the summer months strong winds from the east and north-east dominate, with wind speeds of up to 17 m/s from the east. In winter, winds from the east dominate, and strong and frequent winds from the south also occur.

The potential impacts associated on the air quality will be further considered during the Impact Assessment Phase.

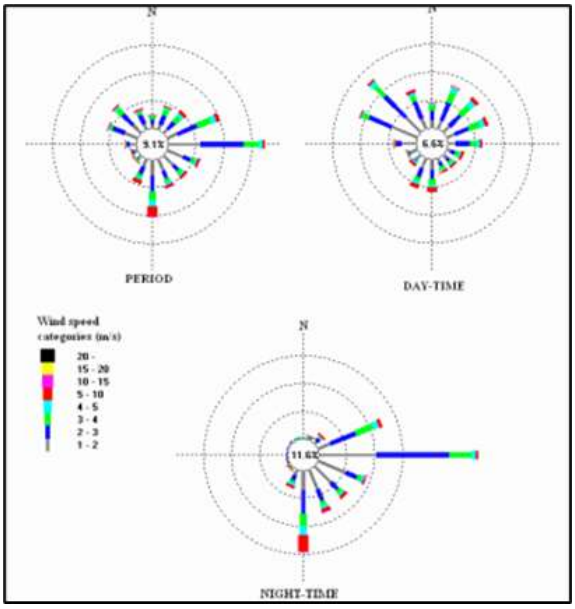


Figure 13: Wind roses for the period January 2004 to December 2004 recorded at Brits (Airshed, 2006).

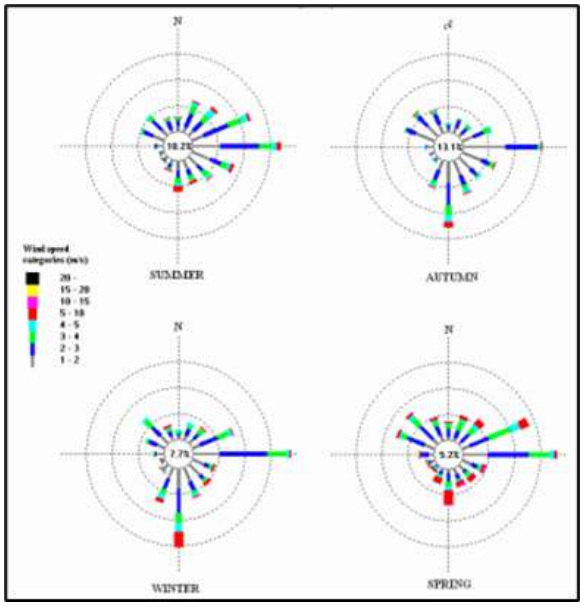


Figure 14: Seasonal wind roses for the period January 2004 to December 2004 recorded at Brits (Airshed, 2006).

7.1.1.5 Topography

The NWP, the sixth largest province in the RSA, occupies a total area of 116 320 km^2 (9,5% of the total area of the RSA). It is geographically situated between 25° and 28° south of the equator and between 22° and 28° longitude east of Greenwich Meridian. With altitudes ranging from 920 m - 1782 m above sea level, the NWP is professed to have the most uniform terrain of all provinces.

The topography of the Consolidated MR Area is relatively flat, with koppies and hills bordering the site to the north, and the Magaliesberg mountain range to the south. The Area is located approximately 6 km north of Hartbeespoort Dam and 5 km west of the Crocodile River. The average elevation of land in and surrounding the Consolidated MR Area is 1 170 m above mean sea level ("**mamsl**"). Mountain peaks in the nearest section of the Magaliesberg rise to 1 500 – 1 600 mamsl; and the Hartbeespoort Dam lies at an altitude of approximately 1 200 mamsl. The Crocodile River flows from the Hartbeespoort Dam in a north-westerly direction and passes about 5 km to the west of the Consolidated MR Area at an altitude of about 1 110 mamsl. The Karee Spruit flows north-east to south-west into the Crocodile River and runs directly north of the Area.

The overall slope of the Consolidated MR Area is 1:35. The slope increases slightly to the north near the Msilitswane koppie (Trig beacon no. 16), which peaks at 1 317.2 mamsl. The lowest point on the site is at 1 142 mamsl, where a non-perennial stream leaves the EM Mine

Area, along the western boundary north of the railway line. The topography in parts of the Consolidated MR Area has been altered by existing infrastructure and operation.

The potential impacts associated with site topography will be further considered during the Impact Assessment Phase, with specific mention of the decommissioning phase.

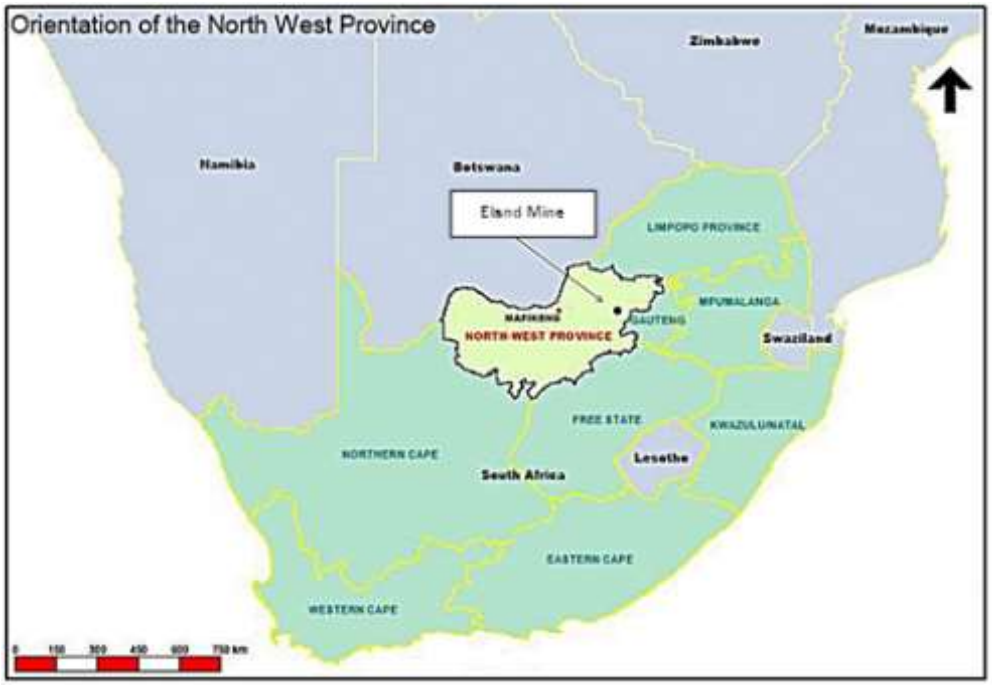


Figure 15: Orientation of the North-West Province – South Africa.

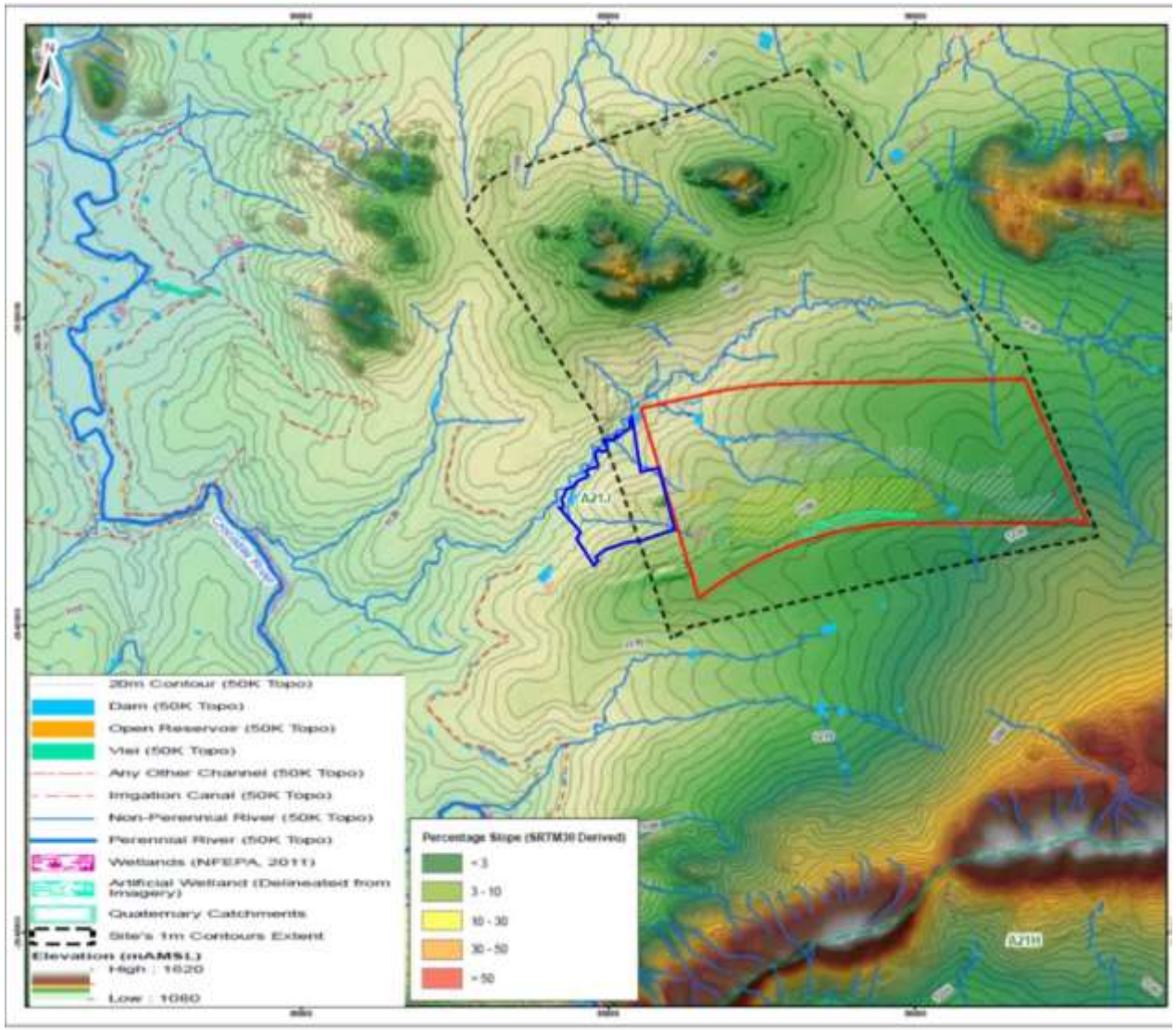


Figure 16: Local Topography of the Consolidated MR Area and Surrounding Area (not to scale), Highlands Hydrology, 2018.

7.1.1.6 Regional Geology

Southern Africa is characterised by the presence of large mafic to ultramafic layered complexes, the best known of which are the Great Dyke in the Zimbabwe Craton and Bushveld and Molopo Complexes in the Kaapvaal Craton (SLR, 2012). By far the largest, best-known and economically most important of these is the Bushveld Igneous Complex ("**BIC**"), which was intruded about 2060 million years ago into rocks of the Transvaal Supergroup, largely along an unconformity between the Magaliesberg quartzite of the Pretoria Group and overlying Rooiberg felsites. The total estimated extent of the BIC is some 66 000 km^2, of which about 55% is covered by younger formations. The Rustenburg Layered Suite ("**RLS**") comprises the mafic phase of the BIC and is host to several economically extracted minerals, such as chromite, vanadium and platinum group elements (PGM). The RLS is divided into five zones known as the Marginal, Lower, Critical, Main and Upper Zones from the base upwards (***Figure 17***). Both the Merensky Pyroxenite and UG2 Reef occur within the Upper Critical Zone.

The Critical Zone is divided into the Lower Critical and Upper Critical (***Figure 18***). The transition between the Lower and Upper Critical Zone is defined as the last occurrence of upper most Middle Group (MG) chromitite horizon, usually the MG4. The MG1 and MG2 chromitite layers are extensively mined for chrome.

The Upper Critical Zone is characterised by regular and often fine-scale rhythmic, or cyclic, layering of well-defined layers of cumulus chromite within pyroxenites and olivine-rich rocks.

The first important cycle is the lower of the two Upper Group Chromitite Layers (the UG1 Chromitite Layer). This unit consists of a chromitite layer and underlying footwall chromitite layers that are interlayered with anorthosite. The overlying UG2 chromitite is important because it contains economic concentrations of PGMs and is extensively mined.

The two uppermost cycles of the Critical Zone are the Merensky and Bastard cycles. The former is also of great economic importance, as it contains at its base the PGM-bearing Merensky Reef, a pegmatitic feldspathic pyroxenitic assemblage, with associated thin chromitite layers. The top of the Critical Zone is generally defined as the top of the robust anorthosite (the Giant Mottled Anorthosite) that forms the top of the Bastard cyclic unit.

The economically viable chromite reserves of the BIC, most of which are hosted in the Critical Zone, are estimated at 68% of the world's total, whilst the BIC also contains 56% of all known PGM.

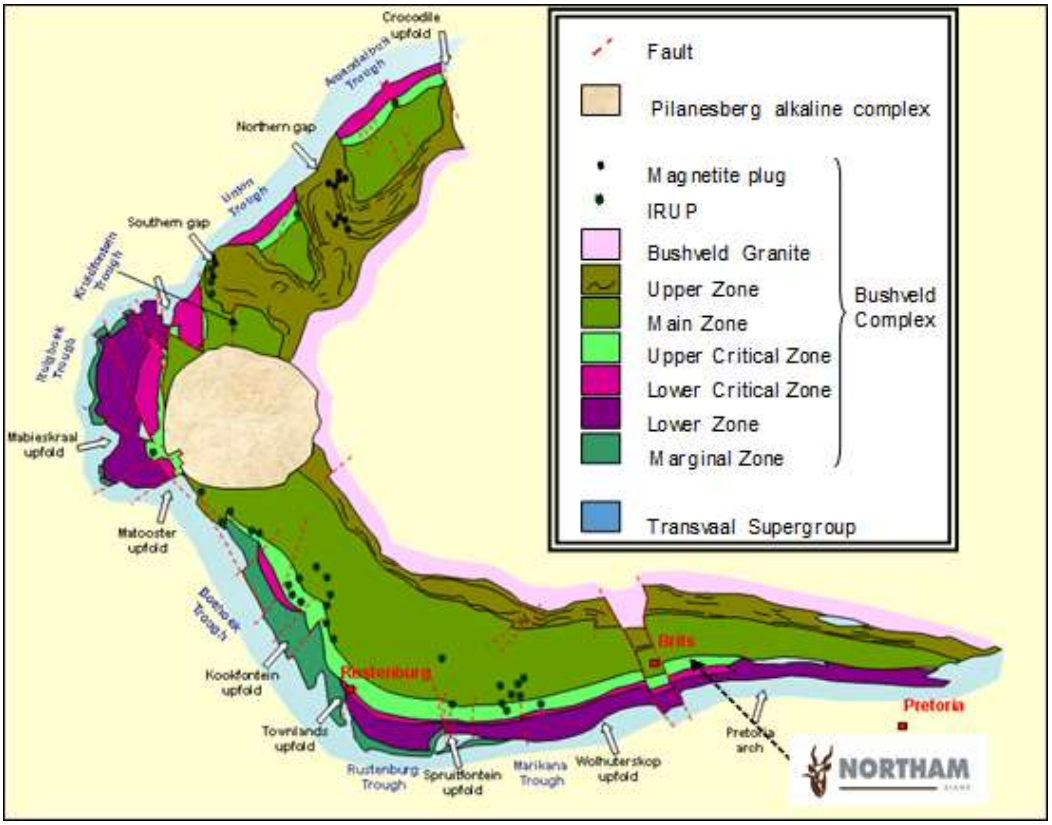


Figure 17: Generalised layout of the western Bushveld Complex

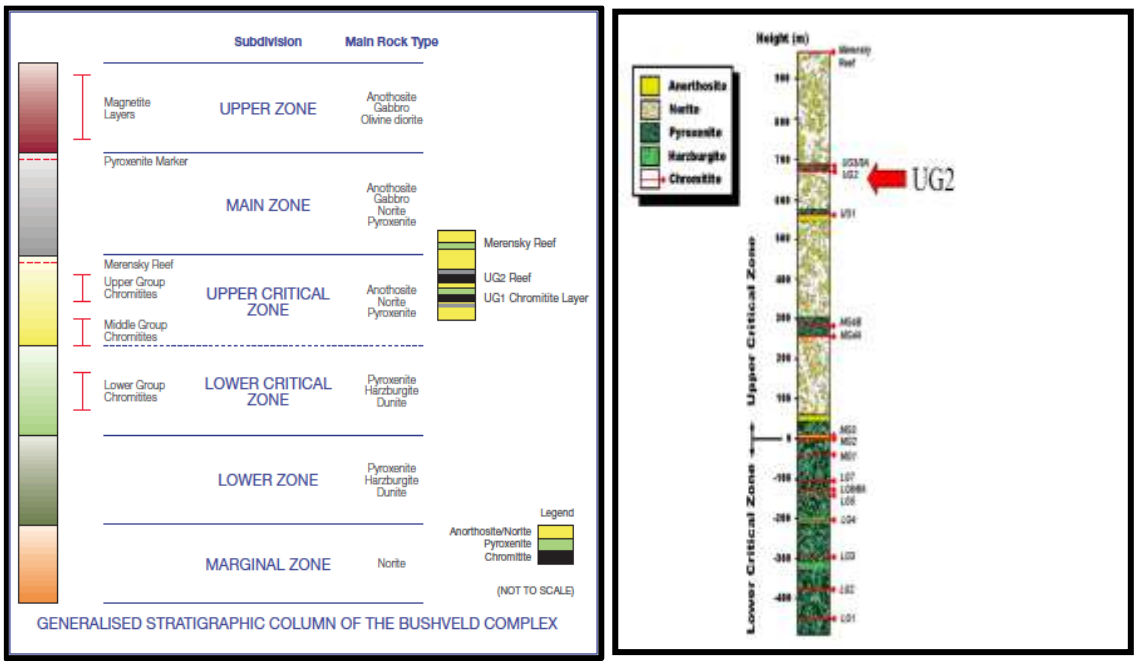


Figure 18: Generalised stratigraphy on the western Bushveld Complex

7.1.1.7 Local Geology

A generalized local stratigraphy at the Consolidated MR Area is provided in ***Figure 19*** below The potential impacts associated with the geology will be further considered during the Impact Assessment.

STRATIGRAPHIC COLUMN OF ELAND PLATINUM MINE			
MARKERS		**LITH**	**LOCAL STRAT**
END OF MAIN ZONE		GN (Gabbro Norite)	**MZ**
START OF CRITICAL ZONE		MA (Mottled Anorthosite)	**MH5a**
CAT FEET		SA (Spotted Anorthosite)	**MH5b**
GIANT MOTTLES		MA (Mottled Anorthosite)	**MH5c**
		AN (Anorthositic Nortite)	**MH4**
BASTARD REEF		PxN (Pyroxenitic Norite)	**MH3a**
		MA (Mottled Anorthosite)	**MH3b**
		N (Norite)	**MH2**
		MA (Mottled Anorthosite)	**MH1a**
		SA (Spotted Anorthosite)	**MH1b**
MERENSKY		PX (Pyroxenite)	**MR**
		MA (Mottled Anorthosite)	**MF1**
		N (Norite)	**MF2**
BOULDERS		MA (Mottled Anorthosite)	**MF3a**
		N/SA	**MF3b**
BANDED BSN		PxN (Pyroxenitic Norite)	**MF4**
		N (Norite)	**MF5**
		SA/MA	**MF6**
		SA (Spotted Anorthosite)	**U2H2**
		MA (Mottled Anorthosite)	
		SA (Spotted Anorthosite)	
		MA (Mottled Anorthosite)	
		SA/N	
		PX (Pyroxenite)	**U2H1a**
			U2H1b
UG2		CR (Chromitite)	**U2U**
		AN/PX/Cr (Anorthosite or Pyroxenite with chromitite stringers/lenses)	**IWP**
		CR (Chromitite)	**U2L**
		An/PPx (Pegmatoidal Pyroxenite)	**U2F1**
		N (Norite)	**U2F2**

Figure 19: Local Stratigraphic column of at the Consolidated MR Area.

7.1.1.8 Soils

Soils are a significant component of most ecosystems. Soil acts as an ecological driver; soil is the medium in which most vegetation grows and a range of vertebrates and invertebrates exist.

The major soil types encountered on the EM Mine Area include those of the orthic phase Mispah, Glenrosa and Hutton along with the more structured forms, including the Milkwood, Mayo, Shortlands, Sterkspruit, Swartland and Valsrivier with most of the hydromorphic forms classifying as Sepane Form.

The dominant soils in the Sale Portion Area are of the Arcadia or Rensburg soil forms (SRK, 2000). The soil types comprise of black-swelling clay soils of the Arcadia Soil Form, with a grey wetter subsoil of the Rensburg Soil Form.

The structure of the soils varies from moderate crumby and moderate blocky structure to strong blocky and massive, where the soils are either colluvially derived or associated with the more basic dolerite parent materials. The soils range from silty clay loams to clay loams.

The potential impacts associated with the soil disturbance will be further considered during the Impact Assessment Phase.

7.1.1.9 Land Use

Prior to mining activities, the land was used mainly for growing sunflower crops. Currently the land is used for mining and mineral processing related processes, with some areas of open veldt, agricultural lands, recreational area (game farm) and mining infrastructure (CHEMC, 2019). The land use where the EP Proposed Projects will take place comprises of agricultural crop lands, recreational area (game farm), open veldt, mining, mineral processing and the EM Surface Area.

The EP Proposed Projects will be located within the existing Consolidated MR Surface Area that has been fenced with access control (Refer to ***Figure 20*** and ***Figure 21*** for the EM and MM Surface Infrastructure Plan).

The potential impacts associated with the existing and future land-use aspects will be further considered during the Impact Assessment Phase.

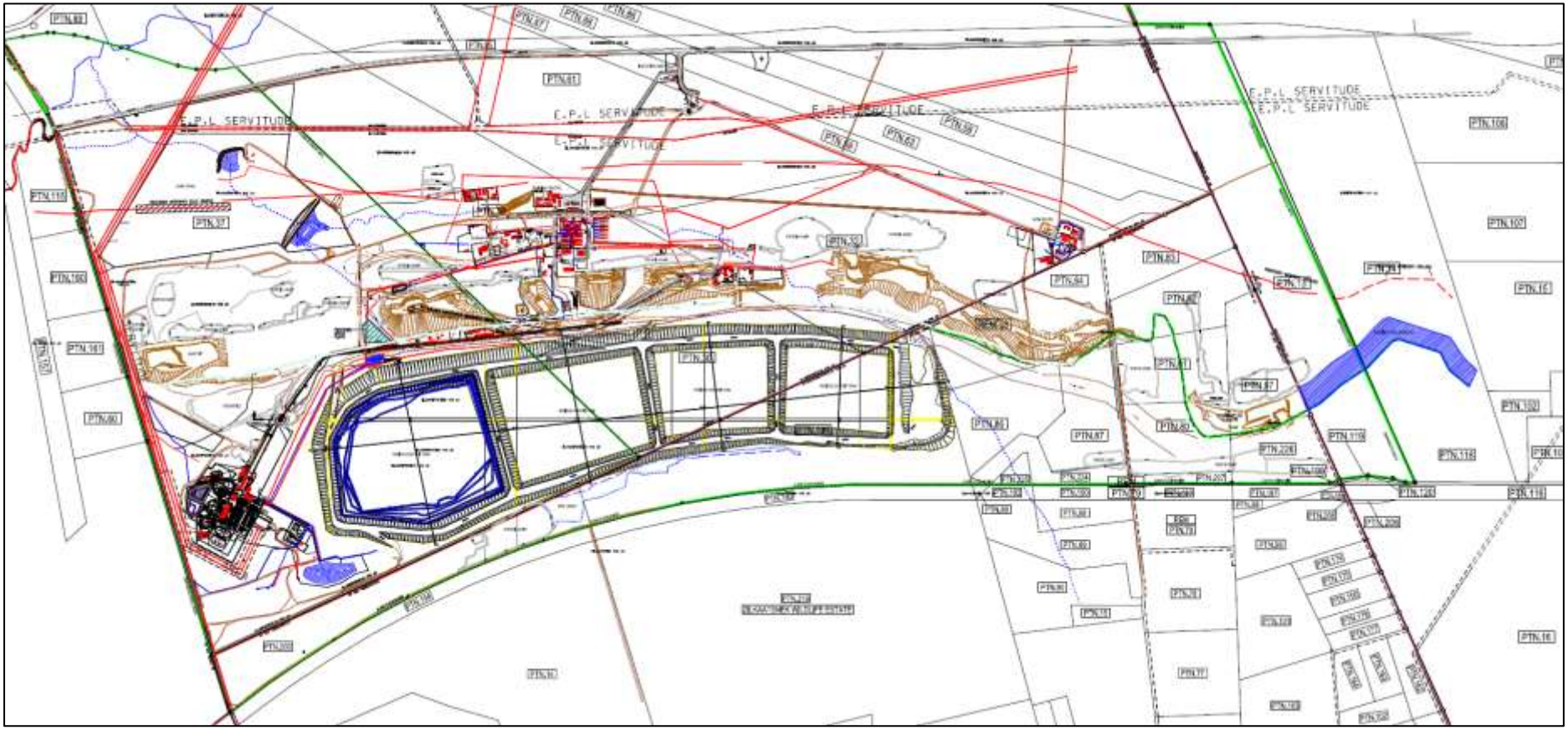


Figure 20: Surface Infrastructure Plan for EM

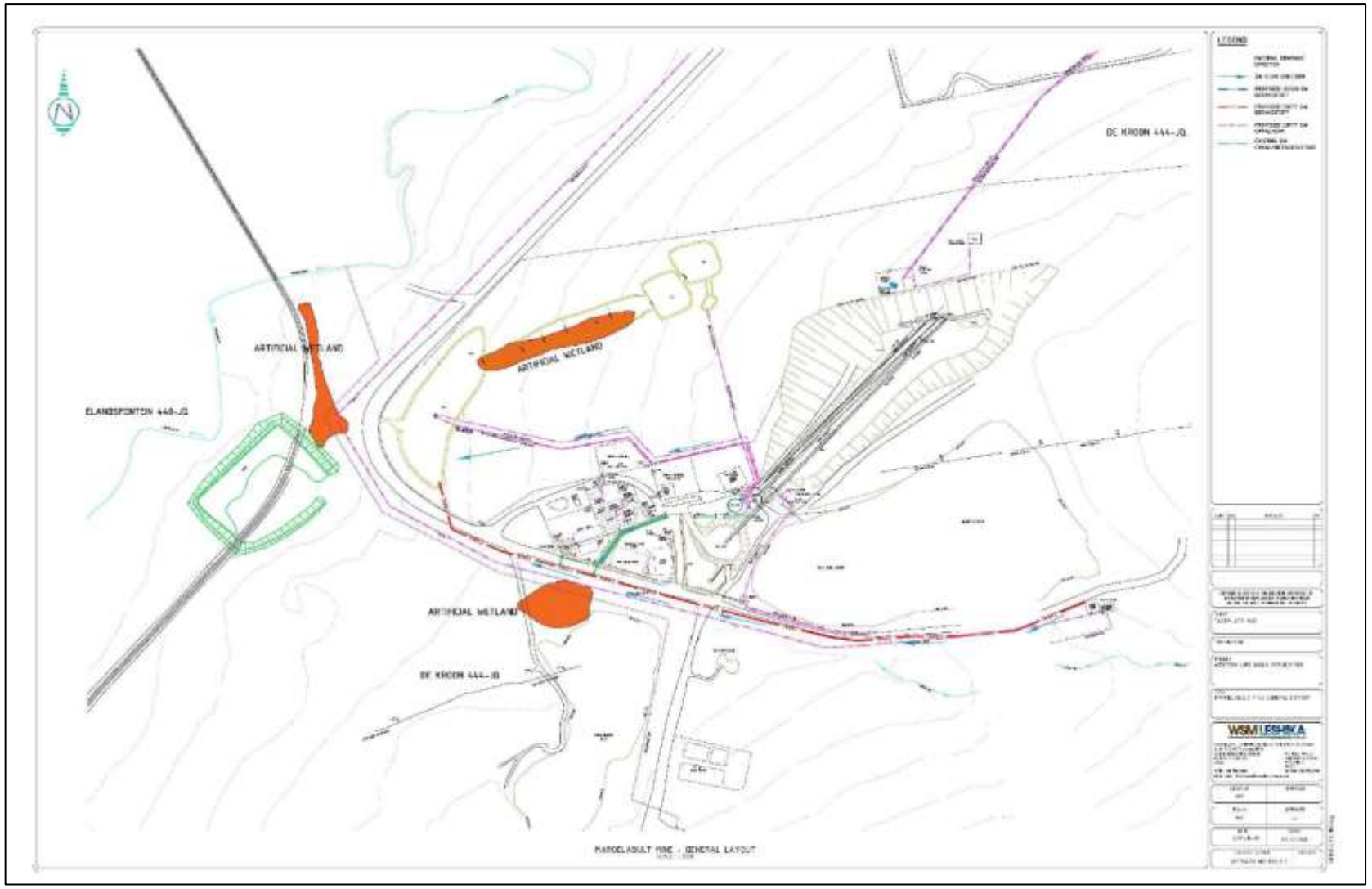


Figure 21: General Infrastructure Plan for MM (Elemental Sustainability, 2019).

7.1.1.10 Land Capability

EM and MM are both established mining operations. Details of the existing mining, processing and auxiliary infrastructure are captured in the ***Table 24*** below. Refer to ***Figure 20*** and ***Figure 21*** for the infrastructure plan for EM and MM, indicating the existing land-uses and infrastructure.

Table 24: Details of the current land capability of the EM and MM operations.

Operation	Established	Surface area/extent	Existing Infrastructure
Eland Mine	2006	+/- 1624 Ha	• Workshops and Stores; • Overburden and Topsoil Stockpiles; • Opencast Mining Pits; • Concentrator Plant; • Water Management Infrastructure (i.e. dams, channels and pipelines); • Sewage and Water Treatment Plant; • Two Incline Shafts (Kukama and Nyala) and supporting infrastructure; • TSF (four Paddocks); • Offices and auxiliaries, including a mine clinic, laboratory and training centre, • Recreational Area (Game Farm); • Agricultural fields; and • Haul and internal Roads.
Maroelabult Mine	2000	+/- 20 Ha	• Administrative offices and parking; • Main plant area; • Stockpiles (topsoil, product, etc.); • Haul roads; • Two WRDs; • Lay down areas; • Water management structures / infrastructure (pollution control dams, SWD, stormwater diversion berms / trenches, and associated pumps / piping); • Conveyor belt system; • Above ground diesel tanks; and • Septic tank.

Suitable land capabilities for the post decommissioning phase will be considered during the Impact Assessment Phase.

7.1.1.11 Surface Water

The Consolidated MR Area falls within quaternary catchment A21J of the Crocodile River West Catchment, which is in the Crocodile West Marico Water Management Area (Highland Hydrology, 2018).

No perennial watercourses are located on the Consolidated MR Surface Area, however non-perennial watercourses (non-perennial tributaries of the Kareespruit) are located and traverse the areas. The Kareespruit flows north-east to south-west of the Consolidated MR Area. The Kareespruit feeds into the Crocodile River about 5km to the west of the Area. The non-perennial tributaries mentioned above were diverted around the mining areas and licensed accordingly (EP and MM WULs). Most of the drainage on the Consolidated MR Surface Area is primarily by sheet flow in preferential storm water paths and mine-related stormwater control measures (Highland Hydrology, 2018). The general direction of flow across the Consolidated MR Area and its surrounding area occurs in a westerly direction (CHEMC, 2019).

The Consolidated MR Area lies within an agricultural district, which is served by canals from the Hartbeespoort Irrigation Scheme. There are no canals on the EM Surface Area; the closest canal to the Consolidated MR Area the west canal, flows in a south to north direction approximately 5km to the west.

Surface water quality in the region generally exhibits high levels of nitrate (Water Hunters, 2018), which are elevated above the recommended DWAF domestic use guidelines (DWAF Water Quality Guidelines, 1996). Water in the Crocodile River (the nearest perennial water source to the Consolidated MR Area) does not meet applicable irrigation standards for total dissolved solids and manganese concentrations (Water Hunters, 2018).

The tributary of the Kareespruit prior to the construction of the TSF was situated from south-east to north-west. EP however received a sections 21 (c) and (i) WUL to divert the watercourse (EP WUL).

Surface water sampling is conducted for both EM and MM on set points in the non-perennial streams and watercourses surrounding the Project Area. Sampling is undertaken monthly, as required in the EP and MM WUL(s). The sampling locations are shown on ***Figure 23*** and ***Figure 24.***

The potential impacts associated with the hydrological and stormwater management aspects will be further considered during the Impact Assessment Phase.

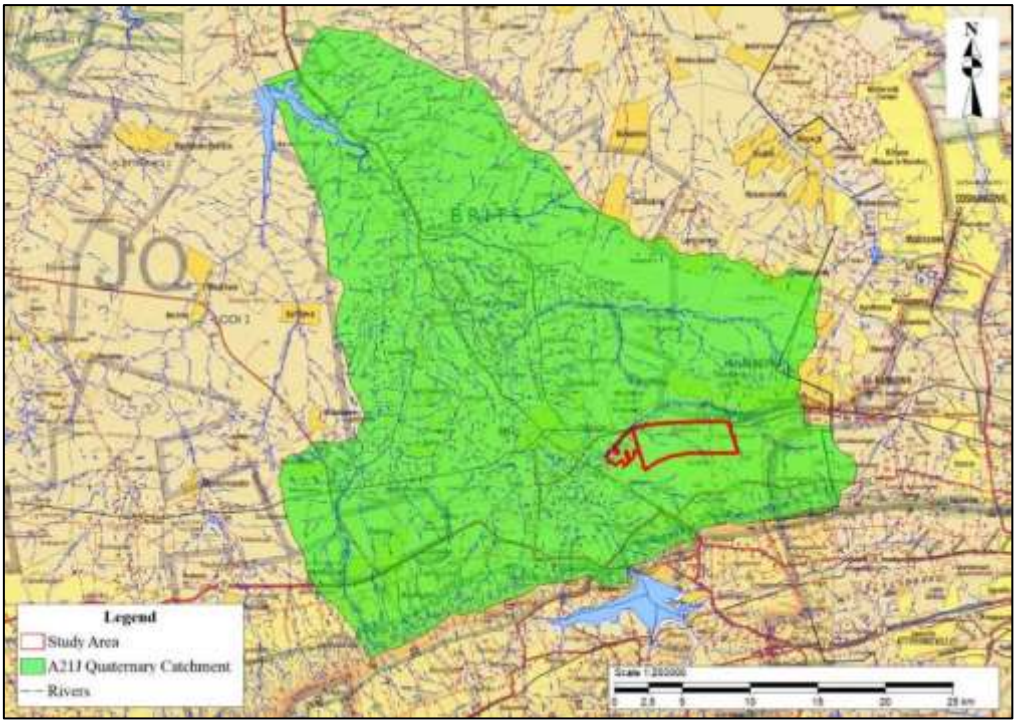


Figure 22: Location of the Eland Platinum Mine in relation to its catchment and receiving water bodies.

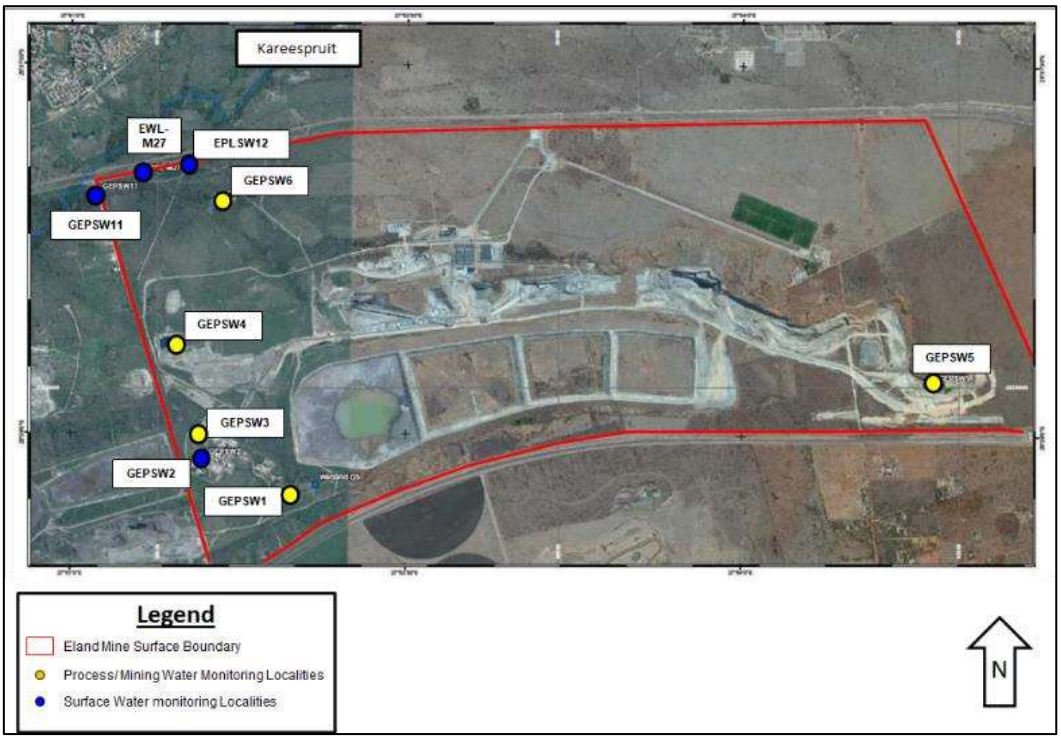


Figure 23: Aerial map of the EM surface and process water monitoring localities (Aquatico, 2020).[2]

[2] Note - Yellow dots represent process water points and blue dots surface water points.

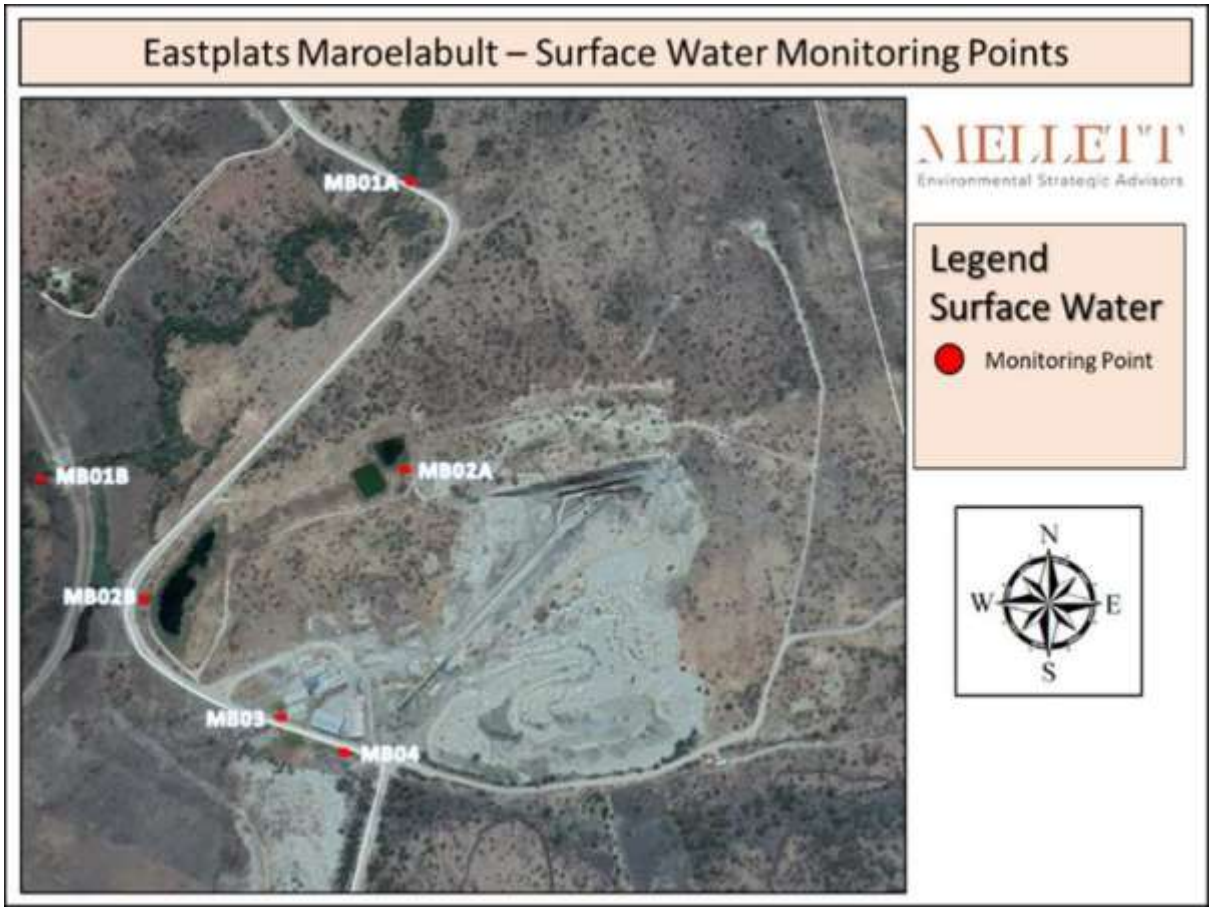


Figure 24: Surface Water Monitoring Points for Maroelabult (Mellett, 2019).

7.1.1.12 Geohydrology

Groundwater is a valuable resource and is defined as water which is located beneath the ground surface in soil/rock pore spaces and in the fractures of lithological formations (Water Hunters, 2018). Groundwater in and surrounding the Consolidated MR Area is used mainly for mining, domestic supply and agricultural irrigation.

There are four aquifers present at the EM area as detailed below (Water Hunters, 2018).

- The soil contains a layer of black turf clay in the uppermost horizons. The soil/alluvium layer is between 1 and 5m thick.
- The weathered zone of the gabbro, norite and anorthosite is overlain by hill wash and weathered quartzite from the Magalies Mountains, forming a semi-confined, shallow weathered zone aquifer between 5-30m.
- The weathered gabbro forms one of the low potential aquifers in the Area and it is underlain by solid and fractured bedrock.

- Fault zones in the weathered/fractured gabbro formations form preferential pathways for groundwater flow and there are two distinctive faults.

The aquifer beneath the EM Mine Area would classify as a Minor Aquifer (Parsons, 1995), due to the general yields of less than 2.5 l/s (Water Hunters, 2018). The fractured systems could form Major Aquifer zones within the larger Minor Aquifers. Refer to the map below indicating the geological features of the Consolidated MR Area, including the surrounding boreholes - ***Figure 25.***

The MM mining area is bounded by faults that act as barriers to groundwater flow (SRK, 2000). Two aquifers are interconnected, namely the upper weathered and fractured norite and anorthosites aquifer and the deeper water-bearing fractures within the unweathered Bushveld Complex rocks (SRK 2000).

EM and MM have an extensive groundwater monitoring network. Any reduced groundwater quality is actively identified through the groundwater monitoring programme. The location of the groundwater monitoring network is illustrated in ***Figure 26*** and ***Figure 27***.

The potential impacts associated with the geohydrological aspects will be further considered during the Impact Assessment Phase.

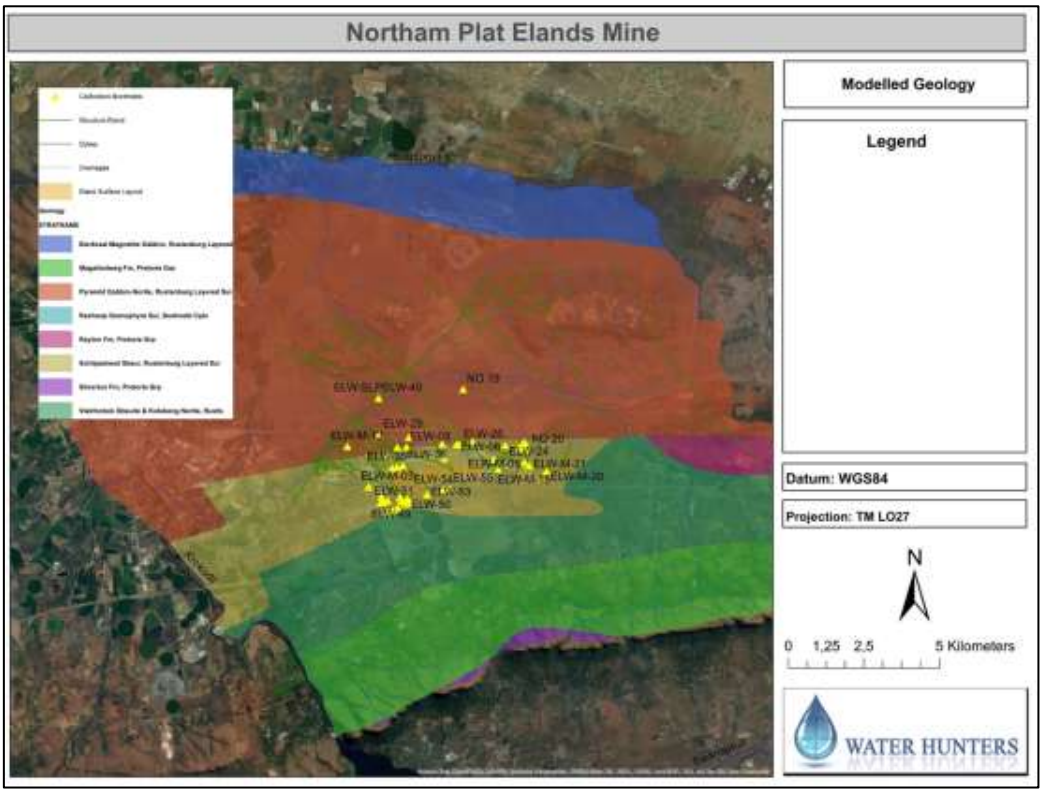


Figure 25: Geology and the surrounding boreholes (Water Hunters, 2018).

Figure 26: Location of the groundwater monitoring wells on Eland Platinum Mine (Aquatico, 2020).

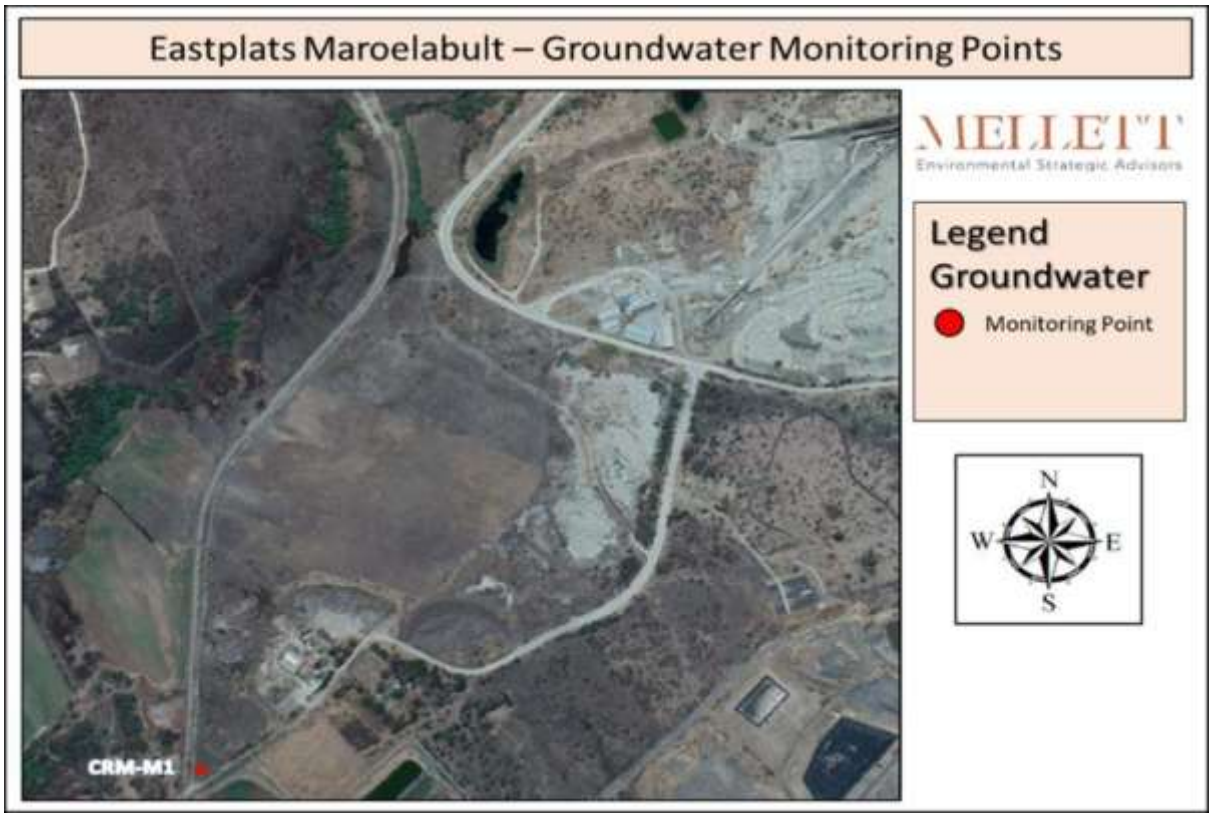


Figure 27: Maroelabult Groundwater Monitoring as per MM WUL (Mellett, 2019).

7.1.1.13 Ecology

The Project Area is located within the Savanna Biome and is depicted in ***Figure 28*** below (Rutherford & Westfall, 1994 and Mucina & Rutherford, 2006). The Savanna Biome is regarded as the spatially largest biome in South Africa, comprising some 32.5% of the country (Rutherford & Westfall, 1994). According to Mucina & Rutherford (2006) the Project Area falls in the Marikana thornveld and the Moot Plain Bushveld biome.

Table 25 below contains data accessed as part of the desktop assessment. It is important to note, that although all data sources used provide useful and often verifiable high-quality data, the various databases do not always provide an entirely accurate indication of the Consolidated MR Surface Area and the actual biodiversity characteristics.

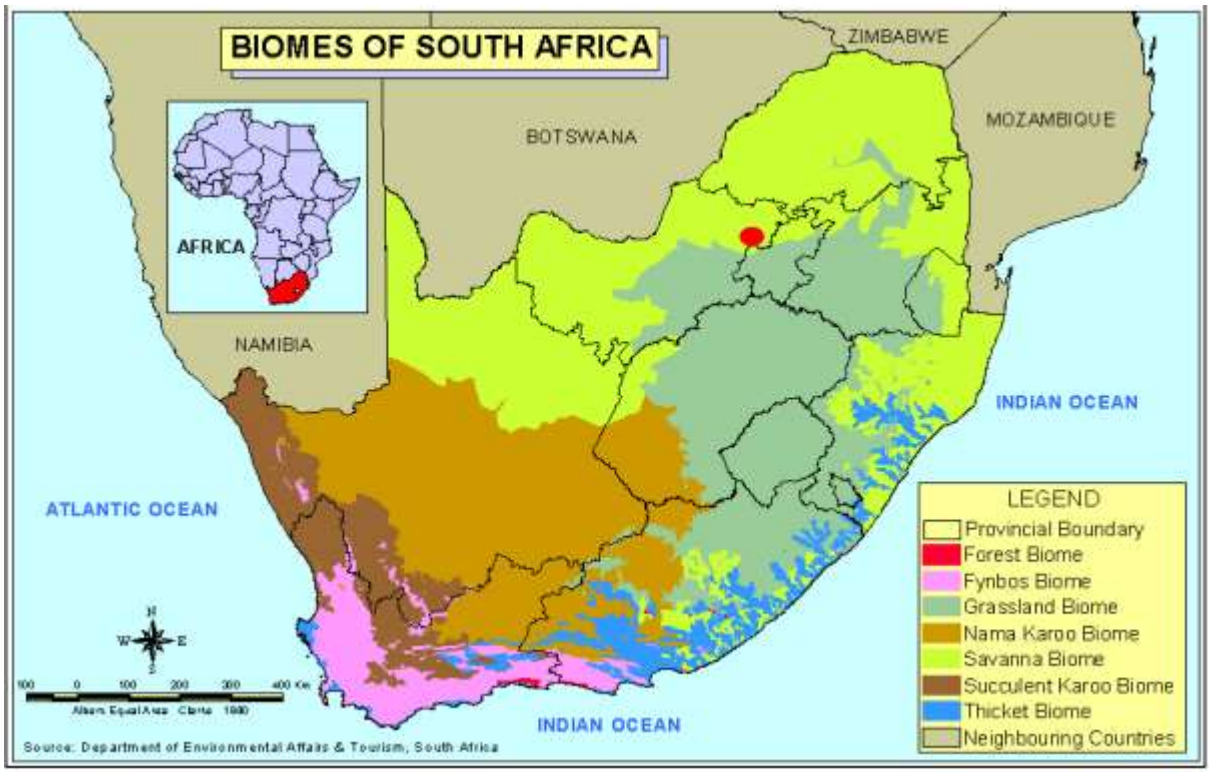


Figure 28: Biomes associated with the Project Area.

Table 25: Summary of the conservation characteristics for the Consolidated MR Surface Area (SAS Environmental, 2018).

DETAILS OF THE EM & MM SURFACE AREA IN TERMS OF MUCINA & RUTHERFORD (2012)		DESCRIPTION OF THE VEGETATION TYPE(S) RELEVANT TO THE EM SURFACE AREA (MUCINA & RUTHERFORD 2012)	
Biome	The Project Area is situated within the **Savanna Biome.**	**Vegetation Type**	Marikana Thornveld
Bioregion	The Project Area is located within the **Central Bushveld Bioregion**	**Climate**	Summer rainfall with very dry winters
Vegetation Type	The Project Area is situated within the **Marikana Thornveld**	**Altitude (m)**	1050 - 1450
CONSERVATION DETAILS PERTAINING TO THE EM SURFACE AREA (VARIOUS DATABASES)		**MAP* (mm)**	682
National Biodiversity Assessment (2011)	The Project Area falls within an area that is currently not protected.	**MAT* (°C)**	19.4
National Threatened Ecosystems (2011)	A significant section of the project area is located in the vulnerable Marikana Thornveld Ecosystem.	**MFD* (Days)**	21
		MAPE* (mm)	2284
SACAD (2017), SAPAD (2017) & National Protected Areas Expansion Strategy ("NPAES") (2009)	According to SACAD (2018, Q1) the Project Area falls within the Magaliesberg Biosphere Reserve. The SAPAD (2018, Q1) and NPAES (2009) database indicate that the Magaliesberg Protected Natural Environment is situated ± 3.4km south of the Project Area. SAPAD (2018, Q1) additionally shows the Hartbeespoort Dam Nature Reserve to be located ± 3.9km south west and the M'Nandi Private Nature Reserve ± 3km east of the Project Area. No other protected areas are located within 10 km of the Project Area.	**MASMS* (%)**	76
		Distribution	North-West and Gauteng Provinces
		Geology & Soils	Most of the area underlain by mafic intrusive rocks of the Rustenburg Layered Suite of the BIC. Rocks include gabbro, norite, pyroxenite and anorthosite. The shales and quartzites of the Pretoria Group (Transvaal Supergroup) also contribute. Mainly vertic melanic clays with some dystrophic or mesotrophic plinthic catena's and some freely drained, deep soils.
IBA (2015)	The Project Area is located the Magaliesberg IBA. The most important trigger species in the IBA is the globally threatened Cape Vulture.		
MINING AND BIODIVERSITY GUIDELINES (2013)			
High Biodiversity Importance	The south-western portion of the Study Area is situated within an area considered of high biodiversity importance. These areas include critically endangered and endangered ecosystems, CBAs (or equivalent areas) from provincial spatial biodiversity plans, River and wetland Freshwater Ecosystem Priority Areas ("**FEPAs**"), and a 1km buffer around these FEPAs, as well as RAMSAR Sites. These areas are viewed as necessary to ensure protection of biodiversity, environmental sustainability, and human well-being. **Mining Implications:** A site investigation by qualified specialists is required to confirm that these areas are located within an area of interest. If these areas are confirmed, authorisations may well not be granted. If granted, the authorisation may set limits on allowed activities and impacts and may specify biodiversity offsets that would be written into licence agreements and/or authorisations. Most of the southern and north-western portions of the EM Surface Area fall within an area considered of high biodiversity importance. High biodiversity importance areas include protected area buffers (around National Parks, World Heritage Sites and Nature Reserves), Trans frontier Conservation Areas (remaining areas outside of formally proclaimed protected areas), other identified priorities from provincial spatial biodiversity plans and high-water yield areas, amongst others. These areas are important for conserving	**Conservation**	Endangered. Approximately 3% conserved. Conservation target is 24%.
		Vegetation & landscape features (Dominant Floral Taxa in Appendix B)	Open *Vachellia karroo* woodland, occurring in valleys and slightly undulating plains, and some lowland hills. Shrubs are denser along drainage lines, on termitaria and rocky outcrops or in other habitat protected from fire

	biodiversity; supporting / buffering other biodiversity priority areas; and maintaining important ecosystem services for particular communities or the country as a whole. **Mining implications:** Mining options may be limited in these areas, and red flags for mining projects are possible. Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations	**NORTH WEST BIODIVERSITY SECTOR PLAN (NWBSP, 2015)** Large portions of the Project Area, particularly areas along the edges, are situated within a terrestrial CBA2, while the remaining central and southern portions of the Study Area are identified as ESA1 and ESA2. CBAs are terrestrial or aquatic areas of the landscape that need to be maintained in a natural or near natural state, to ensure the continued existence and functioning of species and ecosystems and the delivery of ecosystem services. The CBA 2 is considered a critical corridor linkage, forms part of the 5km Protected Areas buffer, and is an IBA in a natural state. Critical linkages in the provincial biodiversity corridor network where existing conversion of natural landscapes to other land uses has severely restricted options for maintaining connectivity in the natural landscape. If these areas are not in a natural state, they are then categorised as ESA2. ESAs are terrestrial and aquatic areas that are not essential for meeting biodiversity representation targets (thresholds) but which nevertheless play an important role in supporting the ecological functioning of CBAs and/or in delivering ecosystem services that support socio-economic development, such as water provision, flood mitigation or carbon sequestration. The ESA1 within the EM Surface Area is identified as an IBA (corresponds with the Magaliesberg Important Bird and Biodiversity Area). The ESA2 areas form part of the 5km Protected Areas buffer (Magaliesberg Protected Environment) that is not natural, with the north-eastern patches considered biodiversity corridors consisting of cultivated areas.
Moderate Biodiversity Importance	Several small sections within the north west portion of the Project Area are situated within an area considered of moderate biodiversity importance. Moderate biodiversity important areas include Ecological Support Areas ("**ESAs**"), vulnerable ecosystems and focus areas for protected area expansion. These areas are of moderate biodiversity value and therefore pose a moderate risk to mining. EIAs and associated specialist studies should focus on confirming the presence and significance of these biodiversity features, identifying features (e.g. threatened species) not included in the existing datasets, and providing site-specific information to guide the application of the mitigation hierarchy. **Mining implications:** Authorisations may set limits and specify biodiversity offsets that would be written into licence agreements and/or authorisations.	

MAT = Mean annual temperature; MAPE = Mean annual potential evaporation; MFD = Mean Frost Days; MASMS = Mean annual soil moisture stress (% of days when evaporative demand was more than double the soil moisture supply).

7.1.1.14 Flora

In the pre-mining environment, the natural vegetation was dominated by various Acacia species, particularly Acacia tenuispins (a shrublet associated with black turf soils) (SLR, 2012). Where natural vegetation still occurs, these species are still dominant. Along drainage lines not disturbed by existing mining activities, the vegetation associated with these features includes Rhus lancea (Karree), Diospyros lycioides (Blue Bush), Erhetia ridida (Puzzle Bush), Pappea capensis (Jacket Plum), Grewia spp. (Raisin Bush) and Zizyphus mucronata (Buffalo Thorn). ***Table 26*** below list the common floristic species observed within the Consolidated MR Area.

- **Invader or exotic species**

Several alien invasive species are common to the EM and MM Surface Area. These include *Jacaranda mimosifolia* (Jacaranda), *Melia azederach* (Syringa), *Datura stromium* and *ferox* (Thorn Apple), *Agave sisalana* (Sisal hemp), *Argemone ochroleuca* (White-flowered Mexican poppy), *Cereus jamacaru* (Queen of the night), *Lantana camara* (Lantana), Nicotiana glauca (Wild tobacco) and several others.

Table 26: Common Floristic and grass species observed in and around the Consolidated MR Area (SLR, 2012).

Scientific Name	English name
Floristic Species	
Acacia tenuspina	-
Diospyros lycioides	Blue Bush
Erhetia ridida	Puzzle Bush
Pappea capensis	Jacket Plum
Grewia spp.	Raisin Bush
Lanea discolor	Live Long
Sclerocarya birrea	Marula
Gymnosporia spp.	Kraal Thorn
Faurea saligna	Boekenhout
Peltophorum africanum	Weeping Wattle
Vitex zeyheri	Silver Pipe-stem Tree
Diplorhynchus condylocarpon	Horn Pod
Obetia tenax	Mountain Nettle
Croton gratissimus	Lavender Feverberry
Pouzolzia mixta	Soap Nettle
Ficus ingens	Red-leaved Fig
Ficus thonningi	Common Fig
Diospyrus whyteana	Bladder-nut
Euphorbia ingens	Common Tree Euphorbia
Acacia karroo	Sweet Thorn
Dichrostachys cinerea subsp. *Africana*	Small-leaved Sickle Bush
Peltophorum africanum	Weeping Wattle
Rhus lancea Karree	Karree
Rhus leptodictya	Mountain Karree
Ziziphus mucronata	Buffalo Thorn

Scientific Name	English name
Grewia flava	Velvet Raisin
Dombeya rotundifolia var. *rotundifolia*	Wild Pear
Combretum molle	Velvet Bush-willow
Euclea crispa subsp. *Crispa*	Blue Guarri
Olea europaea subsp. Africana	Wild Olive
Boophone disticha	Century plant
Grass species	
Digitaria eriantha	Finger grass
Bothriochloa insculpta	Pinhole Grass
Eragrostis spp.	Love Grass
Hyparrenia hirta	Thatching Grass
Aristidia congesta	Three-awn Grass
Ischaemum afrum	Turf Grass
Setaria sp.	Bristle Grass
Cymbopogon plurinoides	Turpentine Grass
Panicum spp. -	-
Themeda trianda Redgrass	Redgrass
Panicum maximum Guinea grass	Guinea grass
Heteropogon contortus Spear Grass	Spear Grass

7.1.1.15 Fauna

The Consolidated MR Surface Area comprises of disturbed land, with small patches of relatively undisturbed land (CHEMC, 2019). The occurrence of animal life within the Area is influenced by vegetation habitat (described above); human settlement (in the surrounding areas); and current mining activities. The vegetation habitat and human settlement were factors that already influenced the pre-mining site.

Table 27: List of faunal species that may potentially occur on and around the Consolidated MR Area.

English Name	Scientific Name
Brown Hyaena	*Hyaena brunnea*
Common Duiker	*Sylvicapra grimmia*
Forest Shrew	*Mysorex varius*
Giant Bullfrog	*Pyxicephalus adspersus*
Greater Dwarf Shrew	*Suncus lixus*
Honey Badger	*Melivora capensis*
Lesser Grey-brown Shrew	*Crocidura silacea*
Lesser Red Musk Shrew	*Crocidura hirta*
Marsh Sylph Butterfly	*Metisella meninx Marsh*
Reddish-grey Musk Shrew	*Crocidura cyanea*
Rock Dormouse	*Graphiurus platyops*
Rock Hyrax	*Procavia capensis*
Rusty Bat	*Pipistrellis rusticus*
Serval	*Leptailurus serval*
Short-snouted Elephant Shrew	*Elephantulus brachyrhynchus*
Slender Mongoose	*Galerella sanguinea*
South African Hedgehog	*Atelerix frontalis*
South African Python	*Python natalensis*

English Name	Scientific Name
Spotted-necked Otter	*Lutra maculicollis*
Steenbok	*Raphicerus campestris*
Swamp Musk Shrew	*Crocidura mariquensis*
Tiny Musk Shrew	*Crocidura fuscomurina*
Tree Squirrel	*Paraxerus cepapi*
Welwitsch's Hairy Bat	*Myotis welwitschii*

Table 28: List of important birds possibly occurring at the Consolidated MR Area and surrounding areas.

English Name	Scientific Name
African Grass Owl	*Tyto capensis*
Marsh Owl	*Asio capensis*
Black Stork	*Ciconia nigra*
Yellow-billed Stork	*Mycteria ibis*
Secretary Bird	*Sagittarius serpentarus*
Cape Vulture	*Gyps coprotheres*
African White-backed Vulture	*Gyps africanus*
Ayres' Hawk Eagle	*Hieraaetus ayeresii*
Tawny Eagle	*Aquila rapax*
Martial Eagle	*Polmeatus bellicosus*
Lanner Falcon	*Falco biarmicus*
Lesser Kestrel	*Falco naumanni*
Blue Crane	*Anthropoides paradisea*
Yellow-throated Sandgrouse	*Pterocles gutturalis*
Red-billed Oxpecker	*Buphagus erythrorhynchus*

The potential impacts associated with the disturbance of biodiversity (i.e. flora, fauna and wetlands) will be further considered during the Impact Assessment Phase.

7.1.1.16 Air Quality

The Brits-Rustenburg Region is the industrial hub of the NWP, with all the platinum, chromium and vanadium mines located in this Region.

EM falls within the Waterberg-Bojanala National Priority Area, as contemplated in section 18(1) of NEM:AQA, 2004. The Waterberg-Bojanala National Priority Area was established due to the exceedance of the ambient air quality standards or alternatively that a situation exists within the Area which is causing or may cause a significant negative impact on air quality in the area and the area requires specific air quality management action to rectify the situation.

The main sources of pollution include (Airshed, 2006):

- *Industrial sources*

Hernic Ferrochrome is located to the west of the EM. Emissions derived from the smelter operations include particulates (PM10 size fraction, including heavy metals); sulphur dioxide (SO_2); oxides of nitrogen (NOx); carbon dioxide (CO_2); and, to a lesser extent, hydrogen sulphide (H_2S), ammonia (NH_3), hydrochloric acid, hydrogen fluoride, etc. Heavy metals including magnesium, trivalent chromium, iron, aluminium, zinc, calcium, potassium, sodium, manganese, titanium, tin, lead, hexavalent chrome, barium, and vanadium.

- *Fugitive dust sources*

These sources are termed fugitive because they are not discharged to the atmosphere in a confined flow stream. Sources of fugitive dust identified to potentially occur in the Consolidated MR Area include paved and unpaved roads; agricultural tilling operations; and wind erosion of sparsely vegetated surfaces.

Emissions from unpaved roads constitute a localised and temporary emission to the atmosphere in the RSA. Dust emissions from unpaved roads vary in relation to the vehicle traffic and silt loading on the roads. Emissions from paved roads are significantly less than those originating from unpaved roads, however they do contribute to the particulate load of the atmosphere. The fugitive dust emissions are due to the resuspension of loose material on the road surface.

Emissions generated by wind erosion are dependent on the frequency of disturbance of the erodible surface. Every time that a surface is disturbed, its erosion potential is restored. Further erodible surfaces may be due to agriculture and/or grazing activities.

- *Mining emission sources*

The main air pollutant generated by mining activity is dust. Sources of dust include haul roads, plant operations (crushing and milling) and tailings dams. The amount of dust emitted by these activities depends on the physical characteristics of the material and the way in which the material is handled.

- *Domestic fuel combustion*

Domestic households are known to have the potential to be one the most important sources contributing to poor air quality within residential areas. Individual households are low volume emitters, but their cumulative impact is significant. It is likely that households within the local communities/settlements utilise coal or wood for cooking and / or space heating (mainly during winter) purposes.

- *Biomass burning*

Biomass burning includes the burning of evergreen and deciduous forests, woodlands, grasslands, and agricultural lands. Within the vicinity of the Consolidated MR Area, crop-residue burning and wildfires (locally known as veld fires) may represent significant sources of combustion-related emissions. In addition to the impact of biomass burning within the vicinity of the Consolidated MR Area, long-range transported emissions from this source can be expected to impact on the air quality between the months of August to October. It is impossible to control this source of atmospheric pollution loading however, it should be noted as part of the background or baseline condition before considering the impacts of other local sources.

- *Vehicle tailpipe emissions*

Emissions resulting from motor vehicles can be grouped into primary and secondary pollutants. While primary pollutants are emitted directly into the atmosphere, secondary pollutants form in the atmosphere due to chemical reactions. Significant primary pollutants emitted combustion engines include carbon dioxide (CO_2), carbon (C), and sulphur dioxide (SO_2), oxides of nitrogen (mainly NO), particulates and lead.

Secondary pollutants include NO_2, photochemical oxidants such as ozone, sulphur acid, sulphates, nitric acid and nitrate aerosols (particulate matter). The EM Surface Area is bordered by two main regional roads, namely the N4 and the R566 between Rosslyn and Brits.

- *Informal refuse burning*

Additional sources of emissions emanate from the waste sector and typically include informal refuse and tyre burning. The informal burning of refuse tips within community areas and burning of waste at local municipal landfill sites represents a source of concern in all provinces.

Dust Monitoring

EM comprise of both open pit and underground mining activities and the Concentrator Plant, whereas MM comprises of underground mining activities with surface auxiliary activities. Sources of atmospheric pollutants identified include dust from drilling and blasting operations in the opencast pits; raw materials handling operations, such as tipping and material loading; wind erosion from the open storage piles; vehicle entrained dust from roads; and conveyor transfer points (CHEMC, 2019). Crushing and screening are also significant sources of ambient dust.

EP and MM operates a network of single dust fallout monitoring buckets to monitor monthly fallout in and around the area of operation. The monitoring network consists of 17 monitoring points (9 on EM and 8 on MM) located within designated positions in and surrounding the EM and MM mining operations. The location of the existing dust fallout monitoring stations is illustrated in ***Figure 29*** and ***Figure 30***. The potential impacts of the EP Proposed Projects on the air quality will be further considered during the Impact Assessment Phase.

Figure 29: Monthly dust fallout monitoring locations for Eland Platinum (Aquatico, 2020).

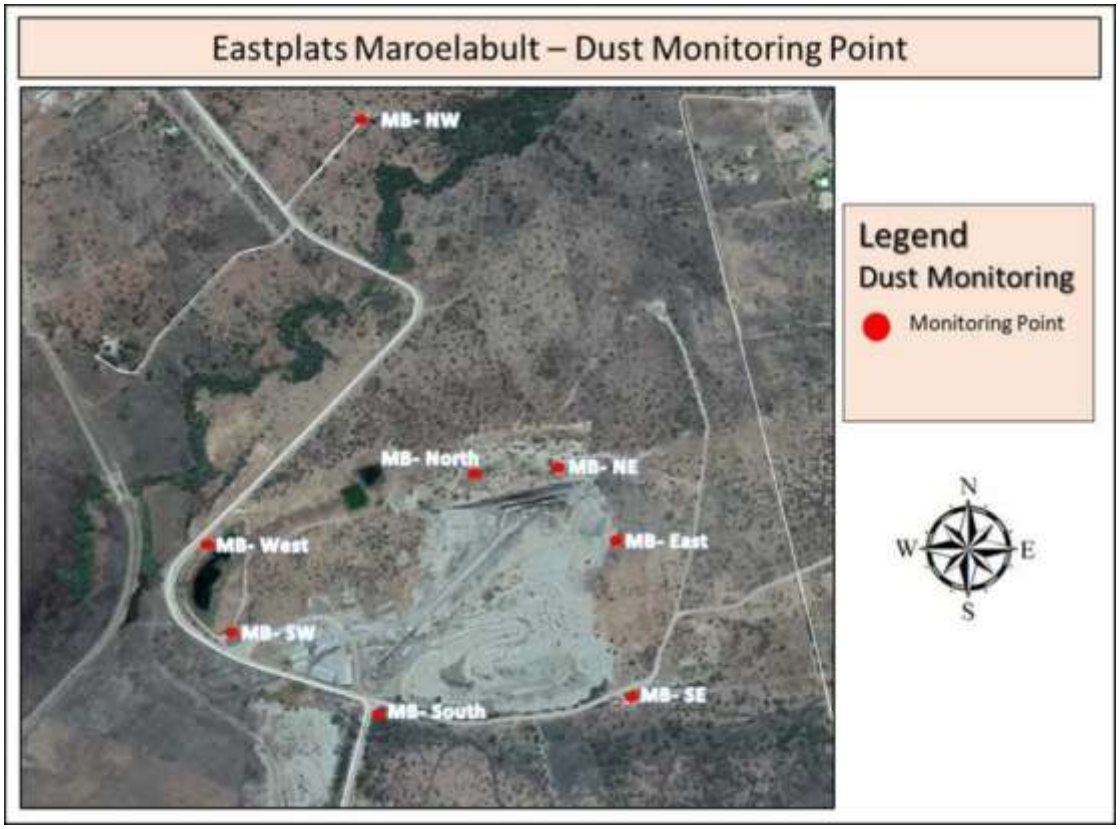


Figure 30: Maroelabult sampling sites measured during the Air Quality Programme (Elemental Sustainability, 2019).

7.1.1.17 Noise

The general noise climate in the Consolidated MR Area and surrounds can be described as industrial / semi-rural (SLR, 2012). The noise climate in the Area is characterised by activities associated with farms and smallholdings, industrial and mining operations, as well as local communities.

Existing sources of noise include (CHEMC, 2019):

- Traffic (heavy and light vehicles) on the N4, R511 and R566 (Rosslyn road);
- Various mining operations, including MM, Hernic, Lonmin and EM;
- The railway line; and
- The Brits industrial area to the west of EM and MM.

The previous noise sampling survey, undertaken at a residence near to the R566, shows that the average daytime level corresponds to the typical level found in suburban districts with little road traffic (SLR, 2012). This was deemed by the specialist to be reasonable, considering the location of the smallholding and the level of road infrastructure and industrial development in the area. The night-time ambient noise in this area was elevated to a higher level by mining

noise and by specific sources of mining noise, which at times were clearly perceptible above the general ambient noise.

The potential noise impacts associated with the proposed activities will be similar to the existing and previous EM and MM operations (CHEMC, 2019). The potential noise impacts will be further considered during the Impact Assessment Phase.

7.1.1.18 Visual quality

Data on the visual resource was collected from 1:50 000 topographical maps and available satellite imagery for the site (SLR, 2012). EM and MM are located within a “mining belt”, characterised by semi-industrial and mining related activities.

The landscape character, aesthetic value and sense of place have been altered by the abovementioned activities (CHEMC, 2019). The EM Surface Area is visible from areas immediately adjacent to it and from elevated vantage points in the surrounding areas.

The existing EM and MM facilities are visible from several vantage points, such as the Magalies Berg, R556 Road to the north and the N4 Highway south of the operation (CHEMC, 2019).

The EP Proposed Projects will be located within the Consolidated MR Surface Area. EM and MM have existing distinctive visual features, i.e. TSF, Concentrator Plant, WRDs and surface infrastructure. The EP Proposed Projects will likely increase the current visual impact of EM and Concentrator Plant, with the addition of the Ventilation Shafts, opencast mining of the Merensky Reef and new ROM stockpiles.

The potential visual impacts will be further investigated during the Impact Assessment Phase.

7.1.1.19 Heritage Environment

The Consolidated MR Area is located to the north of the Magaliesberg, which is known for its rich and diverse range of heritage resources (De Beer 1975). Stone Age sites are scattered along the Magaliesberg and are also found in its caves and rock shelters. Rock engraving sites are located further towards Maanhaarrand and Rustenburg in the west. Blockhouses along the Magaliesberg and colonial farm homesteads are still common in Marikana and on the outskirts of Brits (Madibeng). The most abundant heritage, however, are those that date

from the Late Iron Age and which are associated with the numerous Tswana chiefdoms who occupied this region during the last four centuries.

Two Phase 1 HIAs have been conducted for the EM Surface Area to identify heritage resources and their conservation importance. Several heritage resources exist within the larger EM Mine Area, of which majority occur to the north of the R566 Provincial Road (Pistorius, 2006 and 2010). These include:

- Clusters of stone walled sites dating from the Late Iron Age (found along and higher up on the Msiletswane and Mothotlung Mountains in the northern section of the Farm Elandsfontein);
- Four informal and formal graveyards in the northern and central part of the Farm Elandsfontein;
- The remains of a historical village extending slightly into the north-western part of the area. The remains comprise a historical settlement consisting of stone walls; a younger settlement built primarily with mud and brick dwellings; and an informal graveyard; and
- Remains which date from the more recent past.

Archaeological findings at MM include broken pottery and grindstones of the Late Iron Age. This pottery belongs to the Olifantspoort facies of the Moloko Branch and dates from about AD 1440 to 1640. There are also two graveyards that belong to the later Historic Period (Elemental Sustainability, 2019).

The Heritage and Palaeontology Study will be updated, and the findings will be included in the EIAR.

7.1.2 Description of the current land uses.

Refer to ***Table 17*** for the property description on which the EP Table 17: List of the Alternative 1 (preferred alternative) activities and the applicable property description.Proposed Projects will be located (Refer to ***Figure 1*** and ***Figure 2***):

The details of the properties and their respective ownership is detailed in ***Table 5.*** Other than the mining and mineral processing infrastructure situated on the properties, the properties are also utilised for agricultural uses (i.e. crop production, etc.); auxiliary uses (i.e. workshops, offices, mine clinic and training centre); and services (i.e. electricity and roads).

Refer to ***Figure 20*** and ***Figure 21*** for the plans indicating the proposed improvements to the surface infrastructure of the EM and MM operations.

8. IMPACTS IDENTIFIED

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

This part of the document focuses on the identification of the major potential environmental and socio -economic impacts as a result of activities, processes and actions associated with the EP Proposed Projects on the surrounding environment (as required in terms of Regulation 21(3) of the 2014 EIA Regulations).

8.1 Alternative 1 (Preferred Alternative)

8.1.1 Phases of Impacts

For the purposes of this impact identification, the project timeframe will be subdivided into the following four phases:

- Planning and Construction Phase.
- Operational Phase.
- Decommissioning and Closure Phase.
- Post Closure Phase.

Potential cumulative and residual impacts have also been identified, where applicable.

8.1.1.1 Planning and Construction Phase

Activities that will be carried out during the Construction Phase include the following:

- Establishing of construction camp;
- Vegetation Clearance and topsoil stripping;
- Establishing of Topsoil and Overburden Stockpiles;
- Earthworks, i.e. excavation and removal of soil and material;
- Concrete mixing and casting;
- Construction of the:
    - Two Ventilation Shafts and associated infrastructure;
    - Two new ROM Stockpiles and associated stormwater and pollution management infrastructure;

    - CFP and associated infrastructure at the MM Shaft on an existing disturbed area;
    - New substation and associated electricity distribution infrastructure;
- Establishing of the infrastructure to convey tailings from the Concentrator Plant to the opencast pits for tailings backfilling;
- Upgrading and expansion of haul roads for the transportation of material and general equipment movement;
- Expansion of existing and the development of new pipelines for the conveying of tailings and water;
- Managing building rubble and construction waste generated during the construction;
- Continued ground and surface water monitoring; and
- Dust suppression and monitoring.

8.1.1.2 Operational Phase

Activities that will be conducted in the Operational Phase include the following:

- Depositing tailings in the opencast pits for rehabilitation;
- Mining of the Merensky Reef, including trucking and hauling ROM to the Concentrator Plant;
- Operation of the Ventilation Shafts;
- Storage of ROM on the new ROM Stockpiles;
- Mining of the UG1 in Paddock 2, 3 and 4, including trucking and hauling ROM to Concentrator Plant;
- Operation of the CFP next to the MM Shaft;
- Crushing and re-working of the MM WRD;
- Pumping return water from the backfilled pits to the return water sump;
- Mining of the Boundary Pillar on the UG2 reef horizon;
- Continuous inspection of the proposed facilities in order to ensure they meet the EA and WUL requirements;
- Monitoring of the dust fallout, surface and groundwater for pollution;
- Continued ground and surface water monitoring; and
- Dust suppression and monitoring.

8.1.1.3 Decommissioning and Closure Phase

Decommissioning and closure activities will be conducted as per the closure plan for the Consolidated MR Area. A summary of the decommissioning and closure phase activities will included include the following:

- Identify the infrastructure (i.e. pipelines, channels, roads and other services); buildings (i.e. laboratory, offices and workshops); and post mining structures (i.e. dams, Concentrator Plant, WTP, etc.) that will remain post closure of the mining operation;
- Decommissioning of infrastructure and structures as the closure of the mine commences;
- Rehabilitation of the mining areas as per the Rehabilitation and Closure Plan; and
- Monitoring of environmental features as decommissioning activities continues (i.e. surface and ground water, soil quality, contaminated land and dust fall-out monitoring).

This list is provisional and will be revised annually, with a focussed and detailed evaluation and revision five years before planned end of the LOM.

8.1.1.4 Post-Closure Phase

Post-closure activities will gradually be phased in during the decommissioning and closure phase to ensure a stable post closure ecosystem on which a closure certificate can been obtained from the DMRE. Possible activities that might be conducted during the post-closure phase include the following:

- Monitoring of surface and groundwater for pollution;
- Implementation of a judicious soil nutrient supplementation and grazing management system to ensure the ground cover develops to a sustainable and acceptable level;
- Monitoring the rehabilitated areas for signs of erosion, poor vegetation growth, fertility etc.;
- Monitoring the sustainability of rehabilitation; and
- Replacement of topsoil (if topsoil was lost due to erosion and remediation of the cause of the erosion).

8.1.2 Impacts identified

The main potential impacts preliminarily identified for the EP Proposed Projects are listed below; these impacts will be further investigated during the EIA phase. The EIAR will include a full risk assessment of all environmental impacts as per the methodology set-out under ***Section 9.9***. The EIAR and EMPR, in terms of NEMA, will set out mitigation measures to be implemented during the Construction, Operational, Decommissioning and Closure and Post-Closure Phases. ***Table 29*** below lists the potential impacts that have been identified as part of the proposed activities.

Refer to ***Section 9.9*** of this Scoping Report for the Impact Assessment methodology that will be followed as part of the EIA process.

Table 29: List of the potential impacts associated with the proposed activities

Potential Impact	Aspect
Air Quality	- Dust and associated emissions during construction, operational and decommissioning phases of the EP Proposed Projects.
	- Dust emissions during operation, particularly associated with loading and offloading of material; dumping of overburden and waste rock; and the transport of material via either truck or conveyor.
	- Dust emissions associated with the clearance of large areas.
	- Fugitive dust emissions associated with the wind entrainment of large areas of exposed earth and dumped material that will be created during the EP Proposed Projects.
	- Vehicle emissions associated with the construction, operation and decommissioning phases.
	- Post-mining residual air quality impact due to the remaining mining infrastructure (i.e. TSF).
Visual	- Potential visual impact on users of roads near proposed infrastructure.
	- Post closure residual visual impact due to the remaining mining infrastructure (i.e. TSF).
Surface water	- Increased sedimentation and silt loads of storm water and run-off.
	- Impacts on the storm water and run-off quality.
	- Habitat modification of the established drainage areas and water courses
	- Changes to the Water- and Salt Balance.
	- Changes in the flow regime of the diverted and existing non-perennial watercourses.
Groundwater	- Dewatering leading to the formation of a dewatering cone, reduced groundwater levels and reduced availability of water.
	- Formation of a contamination plume due to infiltration of contaminants into the groundwater
	- Reduction in the baseflow in the Kareespruit River system
	- Post-closure liability on the groundwater quality.
Noise	- Noise impact from construction, operation and decommissioning machinery and vehicles.
Fauna and Flora	- Establishment of alien invasive plants
	- Loss of ecosystem goods and services
	- Clearance of endemic vegetation

Potential Impact	Aspect
	- Disturbance of fauna due to noise, light and dust
	- Increase in road traffic kills of fauna
	- Lack of functional vegetation at closure phase due to absence of: • adequate and incorrect rehabilitation practices; • monitoring; and • corrective follow-up action.
Waste	- Building rubble and construction waste will be generated during the construction of the EP Proposed Projects.
Land	- Disturbance of the land capability on undisturbed footprints.
Traffic	- Increase in traffic leading to traffic incidents and accidents.
Socio-economic	- Social unrest due to conflicts between work seekers.
	- Increased pressure on local infrastructure and services.
	- Population influx.
	- Increase in alcohol and substance abuse.
	- Unemployment at closure phase that will lead to loss of income and collapse of social projects.
	- Loss of revenue for MLM.
Soil	- Disturbance to the functionality and productivity of the soil stripped for excavations and bulk sampling.
	- Disturbance of the soil profile.
	- Soil erosion by means of water and wind movement.
	- Soil pollution due to spillages.
	- Soil compaction due to vehicle and machinery movement.
	- Soil degradation due to lack of / or incorrect rehabilitation and potential erosion during the Closure Phase.
Raw Water (positive)	- Potential higher water recoveries
	- Reduced water losses due to evaporation
Health and Safety (Positive)	- Optimal ventilation of underground workings
Socio-Economic (Positive)	- Creation of temporary jobs during the Construction Phase.
	- Safe underground mine workings.
	- Skills transfer and development.
	- Multiplier effects on the local economy.
	- Optimal abstraction of PGM and chrome resources.
	- Contribute to water provision, social infrastructure and skills development through the SLP projects.
	- Contribution to the local, regional, provincial and national economy.
	- Promotion of agricultural skills.
	- Establishment of post mining land uses.
	- Continuation of business opportunities, additional to the mining after closure of the Consolidated MR Area.
Land (Positive)	- Historical disturbed area will be used for the location of majority of the activities.
	- Promotion of post mining land-uses.
Waste (positive)	- Promotion of the waste management hierarchy.
	- Future uses of tailings.

8.1.3 Cumulative Impacts

The proposed potential cumulative impacts, as presented in ***Table 30*** below, have been preliminarily identified and will be investigated further during the EIA phase.

Table 30: Proposed potential cumulative impacts

Aspects originating to the Cumulative Impacts	Cumulative impacts
Biodiversity-Alien species	
• Invasive and alien plant establishing on disturbed areas; • Soil compaction on stockpiles and un-vegetated areas;	Aspects will likely result in habitat degradation, which will likely reduce the fauna and flora specie distribution and diversity.
Aquatic Ecosystem	
• Increased sedimentation to soil disturbance; • High stormwater velocity flows; and • Contamination of drainage lines and watercourses.	Aspects will likely result in a cumulative impact on the downstream water quality, which will likely impact on the aquatic species and biodiversity.
Groundwater	
Abstraction of groundwater and mining activities.	Aspect can potentially have an impact on the groundwater quality and quantity of surrounding water users. Water user's dependant on groundwater will likely impact their livelihood.
Surface Water	
• Increased sedimentation to soil disturbance; • High stormwater velocity flows; and • Contamination of drainage lines and water courses.	Aspects will likely result in a cumulative impact on the downstream water quality, which will likely impact on water users (i.e. agriculture, industry, etc.).
Socio-economic	
Mine closure will raise unemployment levels in the region and would increase significantly as more mines close.	The EP Proposed Projects will be decommissioned in correlation with the closure of the EM. Closure of EM will result in the cessation of jobs and the cessation of demand for goods and services.

8.2 Alternative 2

Alternatives 2 include technology, layout and route alternatives in relation to Alternative 1. The impacts will be similar to Alternative 1, and will be considered as part of the EIAR (Refer to ***Table 29*** and ***Table 30***).

9. METHODOLOGY USED IN DETERMINING THE SIGNIFICANCE OF ENVIRONMENTAL IMPACTS

(Describe how the significance, probability, and duration of the aforesaid identified impacts that were identified through the consultation process were determined in order to decide the extent to which the initial site layout needs revision).

The potential impacts were determined by evaluating the different phases associated with the establishment and development of the EP Proposed Projects. These phases were determined to be as follow:

- Pre-Construction Phase (I);
- Construction Phase (C);
- Operational Phase (O); and
- Closure and Post-Closure Phase (P).

Different impacts are associated with the different phases of the EP Proposed Projects. Potential impacts that may be/may have been caused by the Projects will be identified using input from the following:

- Views and inputs from the I&APs (local knowledge);
- Existing information and studies;
- Specialist investigations;
- Site visit with the project team; and
- Regulatory requirements.

The 2014 EIA Regulations requires that all identified potential impacts associated with the EP Proposed Project be assessed in terms of their overall potential significance on the biophysical and socio- economic environment. The criteria identified in the 2014 EIA Regulations include the following:

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

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

The significance will be determined by calculating the extent (i.e. physical extent affected by the potential impact), duration (i.e. timeframe that the potential impact will be in effect), intensity (i.e. expected amplitude of the impact) and reversibility (severity of the impact) of the impact. Once the significance of the impact has been determined, the quantifiable likelihood or probability of the impact is given a percentage value that represents the significance of the impact. The environmental and socio-economic risk is determined by multiplying the significance with the probability of the impact occurring.

A description of the parameters used in this impact assessment is given in ***Table 31*** below.

Table 31: Impact Assessment Methodology.

Parameter	Description
Extent:	Physical extent affected by the potential impact: • Direct – Actual footprint of the activity (weight value – 1) • Onsite – Within specific mine/development boundary (weight value – 2) • Local – Within municipal boundary (weight value – 3) • Regional – Outside municipal boundary (weight value – 4) • National/International – Two or more provinces and ultimately outside the RSA (weight value – 5)
Duration:	Timeframe that the potential impact will be in effect • Immediate - 1 Year or less (weight value – 1) • Short term – 1-2 Years (weight value – 2) • Medium term – 2-5 Years (weight value –3) • Long term – 5-15 Years (weight value – 4) • Permanent – 15 years and beyond (weight value – 5)
Intensity:	The expected amplitude of the impact: • Minor - The activity will only have a minor impact on the affected environment in such a way that the natural processes or functions are not affected (weight value – 1) • Low – The activity will have a low impact on the affected environment (weight value – 2) • Medium – The activity will have a medium impact on the affected environment, but function and process continue, albeit in a modified way (weight value – 3) • High – The activity will have a high impact on the affected environment, which may be disturbed to the extent where it temporarily or permanently ceases (weight value – 4) • Very High - The activity will have a remarkably high impact on the affected environment, which may be disturbed to the extent where it temporarily or permanently ceases (weight value – 5)
Reversibility	The reversibility of an impact is the severity of the impact • Completely reversible - The impact is reversible without any mitigation measures and management measures (weight value -1) • Nearly completely reversible - The impact is reversible without any significant mitigation and management measures. Some time and resources required - (weight value -2) • Partly reversible - The impact is only reversible with the implementation of mitigation and management measures. Substantial time and resources required (weight value -3) • Nearly irreversible - The impact is can only marginally be reversed with the implantation of significant mitigation and management measures. Significant time and resources required to ensure impact is on a controllable level (weight value -4) • Irreversible - The impact is irreversible - (weight value -5)
Significance of Impact / Consequence	Significance is determined through a combination of the various impact characteristics and represents the combined effect of the Extent, Duration, Intensity and Reversibility Significance = Extent + Duration + Intensity+ Reversibility

Probability:	The likelihood of an impact occurring: • Improbable - 0 – 25% chance (weight value – 1) • Low – 26 – 50% chance (weight value – 2) • Medium – 51 – 75% chance (weight value – 3) • High – 76 – 100% chance (weight value – 4)
Environmental Risk Refer to the table below	Multiplication of the significance of the impact by the probability of the impact occurring produces a final conclusion of the overall risk that an impact poses to the surrounding environment. Significance of Impact X Probability = High/Medium/Low Environmental Risk

Table 32: Environmental risk and impact significance matrix.

Significance of Impact				
		Low Impact (4-8)	**Medium Impact (9-15)**	**High Impact (16-20)**
Probability	**Definite / Highly Likely 4**	16-32	36-60	64-80
	Medium 3	12-24	27-45	48-60
	Low 2	8-16	18-30	32-40
	Improbable/ Unlikely 1	4-8	9-15	16-20

Environmental Risk	**Guidelines for Control Strategies**
(H) – High	Proactively reduce risk level, short term response.
(M - H) - Medium to High	Proactively reduce risk level, short term response.
(M) – Medium	Management strategies to reduce risk level, short to medium term response.
(L - M) - Low to Medium	Management strategies to reduce risk level, short to medium term response, operational control and housekeeping.
(L) – Low	Operational control and housekeeping.

9.1 The positive and negative impacts

(in terms of the initial site layout) and alternatives will have on the environment and the community that may be affected.

(Provide a discussion in terms of advantages and disadvantages of the initial site layout compared to alternative layout options to accommodate concerns raised by affected parties)

9.1.1 Alternative 1 (Proposed Alternative)

Refer to ***Table 29*** and ***Table 30*** under ***section 9.1***, for a description of the positive and negative impacts associated with the proposed alternative 1.

9.1.2 Alternative 2 (No Alternative)

Alternative 2 include layout, technology and route alternatives in relation to Alternative 1.

9.1.3 No-Go Alternative

The No-Go option entails that the Proposed Project is not undertaken. Refer to ***Table 19*** for the preliminary risk identified if the No Go Alternative is considered.

9.2 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).

The EIA process is based on the grounds that impacts and risks identified will be mitigated with measures that are necessary to avoid, minimize or offset predicted adverse impacts and, where appropriate, to incorporate these into an environmental management plan or system (DEAT, 2004). The following **objectives/ criteria** will be kept in mind while mitigation measures are identified during the EIA Phase, to:

- Find more environmentally sound ways of undertaking specific activities;
- Enhance any environmental and social benefits of a proposed activity;
- Avoid, minimise or remedy negative environmental impacts;
- Apply a lifecycle approach to resources and products (cradle to cradle); and

- Ensure that any residual negative environmental impacts are environmentally acceptable.

Identifying appropriate mitigation measures will be conducted in a hierarchal manner:

1. Preventative measures will be identified to avoid, where possible, negative impacts that may arise due to the proposed activity;

2. Measures will be identified to minimise and/or reduce the negative impacts to "as low as practicable" levels; and

3. Measures will be identified to compensate or remedy residual negative impacts that are unavoidable and cannot be minimised or reduced any further (DEA, 2006).

Proposed mitigation measures will be communicated to EP for review as part of compiling the draft EMP. EP will comment on the feasibility and practicality of implementing the mitigation measures. The mitigation measures may be adjusted based on EP's comments.

9.3 The outcome of the site selection Matrix. Final Site Layout Plan

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

The proposed site layout plan is attached under ***Appendix 4***.

9.4 Motivation where no alternative sites were considered.

The following Alternatives will be considered:

1. *Alternative 1 (Proposed Alternative)* – The proposed alternative is to undertake the following activities:
    - Consolidation of the Mining Rights and EM / MM Environmental Licences into one integrated EMPr;
    - Consolidation of the EP and MM WULs;
    - Mining of MM, including the Boundary Pillar on the UG2 reef horizon between EM and MM;
    - Construction and operation of two ROM Stockpiles at EM;
    - Raise-boring and operation two Ventilation Shafts at EM;
    - Mining of the Merensky Reef, including the operation of associated infrastructure;

- Mining of the UG1 in the existing TSF Paddock 2, 3 and 4 within the EM Mine Area;
- Backfilling of existing opencast pits with tailings at EM;
- Expansion and construction of pipelines for the conveying of water and tailings, including the Water Management Pipelines and Pit Pipelines at EM and MM;
- Construction of an electrical substation and associated infrastructure;
- Construction and operation of a CFP and associated infrastructure next to the CFP Shaft on an existing disturbed area; and
- MM WRD re-processing.

2. *Alternative 2 (No Alternative)* - Alternatives 2 include layout, technology and route alternatives in relation to Alternative 1.

3. *No-go Alternative* – The no-go option entails that none of the proposed activities or projects are undertaken.

9.5 Statement motivating the preferred site.

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

The proposed activities **locations** were based on the following criteria:

1. Resource distribution and previous geological investigation conducted.
2. Previous site investigation and specialist studies conducted.
3. The proximity and location of the existing mining infrastructure (i.e. Shafts, TSF and haul roads), Concentrator Plant, WTP and services (i.e. roads, electricity and storm water management features).
4. Majority of the activities will be located on previously disturbed footprints.
5. Existing dust fallout, ground and surface water monitoring system in place.
6. Underground workings and location of geological features.
7. Clean and dirty water management system currently in place.

EM and MM has an established dust fallout, surface and groundwater monitoring system and network in place. Therefore, there is sound baseline information available to establish whether

the EP Proposed Projects may potentially have an impact on the Ground, Surface and Air Quality.

9.6 Description of alternatives to be considered including the option of not going ahead with the activity.

Refer to ***section 5.3*** for a description of the Alternative 1, Alternative 2 and the No-Go option.

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

(The EAP must undertake to assess the aspects affected by each individual mining activity whether listed or not, including activities such as blasting, Loading, hauling and transport, and mining activities such as Excavations, stockpiles, discard dumps or dams, water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.).

The EAP undertakes to assess aspects identified for each of the following four phases:

- Construction Phase;
- Operational Phase;
- Decommissioning and Closure Phase; and
- Post Closure Phase.

Potential cumulative impacts will also be assessed.

9.8 Description of aspects to be assessed by specialists

Detailed specialist studies have been undertaken for the areas impacted on by EM and MM, as both operations are existing and established (est. 2000 and 2006). For the EP Proposed Projects existing specialist studies will be revisited, to ensure that these are aligned with current regulatory requirements and newly impacted areas and activities are considered. The ongoing monitoring reports (i.e. Surface- and Groundwater and Dust Fallout) will also be used to establish the new baseline conditions for the EP Proposed Projects.

The updated specialist reports will be compiled in accordance with Regulation 12 and Appendix 6 of the 2014 EIA Regulations. Due to the potential impacts that may arise as result of the EP Proposed Projects, the following specialist studies have been commissioned during the Impact Assessment Phase:

- Biodiversity Assessment, including aquatic (freshwater, faunal, floral);

- Hydrology (surface water) and Geohydrology (groundwater) Assessment;
- Water volumes and Salt Balance;
- Storm water Management Plan;
- Waste Classification Assessment;
- Heritage and Palaeontology Assessment;
- Social and Economic Assessment;
- Noise Impact Assessment;
- Visual Assessment;
- Air Quality Assessment;
- Financial Provision and Closure Costing;
- Update and alignment of the SLP; and
- Update of the Closure / Rehabilitation Plan.

9.9 Proposed method of assessing the environmental aspects including the proposed method of assessing alternatives

A baseline identification of the major potential impacts has only been included in this Scoping Report. The prediction of the nature of each impact; evaluation of each impact by rating its significance; and management and mitigation measures adopted to address each impact, will be assessed during the EIA Phase.

The EAP commits to implement an impact assessments methodology that as a minimum will include and address the following:

- Clear processes for impact identification, prediction and evaluation;
- Specification of the impact identification techniques;
- Criteria to evaluate the significance of impacts;
- Design of mitigation measures to reduce and minimise impacts;
- Definition of the different types of impacts (indirect, direct, or cumulative); and
- Specification of limitations and assumptions.

The EAP commits as a minimum to provide the following as part of the EIA process:

- Identify and assess potential impacts of the EP Proposed Projects;
- Determine the duration, extent, magnitude and reversibility of identified potentially significant impacts;

- Develop, advise and identify a range of mitigation measures that will likely result in a reduced, minimised and/or avoided impact that is also practical and economical feasible for EP; and
- Evaluate the significant residual impacts that remain after the proposed mitigation measures are implemented and develop an EMPr that will monitor and manage the impacts.

The construction, operational and decommissioning and post-decommission phases of the EP Proposed Project (including the consolidation of the MM) will be considered whilst identifying impacts. A detailed understanding of the EP Proposed Project will be obtained, to ensure that all the potential impacts are identified, assessed and addressed in the consolidated EMPr, WML and WUL.

10. PUBLIC PARTICIPATION TO FOLLOW

10.1 The stages at which the competent authority will be consulted

The CA for the Integrated DMRE Environmental Application will be the DMRE North West Regional Office in Klerksdorp.

The stages at which the CA will be and have been consulted in the process will be as per the 2014 EIA Regulations, and will include amongst other, the following:

- Pre-application meeting;
- Initial project announcement;
- PPP for the Scoping Phase, which include:
    - 30 Days Commenting period of the DSR;
    - Invitation to attend the Public Meeting and consultation engagements; and
    - 7 Days Review and assessment of the FSR.
- PPP for the EIA Phase, which include:
    - 30 Days Commenting period of the DEIAR and DEMPr;
    - Invitation to attend the Public Meeting and consultation engagements during the EIA Phase; and
    - 7 Days Review and assessment of the FEIAR and EMPr.
- The FEIAR and FEMPr will be submitted to the DMRE for a decision, for consideration of the Application and representation will be considered; and
- Continued consultation with the DMRE until the decision is issued.

10.2 Particulars of the public participation process with regard to the Impact Assessment process that will be conducted

10.2.1 Steps to be taken to notify interested and affected parties.

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

The PPP undertaken during the Scoping Phase of the EP Proposed Projects will continue in the Impact Assessment Phase and be undertaken in terms of Regulations 41 to 44 of the 2014 EIA Regulations. I&APs will be notified in the Scoping Phase, in the manner discussed above and registered I&APs will be liaised with during the Impact Assessment Phase.

All comments received from the I&APs during the Impact Assessment Phase will be incorporated into the DEIAR and EIAR. The I&APs Register will be updated as necessary (i.e. with new contact details, new I&APs etc.). The I&APs will be informed of the availability of reports for comment; where/how these reports can be accessed; and the commenting timeframes and how comments can be submitted to the EAP. Proof of the PPP undertaken during the Impact Assessment Phase will be appended to the EIAR.

10.2.2 Details of the engagement process to be followed.

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

The compilation of the EIAR and draft EMPr, as per the 2014 EIA Regulations, will include, but is not limited to, the following PPP:

- submitting the DEIAR to the CA and public for a review period of 30 days;
- all comments, objections and/or representations received during the PPP will be included and addressed in the DEIAR and this document will be finalised for submission to the CA;
- I&APs will be given an opportunity to comment on the final EIAR; and
- I&APs will be consulted during the Impact Assessment Phase, in the same manner discussed above in relation to the Scoping Phase.

10.2.3 Description of the information to be provided to Interested and Affected Parties.

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

Tasks to be performed to inform the registered I&APs of the availability of the documents for comment are set out below.

All registered and I&APs will be informed of the availability of the reports for comment by means of notices sent via a legal notice in a newspaper, posted letters, e-mails and electronic messages (SMS, etc.) using the existing, proven channels of communication (forums and committees);

- The DEIAR will be made available to the public for a 30-day commenting period;
- The final EIAR will be made available to the public for a 7-day commenting period;
- These reports will be made available for comment be means of:
  - Placement at the public places listed in ***Section 6*** of this Report – the same places used as during the Scoping Phase of the project, including online platforms.

The DEIAR and final EIAR will include a site plan and sufficient detail of the EP Proposed Projects and its anticipated post-mitigation impacts of each activity, to enable I&APs to assess what impact the activities will have on them or on the use of their land once the EMP has been implemented.

11. PLAN OF STUDY OF THE EIA PROCESS

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

A full EIA process will be conducted by JEMS (Pty) Ltd for the EP Proposed Projects. The DEIAR and final EIAR will be submitted to the CA for review and decision-making purposes.

The Scoping Phase is designed to give the registered I&APs the opportunity to identify impacts that have been preliminarily listed in this DSR and determine whether or not they require additional specialist investigation during the Impact Assessment Phase. The Plan of Study ("**POS**") for the EIA process provides an indication of the tasks to be undertaken during the Impact Assessment Phase of the project. This includes:

- Impact and risk identification / verification and assessment process;
- Specialist investigations to be undertaken;
- I&AP consultation process;
- Stakeholder engagement process;
- Mitigation measure design and finalisation;
- Determination of the acceptability of the post-mitigation impacts and risks, and
- Details on the process assumptions and limitations.

The purpose of the POS is to proactively lay out an effective methodology to be followed during the assessment of impacts in line with the relevant EIA Regulation, legislative provisions and best practices, that will be acceptable to both the I&APs and CA.

11.1.1 Tasks to be undertaken during the Impact Assessment Phase

The objectives of the Impact Assessment Phase will be to (DEA, 2014):

- Identify and assess the environmental (biophysical and social) impacts of the construction, operation, decommissioning and post closure impacts of the EP Proposed Projects. The cumulative impacts of the Projects will also be identified and evaluated;
- Alternative activities and locations will be determined and assessed in parallel with the proposed activity;
- Identify and evaluate potential management and mitigation measures that will reduce the negative impacts of the EP Proposed Projects and enhance the positive impacts;
- Compile monitoring, management, mitigation and training needs to mitigate identified impacts in the EMPr;
- Furnish the I&APs with sufficient and accurate information to provide informed comment on the EP Proposed Projects; and
- Provide the decision-making authorities with sufficient and accurate information to make an informed decision on the EP Proposed Projects.

11.1.2 Environmental Impact Assessment Methodology:

The anticipated impacts associated with the EP Proposed Projects will be assessed according to an industry standardised impact assessment methodology that is in line with the regulatory provisions. Different impacts are associated with the different phases of the EP Proposed Projects and the significance will be determined by making use of the parameters and methodology as detailed in ***Table 31*** and ***Table 32***.

11.2 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.

The preliminary proposed activities with the identified potential impacts, mitigation measures and the residual risk have been tabulated below in Table 33.

Table 33: The pre-liminary proposed activities with the identified potential impacts, mitigation measures and the residual risk.

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
Whether listed or not listed. (E.g. Excavations, blasting, stockpiles, discard dumps or dams, Loading, hauling and transport, Water supply dams and boreholes, accommodation, offices, ablution, stores, workshops, processing plant, storm water control, berms, roads, pipelines, power lines, conveyors, etc.).	(e.g. dust, noise, drainage surface disturbance, fly rock, surface water contamination, groundwater contamination, air pollution etc.)	(modify, remedy, control, or stop) through (e.g. noise control measures, storm-water control, dust control, rehabilitation, design measures, blasting controls, avoidance, relocation, alternative activity etc.) E.g. Modify through alternative method. Control through noise control. Control through management and monitoring through rehabilitation.	
Establishment of temporary construction camp	Soil disturbance	Establish on a previously disturbed area.	Limited
Clearing of Vegetation	Vegetation Clearance Dust Noise Erosion Alien and Invasive Plants	Stormwater management Dust suppression Dust Fallout monitoring Operational controls Noise control Rehabilitate soil and revegetate Alien and Invasive plants control	Potential residual impact
Topsoil Stripping and Earthworks	Soil disturbance Dust Noise Erosion Alien and Invasive Plants	Stormwater management Dust suppression Dust Fallout monitoring Operational controls Noise control Rehabilitate soil and revegetate Alien and invasive plants control Maintenance of topsoil Stockpiles	Potential residual impact
Establishing of Topsoil Stockpiles and Overburden dumps	Soil disturbance Dust Noise	Stormwater management Dust suppression Dust Fallout monitoring	Potential residual impact

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
	Ground and Surface water contamination	Operational controls Noise control Surface and Groundwater Monitoring	
Concrete mixing and casting	Soil disturbance Ground and Surface water contamination	Operational controls Surface and Groundwater Monitoring Limit to a designated area	Potential residual impact
Construction of the two Ventilation Shafts and associated infrastructure	Soil disturbance Vegetation clearance Alien and invasive plants establishment Ground- and surface water contamination Noise Visual	Stormwater management Operational controls Noise control Rehabilitate soil and revegetate Alien and Invasive plants control Surface and Groundwater Monitoring	Potential residual impact
Construction of two new ROM Stockpiles and associated stormwater and pollution management infrastructure	Erosion Dust Visual Soil disturbance Vegetation clearance Alien and invasive plants establishment Ground- and surface water contamination Noise	Stormwater management Incorporation of visual mitigation measures Dust suppression Dust Fallout monitoring Operational controls Noise control Alien and invasive plants control Surface and Groundwater Monitoring	Potential residual impact
Construction of CFP and associated infrastructure next to the MM Shaft Area	Dust Visual Ground- and surface water contamination Noise	Stormwater management Incorporation of visual mitigation measures Dust suppression Dust Fallout monitoring Operational controls Noise control Surface and Groundwater Monitoring	Potential residual risk
Construction of the new substation and associated electricity distribution infrastructure	Erosion Dust Visual Soil disturbance	Stormwater management Incorporation of visual mitigation measures Dust suppression Dust Fallout monitoring	Potential residual risk

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
	Vegetation clearance Alien and invasive plants establishment Ground- and surface water contamination Noise	Operational controls Noise control Alien and invasive plants control Surface and Groundwater Monitoring	
Establishing of the infrastructure to convey tailings from the Concentrator Plant to the opencast pits for tailings backfilling	Erosion Soil disturbance Vegetation clearance Alien and invasive plants establishment Ground- and surface water contamination	Stormwater management Operational controls Alien and Invasive plants control Surface and Groundwater Monitoring	Potential residual impact
Expansion of existing and the development of new pipelines for the conveying of tailings and water	Erosion Soil disturbance Vegetation clearance Alien and invasive plants establishment Ground- and surface water contamination	Stormwater management Operational controls Alien and Invasive plants control Surface and Groundwater Monitoring	Potential residual risk
Upgrading and expansion of haul roads for the transportation of material and general equipment movement	Erosion Noise Visual Soil disturbance Vegetation clearance Alien and invasive plants establishment Ground- and surface water contamination	Stormwater management Incorporation of visual mitigation measures Dust suppression Dust Fallout monitoring Operational controls Noise control Alien and Invasive plants control Surface and Groundwater Monitoring	Potential residual risk
Depositing tailings in the opencast pits for rehabilitation.	Groundwater contamination	Engineering design and operational controls Monitor ground and surface water continuously.	Potential residual risk
Mining of the Merensky Reef, including trucking and hauling ROM to the Concentrator Plant	Erosion Noise Visual	Stormwater management Incorporation of visual mitigation measures Dust suppression	Potential residual risk

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
	Soil disturbance Vegetation clearance Alien and invasive plants establishment Ground- and surface water contamination Health and Safety	Dust Fallout monitoring Operational controls Noise control Alien and Invasive plants control Surface and Groundwater Monitoring Health and Safety Measures and procedures Rehabilitation at closure	
Operation of the Ventilation Shafts	Visual impact Noise Dust	Incorporation of visual mitigation measures Dust suppression Dust Fallout monitoring Operational controls Noise control	Potential residual risk
Storage of ROM on the new ROM Stockpiles	Ground and surface water contamination Noise Dust Visual Soil contamination	Engineering design and operational controls Monitor ground and surface water Incorporation of visual mitigation measures Dust suppression Dust Fallout monitoring Operational controls Noise control Rehabilitation at closure Stormwater management	Potential residual risk
Mining of the UG1 in Paddock 2, 3 and 4, including trucking and hauling ROM to the Concentrator Plant.	Erosion Noise Soil disturbance Vegetation clearance Alien and invasive plants establishment Ground- and surface water contamination Health and Safety	Stormwater management Dust suppression Dust Fallout monitoring Operational controls Noise control Alien and invasive plants control Surface and Groundwater Monitoring Health and Safety Measures and procedures Rehabilitation at closure	Potential residual risk
Operation of the CFP next to the MM Shaft Area	Noise Visual Ground- and surface water contamination	Stormwater management Operational controls Noise control Surface and Groundwater Monitoring	Potential residual risk

ACTIVITY	POTENTIAL IMPACT	MITIGATION TYPE	POTENTIAL FOR RESIDUAL RISK
	Health and Safety	Health and Safety Measures and procedures Rehabilitation at closure	
Crushing and re-working of the MM WRD	Noise Visual Dust Ground- and surface water contamination Health and Safety	Dust suppression Dust Fallout monitoring Stormwater management Operational controls Noise control Surface and Groundwater Monitoring Health and Safety Measures and procedures Rehabilitation at closure	Potential residual risk
Mining of the Boundary Pillar on the UG2 reef horizon	Ground- and surface water contamination Health and Safety	Operational controls Mine water management Surface and Groundwater Monitoring Health and Safety Measures and procedures Rehabilitation at closure	Potential residual risk
Decommissioning of the temporary construction camp	Soil disturbance Land pollution	Rehabilitate soil.	Limited to footprint area
Rehabilitation of disturbed footprints	Invader plant species	Implement and maintain the invader plant species programme.	Limited to footprint area
Maintaining and training of emergency preparedness and response plan	Fires Health and safety of workers	Train and implement the emergency incident and response procedure. Install fire equipment	Potential residual risk

11.3 Other Information required by the competent Authority

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

- Impact on the socio-economic conditions of any directly affected person.
- Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.
- Other matters required in terms of sections 24(4)(a) and (b) of the Act.

11.3.1 Impact on the socio-economic conditions of any directly affected person.

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

EM has an existing SLP with socio-economic provisions. An updated SLP has been submitted as part of the Section 102 Application to unite the socio-economic needs of affected communities within the Consolidated MR Area. The socio-economic impacts of the EP Proposed Projects will be assessed and addressed in the Socio-Economic Study that will be included in the EIAR.

11.3.2 Impact on any national estate referred to in section 3(2) of the National Heritage Resources Act.

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

Phase 1 HIA(s) have been undertaken for the EM and MM. The findings of the study and a copy of the HIA(s) will be included as part of the EIAR. The HIA will also be updated as part of the EIAR to include new areas planned to be disturbed as part of the EP Proposed Project.

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

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

Not applicable, please refer to ***Section 5.3*** for a description of alternatives.

12. CONCLUSION AND RECOMMENDATIONS

The scoping phase and subsequent Draft Scoping Report have been undertaken in accordance with the NEMA, the 2014 EIA Regulations and best practices.

The information provided in the DSR is intended to act as a preliminary description of the baseline biophysical and socio-economic environmental resources where the EP Proposed Projects are planned to be undertaken.

The purpose of the baseline information is to ensure that the relevant authorities and registered I&APs have a clear understanding of the proposed activities and the predicted effect on the environment, such that they are able to make an informed decision and contribution to the application process, respectively. The interaction and symbiotic relationship between all involved, by means of inputs and guidance received will contribute to the rationale of the FSR and the subsequent EIA phase.

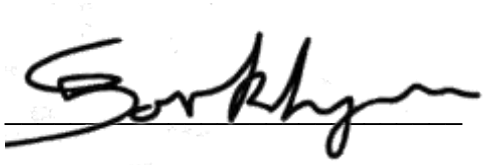
The information used in the screening and scoping process is based on a review of the existing specialist studies conducted since mining commenced in the early 2000's at MM and 2006 at EM. This also includes the relevant EMPRs and WULs for both mining areas.

The baseline impacts which the Assessment Team has preliminarily identified will be updated and complimented with the inputs received from stakeholders and I&APs in the FSR. In the next phase (EIA Phase), the significance of the impacts and the relative mitigation measures to reduce (if not prevented) will be assessed. The assessment above refers to impacts associated with activities, undertaken during the construction, operation, decommissioning, closure, and post closure phase. The mentioned assessment will be included in the EIA Phase as part of the EIAR and EMPr.

The I&APs and stakeholders who have been identified will either receive access to, or be notified of the availability and whereabouts of the DSR.

13. UNDERTAKING REGARDING CORRECTNESS OF INFORMATION

I ***G.S. Barkhuizen*** herewith undertake that the information provided in the foregoing report is correct, and that the comments and inputs from stakeholders and Interested and Affected Parties have been correctly recorded in the report.



Signature of the EAP

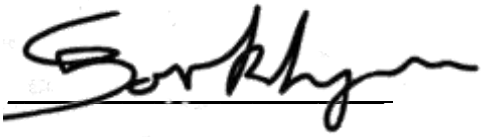
Signature of the Reviewer EAP

DATE: 15-8-2020

DATE: 15-8-2020

14. UNDERTAKING REGARDING LEVEL OF AGREEMENT

I ***G.S. Barkhuizen*** herewith undertake that the information provided in the foregoing report is correct, and that the level of agreement with interested and Affected Parties and stakeholders have been correctly recorded and reported herein.



Signature of the EAP

Signature of the Reviewer EAP

DATE: 15-8-2020

DATE: 15-8-2020

15. REFERENCES

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- Eland Mine, Mining right from the Department of Mineral Resources (DMR) covering the farm Elandsfontein 440JQ in terms of the MPRDA. Reference No. (NW) 30/5/1/2/3/2/1/280EM. Dated 21 December 2006.
- Eland Mine, Section 102 amendment and update of the EMP to include Portions 84 and 97 of the Farm Zilkaatsnek 439 JQ. Reference No. (NW) 30/5/1/2/3/2/1/280EM. Dated 19 November 2010.

- Eland Mine, Section 102 amendment and update of the EMP to include Portions 13 and 14 of the Farm Schietfontein 439 JQ into the existing mining right in respect of the remainder of Portion 58, 80, 81, 82, 84, 87 and 97 of the Farm Zilkaatsnek 439 JQ. Reference No. (NW) 30/5/1/2/3/2/1/341EM. Dated 19 March 2013.
- Eland Mine, water use license from the Department of Water Affairs (DWA) under Section 21 of the NWA for water uses associated with the Elandsfontein site including the planned concentrator expansion project. License No: 03/A21J/ABCGIJ/1547. Dated 23 October 2012.
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Appendix 1

SACNASP

South African Council for Natural Scientific Professions

herewith certifies that

Gerhardus Stephanus Barkhuizen

Registration Number: 115982

is a registered scientist

in terms of section 20(3) of the Natural Scientific Professions Act, 2003
(Act 27 of 2003)
in the following fields(s) of practice (Schedule 1 of the Act)

Environmental Science (Certificated Natural Scientist)

Effective **20 July 2016** Expires **31 March 2021**

Chairperson

Chief Executive Officer

To verify this certificate scan this code

Tshwane University of Technology

We empower people

BACCALAUREUS TECHNOLOGIAE

LANDSCAPE TECHNOLOGY

Awarded to

GERHARDUS STEPHANUS BARKHUIZEN

206023210 1987-09-30

Having complied with the
Requirements of the Act and Statute

MARIA MAGARIETA BEYERS
Prokureur / Attorney R.S.A
Kommissaris van Ede/Commissioner of Oaths
Paul Krugerstraat 123 Paul Kruger street
PRETORIA

2009-12-18

BT18520

GESERTIFISEER 'N WARE AFDRUK VAN DIE OORSPRONKLIKE DOKUMENT

CERTIFIED A TRUE REPRODUCTION OF THE ORIGINAL DOCUMENT

Vice-Chancellor and Principal
On behalf of Council and Senate

Registrar

UNISA

UNIVERSITY OF SOUTH AFRICA

We certify that

GERHARDUS STEPHANUS BARKHUIZEN

having complied with the requirements of the Higher Education Act and the Institutional Statute, was admitted to the degree of

HONOURS BACHELOR OF SCIENCE

in Environmental Monitoring and Modelling

at a congregation of the University on 10 June 2013

Vice-Chancellor

Executive Dean

University Registrar

Universitas Nataliensis

hoc scripto nos, Universitatis Nataliensis
Vice-Cancellarius, Registrarius, testamur

KENNETH KENNEDY SMITH

Gradum Scientiae Baccalaurei
in Agricultura

attigisse

P. de V. Booysen
Vice-Cancellarius

Registrarius

Kal. Mai. MCMLXXXVI

0636 6945 CONSTABLE
ASHENDRA MAHABEER
KENNETH KENNEDY SMITH
5909245013005

ASHENDRA MAHABEER
06366945 CST.
76 ALLEN ST.
S.A.P. N/C

17/93

South African Council for Natural Scientists

This is to certify that

KENNETH KENNEDY SMITH

has been registered as a Natural Scientist

in terms of section 18 of the Natural Scientists' Act, 1982

1993.05.13

Pretoria

President

Registrar

Appendix 2

Curriculum Vitae

of

Stephan Barkhuizen

1. Personal Information

Full Names:	Gerhardus Stephanus (Stephan)
Surname:	Barkhuizen
Title:	Mr.
Identity Number:	870930 5039 081
Gender:	Male
Marital Status:	Married
Nationality:	South African
Home Language:	Afrikaans
Other Languages:	English,
Driver's License:	Code B

2. Education

2.1 Secondary education

Institution: Wonderboom High School (Matriculated in 2005)

Subjects:

- English HG
- Afrikaans HG
- Biology HG
- Geography HG
- Physical Science HG
- Mathematics SG

2.2 Tertiary education

a) Institution: University of South Africa (UNISA)
Period: 2011 - 2013
Course: Environmental Monitoring and Modelling
Level of completion: Hons. B.Sc
Subjects:

- Environmental Monitoring
- Ecotoxicology
- Research Methodology
- Environmental Evaluation and Management
- Environmental Remote Sensing and Modelling

b) Institution: Tshwane University of Technology
Period: 2006 - 2009
Course: Landscape Technology
Level of completion: BTech

Subjects:

- Environmental Studies
- Landscape Technology
- Landscape Technology Management
- Plant Protection
- Supervisory Management
- Site Planning
- Research Methodology
- Plant Material Studies
- Turf Grass Culture
- Growth Media Technology
- Horticultural Mechanisation

Variable subjects:
Practical Year at City of Tshwane Booysens Municipality Nursery (second year)

c) Institution: North West University
Period: Commenced in 2017 and in progress
Course: Integrated Waste Management
Level of completion: Masters in Environmental Management
Subjects:

- Integrated Waste Management;
- Waste Management Law
- Research

3.Employment

3.1 Company: **JEMS Pty Ltd**
Period: March 2020 - Present
Position: Environmental Consultant and GIS Specialist
Responsibilities:

- Applications for Environmental Authorisations;
- Biodiversity Studies;
- Compiling Basic Assessment Reports;
- Compiling Scoping and EIA Reports;
- Compliance Auditing (WML, WUL, GN 704, EMPR and EA);
- Consult with clients/subcontractors;
- Dust Fallout Monitoring and Reporting
- Environmental Control Officer;
- Geographical Mapping and Data Capturing
- GIS Specialist;
- Surface- and Groundwater Monitoring and
- Project Management;
- Prospecting Rights Consultation and EMP's;
- Public Participation;
- Quotations and Tenders;
- Rehabilitation Plans;
- Risk Assessments;
- Section 24 G Rectification Application;
- Waste Management License Applications;
- Water Use Licence Applications;
- ISO 14001 Audits / Implementation;
- Integrated Waste and Water Management

Reporting;
- Atmospheric Emissions License Renewal and Variation Application

Plans (IWWMP's)
- GN704 Exemption Application/Motivation

3.2 Company: **CHEMC Environmental**
Period: November 2011 – March 2020
Position: Environmental Consultant and GIS Specialist
Responsibilities:

- Applications for Environmental Authorisations;
- Biodiversity Studies;
- Compiling Basic Assessment Reports;
- Compiling Scoping and EIA Reports;
- Compliance Auditing (WML, WUL, GN 704, EMPR and EA);
- Consult with clients/subcontractors;
- Dust Fallout Monitoring and Reporting
- Environmental Control Officer;
- Geographical Mapping and Data Capturing
- GIS Specialist;
- Surface- and Groundwater Monitoring and Reporting;
- Atmospheric Emissions License Renewal and Variation Application
- Project Management;
- Prospecting Rights Consultation and EMP's;
- Public Participation;
- Quotations and Tenders;
- Rehabilitation Plans;
- Risk Assessments;
- Section 24 G Rectification Application;
- Waste Management License Applications;
- Water Use Licence Applications;
- ISO 14001 Audits / Implementation;
- Integrated Waste and Water Management Plans (IWWMP's)
- GN704 Exemption Application/Motivation

3.3 Company: **Bokamoso Landscape Architects and Environmental Consultants**
Period: November 2008 – October 2011
Position: Environmental Consultant, GIS Specialist and Landscape Technologist
Responsibilities:

- Landscape Design and Drafting
- Client visiting/consulting
- Landscaping Site Manager
- Geographical Mapping
- Data Capturing
- Environmental Control Officer
- Compiling Basic Assessment Reports
- Compiling Scoping and EIA Reports
- Manage and Compile Applications
- Conduct and Compile Visual Impact Assessments

4. Professional Affiliation and Courses completed

4.1 South African Council for Natural Scientific Professionals (SACNASP) - Certificated Natural Scientist in the Environmental Science Field - Registration number: 115982
4.2 Completed a Residential/Commercial Design Irrigation Course under the Landscape Irrigation Association of S.A (LIA) – 2008
4.3 ISO 14 001 Auditors Course at CHEMC Environmental - 2012
4.4 Member of the Gauteng EAP EIA Forum

5. Skills

Computer literacy:

- MS Office
- MS Word
- MS PowerPoint
- MS Project
- AutoCAD
- Planet Geographical Information Systems (GIS)
- Photoshop CS3
- ERDAS Imagine 9.1
- Windows Interpretation System for Hydrogeologist (WISH)

6. Past Projects

Scope	Project	Role	Date
Scoping and EIA	Rhovan Mine Slimes Backfilling Project	Lead EAP	2019-
	Eland Mine Re-mining and expansion Project	Lead EAP	2017
	Rhovan Mine Environmental Project	Lead EAP	2017-
	Rhovan Mine Leach Vats Project	Lead EAP	2018
	Glencore Rhovan Mine Construction of Dangerous Goods Storage Infrastructure exceeding 500 cubic metres project, Brits in the North West Province	Lead EAP	2016
	K105 South of Nellmapius Drive	Supporting Consultant	2011
Basic Assessment	Atmospheric Emissions license Amendment Application for the First National Battery – Buffalo View plant, East London in the Eastern Cape Province	Lead EAP	2015
	Annlin x 138 Residential Development	Supporting Consultant	2010
	Arbor Acres Chicken Farm, Free State	Lead EAP	2012
	Bronberg x 24 Residential Development, in the Gauteng province	Supporting Consultant	2012
	ECO Park Dam, Gauteng	Supporting Consultant	2010
	Elim Filling Station, Limpopo	Supporting Consultant	2011
	Matlosana Mall, North-West	Supporting Consultant	2011
	Port Alfred Mix Land-Use Development, Eastern Cape	Supporting Consultant	2011
	Raslouw Holding 93 Residential Development, Gauteng	Supporting Consultant	2009
	Widenham Stand Residential Development	Supporting Consultant	2011
	Glencore Rhovan Mine Dangerous Goods Storage Infrastructure Expansion project, Brits in the North West Province	Lead EAP	2016
	Waste Management License for Zinchem Waste Stockpile	Lead EAP	2016
	Waste Management License for the Saving Green Tyre Pyrolisis Plant, Gauteng	Supporting Consultant	2012
EMPR Amendment	Eland Platinum Mine EMPR Amendments	Lead EAP	2017-
	Rhovan Mine EMPR Amendment	Lead EAP	2017-
	Amendment of the EMPR for the Glencore Horizon Chrome Mine, in the North West Province	Lead EAP	2014
Prospecting Right	Zilkaatsnek Prospecting Right Application, Eland Platinum Mine	Lead EAP	2019
	Schietfontein and Krelingspost Prospecting Right Application, Eland Platinum Mine	Lead EAP	2019
	Clydesdale Coal Prospecting Right Public Consultation & EMP, Mpumalanga	Supporting Consultant	2012
	Vlakfontein Coal Prospecting Rights Public Consultation & EMP, Mpumalanga	Supporting Consultant	2012

Scope	Project	Role	Date
	Teutfontein Coal Prospecting Rights Public Consultation & EMP, Mpumalanga	Supporting Consultant	2012
GIS Mapping	GIS Maps and Data Plotting for over 75 Projects	Specialist	2008-
Water Use License	Water Use License Amendment for Rhovan Mine	Lead Specialist	2018-
	Water Use License Amendment for Eland Platinum Mine	Lead Specialist	2018-
	Integrated Water Use License Application for the Defunct Alpha Anthracite Mine, KwaZulu-Natal	Lead Specialist	2013
	Water Use License Application for the Mooikloof Heights Estate, Gauteng	Lead Specialist	2014
Water Monitoring	Bridgestone Effluent Plant Water Monitoring Report	Lead Specialist	2016 & 2017
	Bridgestone Monthly Water Monitoring Report	Lead Specialist	2016-
	Groundwater Monitoring of the MMC Plant, Mpumalanga	Supporting Specialist	2012 & 2013
	Delta EMD Ground and Surface Water Monitoring Report	Lead Specialist	2016 - 2018
	Groundwater Monitoring for Zinchem	Lead Specialist	2018
	SANEDI Carbon Storage Pilot Project Water Monitoring	Lead Specialist	2017-2018
ISO 14001	ISO 14 001 EMS Implementation for the Hullets Xinavane Sugar Mill, Mozambique	Supporting Specialist	2013
	ISO 14 001 awareness training presenter for Reckitt Benckiser	Trainer	2014
ECO Compliance	ECO Compliance Monitoring for Eland Mine	Lead ECO	2017-
	ECO Compliance Monitoring for the Grace Point Church, Gauteng	Junior ECO	2009
	ECO Compliance Monitoring for the Highveld x 61 Development, Gauteng	Junior ECO	2009
	ECO Compliance Monitoring for the Irene x 18 Development, Gauteng	Junior ECO	2009
	ECO Compliance Monitoring for the Mall of the North, Limpopo	Junior ECO	2009
	ECO Compliance Monitoring for the Olievenhoutbosch Drive, Gauteng	Junior ECO	2010
	ECO Compliance Monitoring for the Orchards x 39 Development, Gauteng	Junior ECO	2009
	ECO Compliance Monitoring for the Pierre Van Ryneveld Reservoir, Gauteng	Junior ECO	2009
	ECO Compliance Monitoring for the R81, Limpopo	Junior ECO	2010
	ECO Compliance Monitoring for the Riverwalk Development, Gauteng	Junior ECO	2009
	ECO Compliance Monitoring for the St George Development, Gauteng	Junior ECO	2009
	ECO Compliance Monitoring for the Transchem Magnetite Facility, Limpopo	Lead ECO	2012-
Audits	EMPR and WML Compliance Audit for the Glencore Alloys Helena Mine, Limpopo	Lead Auditor	2016
	EMPR and WML Compliance Audit for the Glencore Alloys Magareng Mine, Limpopo	Lead Auditor	2016
	EMPR and WML Compliance Audit for the Glencore Alloys Thorncliffe Mine, Limpopo	Lead Auditor	2016
	EMPR Compliance Audit for the Glencore Alloys Rhovan Mine, North West	Lead Auditor	2015, 2016 and

Scope	Project	Role	Date
			2018
	EMPR Compliance Audit for the Xstrata Horizon Mine, North West	Junior Auditor	2011 & 2013
	EMPR Compliance Audit for the Xstrata Kroondal Mine, North West	Junior Auditor	2011 & 2013
	EMPR Compliance Audit for the Xstrata Rietvlei Silica Mine, North West	Junior Auditor	2011 & 2013
	EMPR Compliance Audit for the Xstrata Waterval Mine, North West	Junior Auditor	2011 & 2013
	Waste Management License Audit for the Rietvlei Silica Mine, North West (2013);	Junior Auditor	2013
	Water Use License and GN 704 Audit for Eland Platinum Mine	Lead Auditor	2017, 2018, 2019
	Water Use License Audit for Vantech	Lead Auditor	2017
	EMPR Compliance Audit for Zilkaatsnek and Elandsfontein EMPR	Lead Auditor	2014, 2015, 2017, 2019
	Zinchem Waste Management License Audit	Lead Auditor	2018
	WUL and GN 704 Audit Compliance Audit for the Glencore Alloys Rhovan Mine, North West	Lead Auditor	2018
Other	Alien and Invasive Plant Species Study Conducted for the Penge Asbestos Mine	Lead Specialist	2013
	Due Diligence conducted for Gelita South Africa (Pty.) Ltd, Krugersdorp in Gauteng	Lead Specialist	2015
	Environmental Management Plan for the Transchem Magnetite Facility, Limpopo	Supporting Consultant	2012
	Dust Fallout Monitoring for the Transchem Magnetite Facility, Limpopo	Lead Specialist	2012-
	Annual Environment and Social Performance Monitoring Report for MOZAL a South32 operation	Lead Author	2015, 2016 and 2017
	Closure Costing and Financial Provision Assessment for the Richter Sand Mine, Gauteng	Supporting Consultant	2013
	Environmental Legal review and Aspect identification - Free State Oil Plant, Free State Province	Lead Specialist	2014
	First National Battery: Benoni Factory AEL Variation Application	Lead EAP	2017
	Legal and Environment Review for the Lead Processing plant, Benoni in Gauteng	Lead EAP	2015
	Visual Impact Assessment for the Monavoni Shopping Centre, Gauteng	Supporting Consultant	2009
	Environmental and Water Supporting Consultant for South32 Africa Region	Consultant	2017-2019
	Environmental and Water Supporting Consultant for South African Energy Coal	Consultant	2019
	Draft Rehabilitation Plan for Metalloys a South32 operation - Bagfilter Dust Stockpile, Gauteng (2014)	Supporting Consultant	2014
	Gap Analysis for the Eland Platinum Mine	Lead Specialist	2018
	Gap Analysis for the Rhovan Mine Leach Vats Project	Lead Specialist	2016
	Gap Analysis for the Rhovan Mine Processing Plant upgrades	Lead Specialist	2018

CONDENSED CV FOR J. G. CRONJé

Name	Johannes George Cronje (Jannie) (51 years of age)
Formal Qualifications	BSc Hons. (Geohydrology – University of the Orange Free State, ZA, 1986-1989) Post Graduate Diploma in Terrain Evaluation (P.U. for C.H.O, 1990) Registered as Professional Natural Scientist (Pr Sci Nat.) Contact details : Cell : +27 82 892 4282 Email : cronje45@gmail.com ,
Experience (Roles & Responsibilities)	
Current	Director of JEMS (Pty) Ltd (Environmental Consulting Company) Main focus area is management of environmental consultancy projects and advising corporate companies on environmental improvement opportunities with the associated implementation thereof. Main projects involved the planning and execution of large mine closure environmental construction projects, such as rehabilitation of defunct mining operations (open cut and underground) and slimes dams. Project Manager for Mine Optimization Projects in excess of US$ 80 m, for international mining companies. (**2004 to current**).
Past:	Environmental Manager for Samancor Manganese Division **(2002 - 2004)** Management and strategic planning of defunct operations. Providing guidance to operational units i.t.o. general environmental matters as well as strategic planning. Responsible for the setting and development of strategic Corporate Standards. Identify potential CDM projects for carbon trading purposes Co-ordination of site based efforts collectively to ensure that synergies are identified and maximised. Benchmarking and giving guidance to the incorporation sustainable development issues into new and current initiatives Liaison with Governmental Authorities and Influencing long-term policy decision making. Representing Samancor Manganese in health research projects co-ordinated by the International Manganese Institute Acting as HSEC Manager for Samancor Manganese Division (**2001**) Environmental Manager at Metalloys Meyerton **(2002)** Responsible for setting up the necessary systems to improve the standard of environmental management and align the operation with Billiton requirements. Identification of required technical studies, initiate, manage and implement recommendations resulting from these studies. Establishment of an environmental macro / closure plan for the total site. Environmental Manager – Middelburg Mine Services (including Klipfontein Section) – total areas of ± 25 000 Hectares **(± 6 years)** Responsible for managing the Environmental Department and related issues. Also implementation and maintenance of ISO 14001 EMS. Line Health and Safety Responsibilities (4 Direct and 15 Indirect Reports). Managing of the Witbank Nature Reserve Environmental Superintendent – Matla Coal, Ermelo Mines & Delmas Colliery Responsible for initiating and coordinating scientific studies **(± 4 years)**

Skills/Experience	Geohydrologist by qualification and experienced in project management. Compilation and role out of Strategic Corporate Plans Technical field knowledge and implementation of ***pollution control projects***. Organizing work and implementation priorities. Project identification, initiation and co-ordination / management. Setting and control of budgets. Closure cost assessments and closure plans. ***Investigation and conceptual design of remediation strategies.*** Negotiation skills Company representative on various environmental forums Liaison with Interested and Affected Parties (including Government Authorities). Environmental Auditing (Physical and Systems) Implementation and Management of Management Systems. Implementation of control and corrective action systems
References	*Consulted for the following Major Companies :* BHP Billiton South Africa Energy Coal (SAEC) Glencore Trevali Xstrata Alloys Bridgestone Lonmin PLC South 32 Elemental Minerals (currently Kore Potash – Listed on LSE)

Kenneth Kennedy Smith

1. Expertise of the Review Environmental Assessment Practitioner
   a. Qualifications
      The Review EAP graduated with a B.Sc. Agric. Degree from the University of Natal (Pietermaritzburg) (1985).
   b. Summary of Past Experience

1977 - 85

- Department of Agriculture (Natal Region): Part-time field technician, planning and surveying of run-off control measures.
- B.Sc. Agric. (University of Natal: Pietermaritzburg): 1982 – 85 (Graduated)
- Medical Training Officer (Military Service): 1980 – 81
- Registered for B.Sc. (Rhodes University): 1977 – 79 (did not graduate).

1985 – 1986

- H.L & Hall & Sons (Farms) – Technical Assistant,
- responsible for technical and economic feasibility studies.

1986 – 1989

- Anglo Coal Research & Development – Assistant Scientific Officer;
- fieldwork and data processing for field trials relating to the surface rehabilitation of opencast coal mines.

1989 – 1992

- Amcoal: New Vaal Colliery – Rehabilitation Officer
- The rehabilitation and associated work fell under my area of responsibility, including the control of the earth-moving equipment on the mine. I was a member of the environmental team (Rehabilitation Officer) when the mine received the EPPIC Award for Environmental Performance in 1991.

1992 – 1996

- Ingwe Coal Corporation – Area Environmental Manager
- Responsible for the management of environmental issues (bio-physical and social) in the development and implementation of the Environmental Management Programmes (EMP's), including Trust Fund Administration at collieries in South Eastern Mpumalanga and Northern Kwa-Zulu Natal. This included defunct, operating and planned collieries.

1996 - present

- Ken Smith Environmental Services cc. – Sole Member: 1996 - 2018.,
- Ukhozi Intuthuko Yomphakathi / Community Upliftment Services cc - Founding Member: 1997 - 2005
- uKhozi Environmentalists (Pty) Ltd. Director: 2005 – 2018
- Developed a broad range of experience in EIAs, EMPrs, Audits, Due Diligences, Public Participation and Facilitation across the extractive spectrum (coal, PGMs, Gold, diamonds) in Southern Africa and Colorado, commercial afforestation, heavy industries and urban development in South Africa.
- Leeuw Mining & Exploration: Technical Director: 2002 - 2003; 2005 – 2008.
- African Environmental Practitioners' Alliance Pty. Ltd (African EPA) - Director: 1998 – 2001
- Hoshoza Resources: Technical Director:

Publications and Presentations

- Integrated Process Management and Stakeholder Participation to Permit an H-landfill Site: KK Smith, FJ Marais, T Greyling & JA Wates: Wastecon 2002.
- Practical Considerations in the Design and Management of Coal-discard Dumps: K K Smith & JG Cronje: 1996.
- The environmental management of coal mines: Wildlife and Environmental Expo, Durban 1993.
- The good, the bad and the ugly (of coal mine dumps): Institute of Mining and Metallurgy, Itala 1994.
- Economic performance indicators for the World Cup 2010: Marcus Evans Practical Toolkit for achieving Economic, Social and Environmental "Triple Bottom Line" profits and applying best practise, Cape Town 2004.
- Public Participation in regards to the King 1 Report (JC Cross & KK Smith)

KK Smith ***(Pr. Sci. Nat.); (E.A.P. interim EAPSA certified)***

Additional notes as may be needed:

1. Degree and Special Courses Attended

- isiZulu language and culture (Alpha Hadebe Sotho and Zulu, Olievenhoutbos): 2018, ongoing.
- Section 21(c) and (i) water use training (DWS: Directorate: Water Abstraction and Instream Use): 2017
- Air Quality Workshop: Kevin Cloete: 2009
- Zulu as a spoken language (Siyakhuluma): 2003
- SGS Qualifor - Achieving Forest Certification (FSC): 2003
- Soil Assessment Woodmark Programme - Forest Management FSC Certification, and Chain of Custody FSC Certification: 2003
- Al Loxton Herbicide Application Course: 2003
- Tools and Techniques for Public Participation – 4th and 5th Modules of the IAP2 certificate course in Public Participation IAP2: 2002
- Communication – 3rd Module of the IAP_2 certificate course in Public Participation IAP2 : 2001
- Risk Communication – Principles and Practice (Peter M. Sandman Ph.D.) IAP2 Conference Special Course: 2000
- The Planning and Design of a Public Participation Process: 2nd Module of the IAP2 certificate course: 2000
- Foundations of Public Participation: 1st Module of the IAP2 certificate course: 1999
- Managing Conflict – Public Involvement in EIA (Metaplan/PUCHO): 1999
- Practical Weed Control Course – CHEMICON: 1998
- Understanding RSA's Environmental and Legal Issues (SABS ISO 14001) (SABS Commercial Training): 1997
- Understanding SABS ISO 14004 Environmental Management Systems: SABS Commercial Training: 1997
- WRM Hydrologic Modelling - University of Natal, Pietermaritzburg 1998.
- Integrated Environmental Management (IEM). Theory and Practice: 1993
- Short Course on Hydrological Methods (University of Witwatersrand): 1993
- Short Course on Groundwater (University of Witwatersrand): 1993
- Introductions to Basic and Fortran Programming (Witbank): 1987
- B.Sc. Agric. (University of Natal: Pietermaritzburg): 1982 - 1985 (Graduated)
- Medical Training Officer (Military Service): 1980 - 81
- Registered for B.Sc. (Rhodes University): 1977 – 79 (did not graduate).

2. Membership of Professional Organisations

- Registered as a Professional Natural Scientist *(Pr. Sci. Nat.)*: Category – Environmental Scientist
- Member of the International Association of Impact Assessment (IAIA); South African Affiliate (IAIAsa)
- Life Member of the International Association for Public Participation (IAP2)
- Founding Director of IAP2 Southern Africa
- Interim Certification as an Environmental Assessment Practitioner under EAPSA.
- Application current for certification as an Environmental Assessment Practitioner under EAPASA.

3. List of Projects

3.1 Mining applications

- Sebilong CPA Trust / Masa-A-Sele Environmental Liability Quantification of Niemcor for a Chrome Ore Beneficiation Plant.
- XAM Mining: Section 16 application for a diamond prospect on the Grootderm reserve, Orange River
- Van Aswegen: Section 16 application in Bronkhosrtspruit district for Sand-winning operation
- Mr Msibini : Application for a sand-winning right: Ingwavuma
- Matt Trading: Regulation 49 and Section 50/1 Scoping report for Kiepersol Colliery
- Peter Coal Mining: Section 16 application for Prospect Farm
- P Major: Section 16 applications for a diamond reserves prospect: Section 16 applications for heavy minerals reserves prospect.
- Leeuw Mining and Exploration: Social and Labour Plan framework
- Honingkrans Sand: Section 16 application for sand reserve
- Eyesizwe Coal: Section 50 – Social and Labour Plan, Scoping report for the Belfast Block
- Emlomo Mining: Section 16 applications of basket of reserves in the Ermelo District
- Dispack: Section 16 application for Kromdraai
- DFP Mining: Section 22 application for Fortam Colliery

- C B Creydt: Section 16 application for Hlangamvula at Eden Colliery
- Bob Seale: Section 16 prospecting application for coal reclamation and rehabilitation at Balmoral
- A Grobbelaar: Section 24G application for three farms

3.2 Mining EMPR's & related applications

- Anglo Inyosi :South Rand Project SLP evaluation and revision
- Zululand Anthracite Colliery : EMP Report and community facilitation /conflict management for the closure of the M-block section (old "Mission Mine").
- Honingkrans Sand: Amendment to Sandwinning Environmental Management Programme Report.
- Terblanche Transport: Environmental Management Programme (EMP) report for the Matla Sand sand-winning operation.
- Sumo Colliery: Addendum to Environmental Management Programme Report.
- Sebenza Mining: Environmental Management Programme Report (EMPR).
- Savmore Colliery: Environmental Management Programme (EMP) report for the proposed Klipspruit Opencast Reserve.
- Protea Colliery: Environmental Management Programme Report (EMPR) for the new Shelley shaft section.
- Majuba Construction: EMP Report for the proposed Grootpan opencast coal mine.
- Leeuw Mining & Exploration: Environmental Management Programmes for a group of mines in the northern Kwa-Zulu Natal region.
- Kwa-Zulu Collieries: Environmental Management programme for a coal- loading railway siding at Glencoe, Kwa-Zulu Natal.
    - : EMP Report for a Coal Discard Dump Reclamation Project.
    - : Environmental Management Programme (EMP) report for the proposed coal rehabilitation and reclamation at Goedehoop Section.
    - : Environmental Management Programme (EMP) Report for Shelley Colliery
- Koornfontein Mines: EMP Report Evaluation and Revision.
- Klipspruit Opencast Reserve: Environmental Management Programme report (EMP Report).
- Khutala Colliery: EMP Report Evaluation and Revision.
- Khutala Colliery: EMP report for the Block I underground and opencast Sections
- Jozini crushers: EMP Report for an existing sand-winning operation
- Kangra Group (Pty) Ltd: Environmental Management Plan (EMP) for the Maquasa East Underground/Opencast Section of Savmore Colliery.
- Ingwe Coal Corporation: Feasibility Study, scoping exercise and preliminary EIA for a proposed colliery and associated infrastructure for the Megapower project, Leandra Mine.
- High Carbon Products: Closure Plan for a Mine Dump at Elandslaagte.
- Eyesizwe Coal: EMP report for the Eerstelingsfontein opencast coal mine.
- Eyesizwe Coal: EMP Report for Eerstelingsfontein
- Eyesizwe Coal: EMP Report for the Belfast Block. (Current)
- Dorstfontein Quarry: EMP Report for a sand-winning operation.
- Cousins Coal: Environmental Management Programme (EMP) Report for the proposed Fortam opencast mine.
- Badger Mining: Prospecting EMPR for the Piet Retief Colliery
- Auger Mining: EMP for a Coalmine Vryheid 159Prospecting and Mining EMPR at Coalfields

3.3 Project Management

- Working for Water/DWAF: Project-managed the Working-for-Water Land Care Project in the Assegaai / Mkhondo River Catchment with regard to the removal and control of alien invaders in riverine vegetation and wetlands [The work was undertaken as a function of the role as founding co-ordinator of the Assegaai / Mkhondo River Catchment Land Use Forum (MACLUF)].
- Protea Colliery: Project team leader for an EMP report and Due Diligence Exercise for a new coal mine and a coal beneficiation plant, and the closure of a previously opencast area
- Matla Coal: Strategy and project management for environmental issues and more specifically an integrated Water Management Strategy.
- Dencoal : Project Management

3.4 Public Participation

- Manyaleti : Scoping Application for Prospecting Northern Freestate
- Sunbird Umbono: Application for CBM/fracking Prospecting Right on the Springbokflats facilitation of a public meeting
- EcoPartners:Colenso Power Station facilitation of public meeting
- Manganese Metal Company: Public Participation for the EIA and EMP process together with an associative team for a proposed Hazardous Residue Management Facility.
- Xstrata Lydenburg: Public Participation and Scoping for a Ferrochrome Smelter.
- Thandekile Township/Welgekozen: Public Participation and Scoping for the establishment of an Afro-Tourism centre (including a filling station)
- Sebenza Mining : Public Participation for a Water Use Licence Application.
- Mondi Kraft Piet Retief Mill: Public participation for application for a water use licence
- Koornfontein Mines: Public Participation for a Pillar extraction operation.
- Iscor Pretoria Works: Public Participation and Risk Management Strategy for an Environmental Master Plan, with an associate team.
- Iscor Vanderbijlpark Steel Works: Public Participation and Risk Communication Strategy and EIA/DWAF water use licence application process components together with an associate team.
- Iscor Newcastle North Works: Public Participation (application for a new residue management facility and the rehabilitation and closure of the existing dumps).
- Ermelo Mines : Facilitation (including conflict management and Development of a strategy) of a compensation agreement for mine-affected farmlands, including the development of a predictive model to objectively determine the level of compensation; Evaluation and revision of a Closure Plan.
- C B Creydt: Public participation and EMP for Mhlangamvula at Eden Colliery
- Chrome International: Public and DWAF meeting: auditing of Chrome tailing dams
- Delta Colliery: Facilitation of discussions with a local community resident on an area targeted for opencast coal mining.
- Bon Accord: Public Participation (Closure Plan for a defunct mine/plant situation).

3.5 Scoping Reports

- Plantago Lanceolata: Scoping for a private hospital in Ulundi (client stopped the process prematurely).
- TAPPS: Scoping report for township establishment – Embalenhle
- SSS Diens Stasie: Scoping for the proposed Ermelo Oasis "Truck-Inn".
- Prorand: Scoping Report for a Premix Plant (for N3 Toll road upgrade).
  - Scoping for the Grootvlei Asphalt plant: N3 Toll road from Cedara to Heidelberg.
  - Scoping for an extension to the N3 Toll road/Grootvlei Premix Plant
- MTN: Scoping Report for the proposed GSM Cellular Base Station and Access Road on Ossewakop.
- Nathoo Mbenyene Engineers: Scoping report for landfill – Elukwatini; Scoping report for landfill – Wakkerstroom
- Mhluzi Community Development: Scoping for the establishment of a filling station in a previously disadvantaged area.
- Manyane Filling Station : Scoping exercise for a rural filling station.
- Klomp Consult East (Pty) Ltd: Scoping Reports for various water reticulation Projects in rural Townships (Mpumalanga & Northern Kwa-Zulu Natal).
- Klomp Consult (Pty) Ltd : Scoping exercise for a township establishment (Ermelo Ext 33).
- Khutala Colliery : Scoping Report for an overland conveyor.
- Iscor Vanderbijlpark Steel Works: Scoping for the upgrade of the Coke Ovens and gas water cleaning system; : Scoping for the construction and installation of the Sinter off-gas treatment demonstration Plant.
- Groundwater Consulting Services: Scoping Exercise for the proposed reworking of the abandoned Rietvlei.
- Eyesizwe Coal : Scoping report for Eerstelingsfontein.
- Douglas Colliery : Scoping Exercise for a closure plan of a partly rehabilitated defunct opencast mining area.
- DFP Mining: Scoping report for Fortam Colliery

3.6 EIA's

- EnviroServ.: Application for an environmental authorization for the use of spent pot liner as an alternative fuel source.
- Swaziland Greenstone Quarry: Environmental Impact Assessment (EIA): Comprehensive Mitigation Plan (CMP) for the proposed Swaziland Greenstone Quarry (Malolotje Nature Reserve).
- Savmore Colliery: EIA and assessment of mitigation measures with regard to Flora and Fauna sections of the Rooikop Mine EMPR.
- Khutala Colliery EIA for proposed river diversion.
- Emaswati Coal: EIA for a coal mine (Swaziland) (project stopped after the scoping phase).

3.7 Due Diligence

- Hand Filter: Due diligence for Valchvlei
- Kwa-Zulu Collieries: Due Diligence report for Protea Colliery
- Bos Mining: Due Diligence report for Albion Dump Reclamation project
- Wood Mackenzie: Mbila Project Environmental Aspects

3.8 Audits

- Sebenza Mining : Environmental Audit Report.
- Mondi Kraft Piet Retief Mill: Annual compliance audits in terms of conditions pertaining to water release exemption
- Mondi Kraft Piet Retief Mill: Annual auditing of waste-water and solid waste site.
- Matla Coal: Environmental Compliance Audit.
- Chrome International : Environmental Audit of tailings dams, Newcastle

3.9 Water Use Licences

- Plantago Lanceolata: Bulk Water Supply Pipeline
- Mogale City: Bulk Water Supply Pipeline
- TWK: Registration of timber growers as water users; Environmental Auditing and applications for Commercial Afforestation Permits
- NB Creydt Forestry: Afforestation permit application, wetland delineation exercise and forestry management.
- Moddex Trust Afforestation permit application and environmental forestry services (first application to the Water Tribunal).
- Lodewykslust Landgoed Afforestation Permit Application and Water Use Licence Application (Stream Flow Reduction).
- Leeuw Vaalkrantz Colliery: Application for Water Use Licence
- Eyesizwe Coal: Application of Eerstelingsfontein Water Use Licence.
- Eyesizwe Coal: Application For Belfast Block Water Use Licence.
- ACM Woodchem: Water Use Licence Application.

3.10 Monitoring

- Mondi Forests: Ongoing Ground and Surface monitoring at Brockwell.

3.11 Other

- Vuka Ramanas Environmental Management at Graskop forestry section.
- Tienie Hattingh Trust: Wetland delineation exercise and Alternate Dispute resolution for forestry water use.
- Sumo Colliery Assessment of the indigenous fauna and flora and the Ecological importance of a pan near the Eerstelingsfontein Mine
- Mondi Forests: Co-ordinated the development of a hiking trail for their Tygerskloof Estate.
- Enviro-legal aspects and strategy for the reclamation and rehabilitation of a defunct discard dump and abandoned coal mine.
- Compilation of the 2005 SEAT Report (Socio-economic Assessment Toolbox") based on data collected by Mondi social science personnel.

- MAZCOM Building and Civil Eng. : Permit application landfill site – Waterval Prison
- G B J Viljoen: EIA requirements and permit to move crocodiles
- D Hilton: Application for an exemption for traditional line fishing licence
- EcoSat : Quarry selection – road upgrade
- Eco Plantation Specialists: Wattle jungle exchange and formalisation programme at Middelburg Mine Services (conceptualisation and facilitation).
- Dencoal: Feasibility study for Mooihoek.
- Bomedal Beleggings: Legal Compliance Assessment.
- ACM Chemicals : Investigation at ACM Chemicals

MARILIZE POTGIETER

PROFILE

I am a multi-faceted and reliable individual with over 10 years of experience in a wide range of industries and services. I am outgoing, detail-oriented and adaptable. I take pride in my work and enjoy sharing my passion for the environment with others.

PERSONAL DETAILS

Name
Marilize

Surname
Potgieter

Gender
Female

Nationality
South African

ID Number
8702170188083

Marital status
Married

Dependants
One

Languages
Afrikaans (Home)
English

Drivers Licence:
Code 08 PDP

CONTACT DETAILS

marilizem2@gmail.com

082 291 8316

93 Jakkalsbessie Lane
Buffelsdrift, Pretoria

EDUCATION AND QUALIFICATIONS

- **Bachelor of Science Honours in Geography -** University of South Africa
  2017 – Completed

  Subjects: Geographic perspective of environmental change, Geography of people-resource interactions in the Global South, Geography of everyday living in human settlements, Geographer as a researcher.

- **Bachelor of Art in Environmental Management** - University of South Africa
  2013 to **2016** – Completed

- **Short Course in Environmental Law (2018)** – Enterprises University of Pretoria

- **FGASA: Level II Certificate (2010)** – Full level II, trails guide theory and VPDA

- **Senior Certificate (2005) –** Die Hoërskool Menlopark (Subjects: Afrikaans, English, Mathematics, Biology, Travel and Tourism & Art)

CAREER HISTORY

- **JEMS (PTY) Ltd**
  Junior Environmental Consultant
  May 2020 – Present

  - Compilation of soil sampling reports
  - Audits
  - Assist in the compilation of EIA reports
  - Public Participation
  - Assist in tender applications
  - Data capturing

- **CHEMC Environmental**
  Junior Environmental Consultant
  February 2018 – April 2020

  - Conduct field work – water sampling
  - Compilation of water sampling reports
  - Audits
  - Assist in the compilation of EIA reports
  - Public Participation
  - Assist in tender applications
  - Invoicing
  - Data capturing

- **Plankton Cashless** (Division of Hilltop Live)
  Administrative Assistant and Vendor Manager

  May 2016- January 2018

  - Assisting in all administrative duties –preparing and modifying documents including correspondence, reports, drafts, memos and emails.
  - Monitor contractual agreements between the vendor and client.
  - Manage external vendor relations to ensure continued service delivery and customer satisfaction.

KEY SKILLS AND ABILITIES

- **Project Management.** Initiating, planning, executing, controlling, and leading a team to achieve specific goals.
- **Problem Solving** Working through details of a problem to reach for a solution through systematic operations.
- **Logistics Skills** Management of financial resources, venue booking, team transport and accommodation. Monitoring and reporting.
- **Strong Communication, Negotiation, and Interpersonal Skills** Good listener, confident, empathetic, respectful, motivational and being able to appropriately give and receive feedback, good interpersonal skills.
- **Self-motivation and initiative** Ability to do what needs to be done without being prompted by others and the willingness to take a fresh approach.
- **Organisational Skills** Attention to detail, good planning and scheduling skills and the ability to coordinate resources.
- **Excellent Teamwork Skills** Worked in numerous teams of different sizes and backgrounds. Good conflict resolution skills, reliable and respectful towards others.
- **Computer Skills** Competent in Microsoft office. Intermediate Photoshop and basic Visio skills. Social Media

- Troubleshoot vendor problems and present to management as required
- Coordinate vendor logistics pre-, during and post-event, including all communications relative to managing contracts, permits and special requests.
- Onsite Vendor Partner liaison, available and present during events.
- Training and management of seasonal staff and vendors on how to use the cashless devices offered.
- Overseeing and managing staff and vendors at the event ensuring that operations are running smoothly

❖ **Hilltop Live Productions**
Project Manager & Assistant to Logistics Manager

September 2013 to February 2015

- Remaining customer service orientated while liaising with key clients and diverse stakeholders during the securing and defining of business contracts and objectives from key clients.
- Managing, and timely delivery of teams and all phases of project lifecycles.
- Checking projects progress towards achieving its goals, determine cause of deviation from plan and taking corrective action to solve it.
- Develop procedures to support the achievement of the project objectives like budgets, disaster management, production schedules and event reports.
- Creating and modification of site maps of events on Visio
- Filled the vendor manager role for numerous events. Coordinate vendor logistics pre-, during and post-event, including all communications relative to managing contracts, permits and special requests.
- Assisting in all administrative duties –preparing and modifying documents including correspondence, reports, drafts, memos and minutes.

❖ **Hilltop Live Promotions**
Personal and Social Media Assistant
March 2013 – September 2013

- Manages and monitors CMO's social media channels, including Facebook, LinkedIn, Twitter, and other relevant platforms.
- Engages in social media presence creation on new and emerging social media platforms.
- Proposes new ideas and concepts for social media content.
- Manages social media communications.
- Uses timelines and scheduled content to create a consistent stream of new content. Social media scheduling and posting
- Assisting in running the Event coordinator's business and personal errands.

❖ **Kapama Private Game Reserve**
Field Guide
April 2010 to October 2011

- Conducting personalized and professional guided game drives
- Hosting of guests during their stay at the lodge.
- Conscientious maintenance and care of vehicles and related equipment.
- Assisted in leopard and rhino identification projects.
- Bush clearing and rehabilitation of effected areas.

❖ **Tinga Private Game Lodge (KNP)**
Field Guide
November 2009 to April 2010

- Conducting personalized and professional guided game drives and walks.
- Hosting of guests during their stay at the lodge.

REFERENCES

- **CHEMC Environmental**

  Stephan Barkhuizen
  083 776 7898

- **Plankton Cashless & Hilltop Live Production**

  Tony Groenewald
  082 335 7330

- **Hilltop Live Promotions**

  Retha Bornnmann
  082 894 9464

- **Horseworx**

  Dave Neath
  082 457 5697

- **Kapama Private Game Reserve**

  Liezel Holmes
  015 793 8700

- **Sabi Sabi Private Game Reserve**

  Malcolm Douglas
  083 233 5264

- Conscientious maintenance and care of vehicles and related equipment.
- General maintenance bush clearing and rehabilitation of effected areas.

❖ **Simbambili Game Lodge (Sabi Sands)**
Assistant Lodge Manager / Front of House
February 2009 – August 2009

- General running of the lodge in the manager's absence.
- Front of house duties including answering phones, emails and welcoming guests on arrival.
- Running and organising of curio shop.
- Daily bar stock take and monthly curio shop stock take.
- Hosting and serving guest during their meals.

❖ **Sabi Sabi Private Game Reserve (Sabi Sands)**
Field Guide
March 2008 to January 2009

- Conducting personalized and professional guided game drives and walks.
- Hosting of guests during their stay at the lodge.
- Conscientious maintenance and care of vehicles and related equipment.
- General maintenance bush clearing and rehabilitation of effected areas.

Freelance Work

❖ **In On Africa**
Human Resource Manager
November 2015 to September 2016

- Recruitment
- Policies

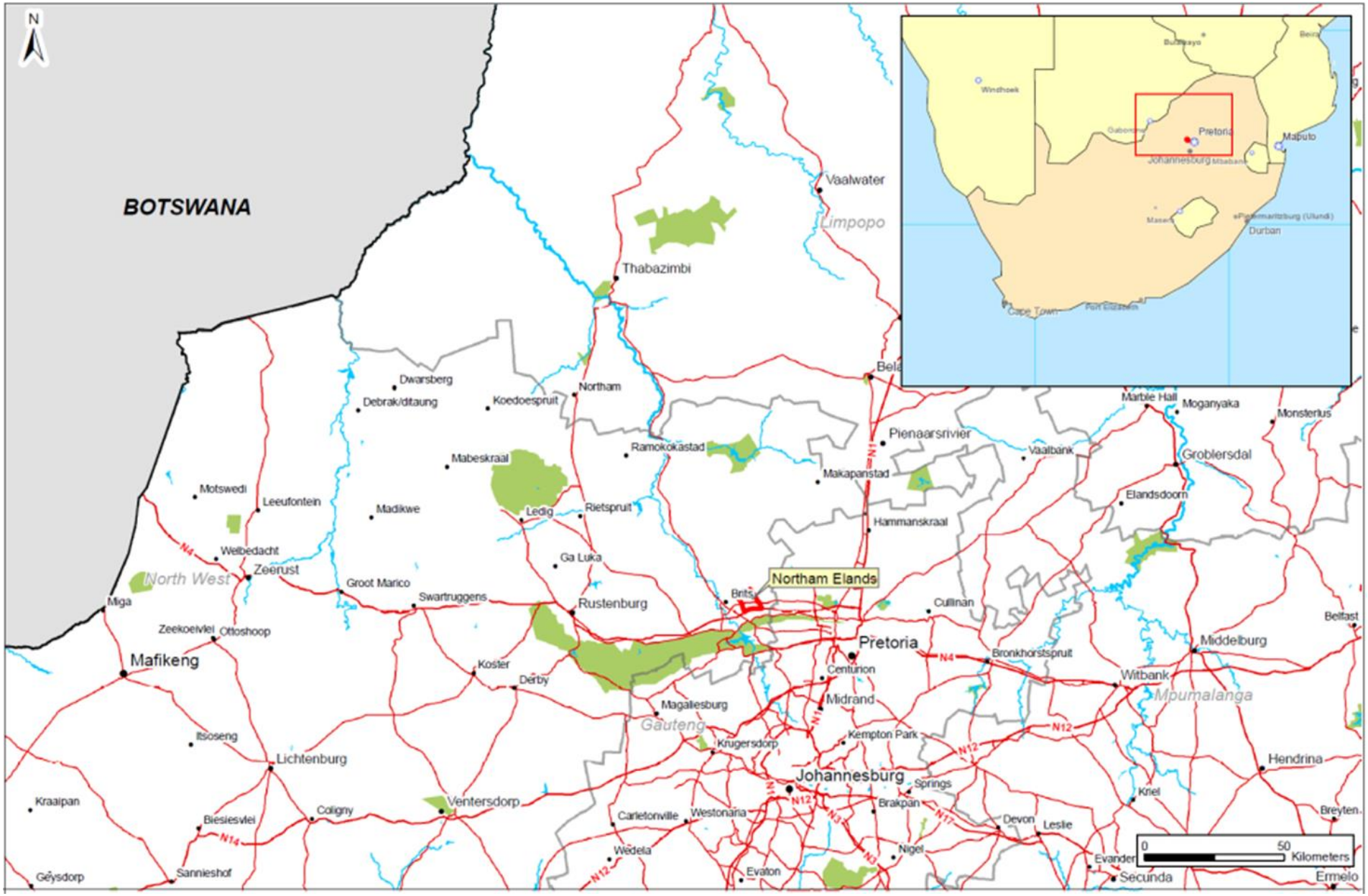
❖ **Horseworx**
Development Facilitator (children)
February 2015 to August 2015

- Facilitating young, mentally and physically challenged children
- Equine Therapy - Conducting developmental lessons

❖ **La li's Photography**
Photographer Assistant and Editor
Nov 2011 to May 2012 & Sept 2012 to January 2013

- Conducting photo shoots in the absence of the photographer.
- Editing of photos in Photoshop and creating photobooks.
- Responsible for studio administration. This includes answering the telephone, emails, digital filing of photographs, printing and packaging of photos.
- Preparing the studio before a shoot and assisting photographer during her shoots.

Appendix 3



JEMS

Figure No. 1 - Locality Map

Legend

EA Application Area

JEMS

Figure No. 2 – Eland Mine Application Aerial Map

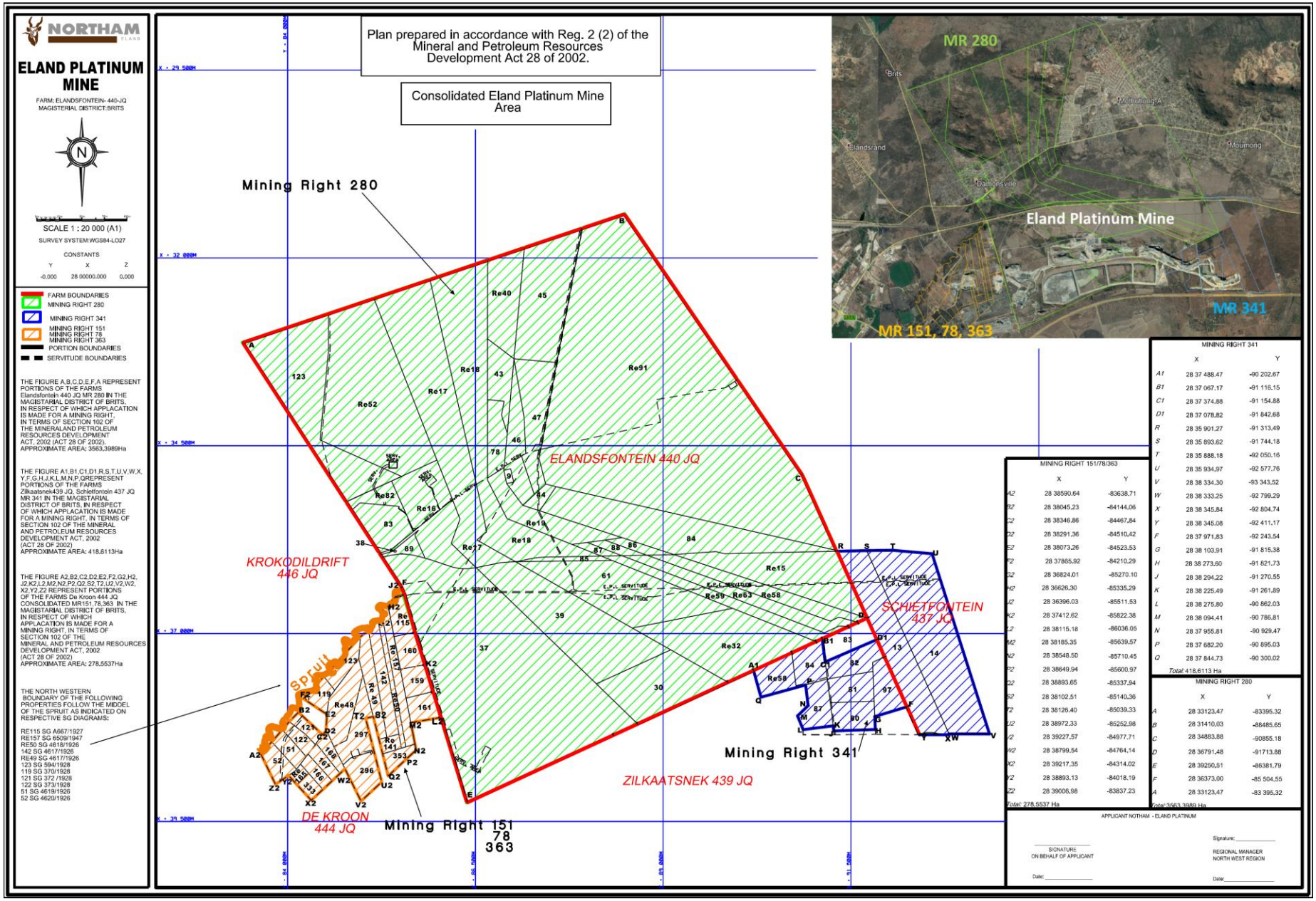
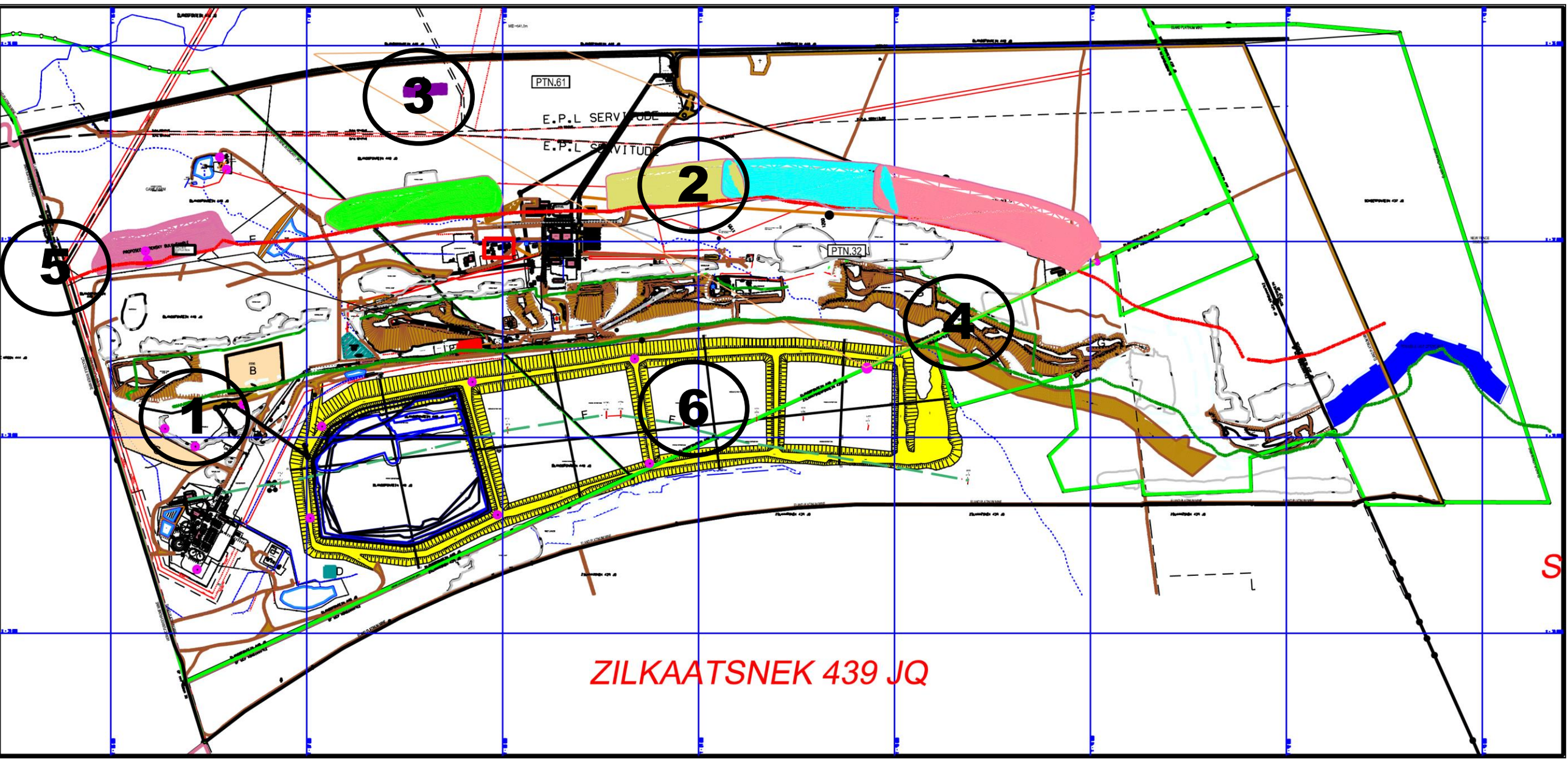


Figure No. 3 – Boundaries of the Eland and Maroelabult Mining Rights Areas

Appendix 4

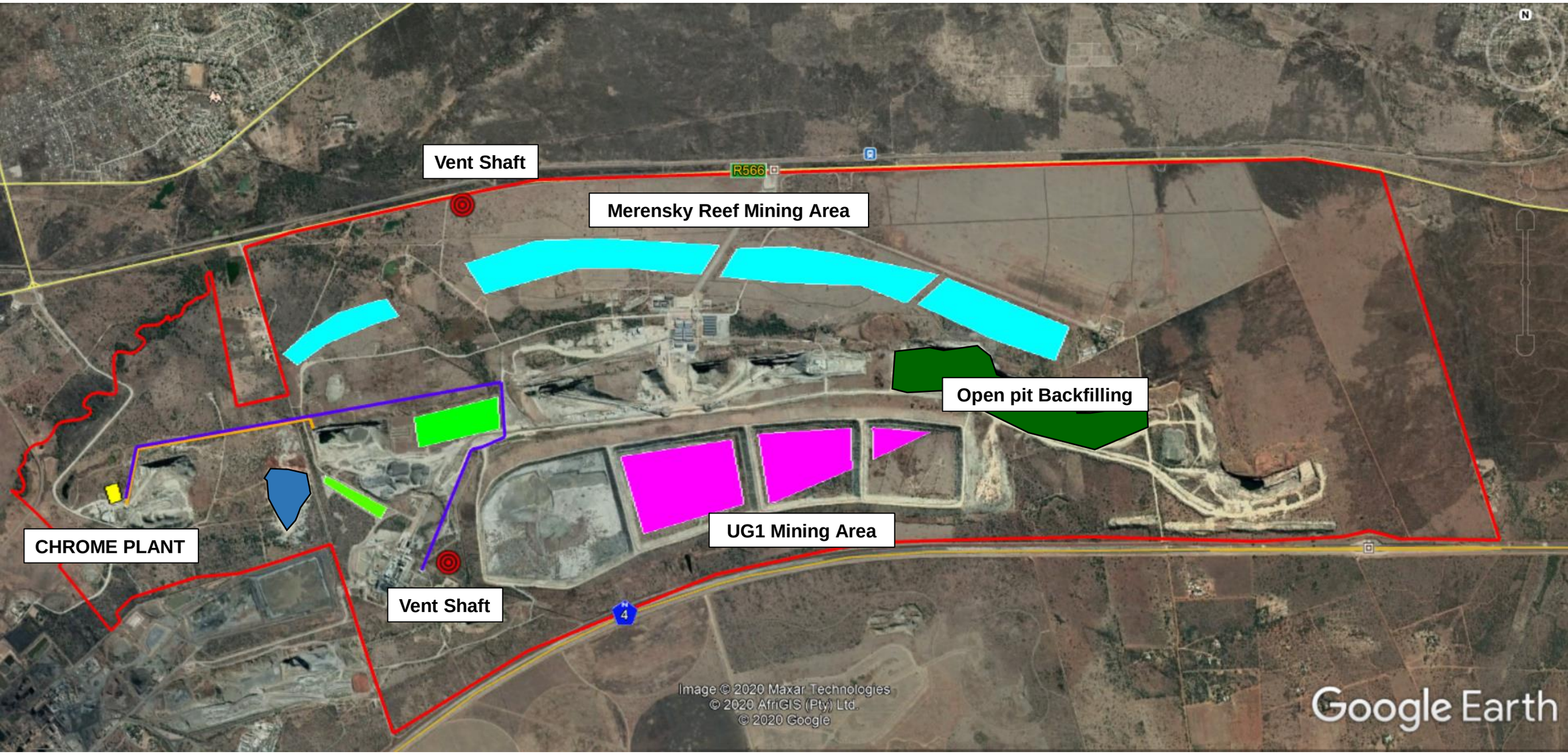
Legend

1 - ROM Stockpiles
2 - Merensky Reef Mining Area
3 - Vent Shafts
4 - Tailings Backfilling Pits
5 - Maroelabult Section and Projects
6 - UG1 Mining Area



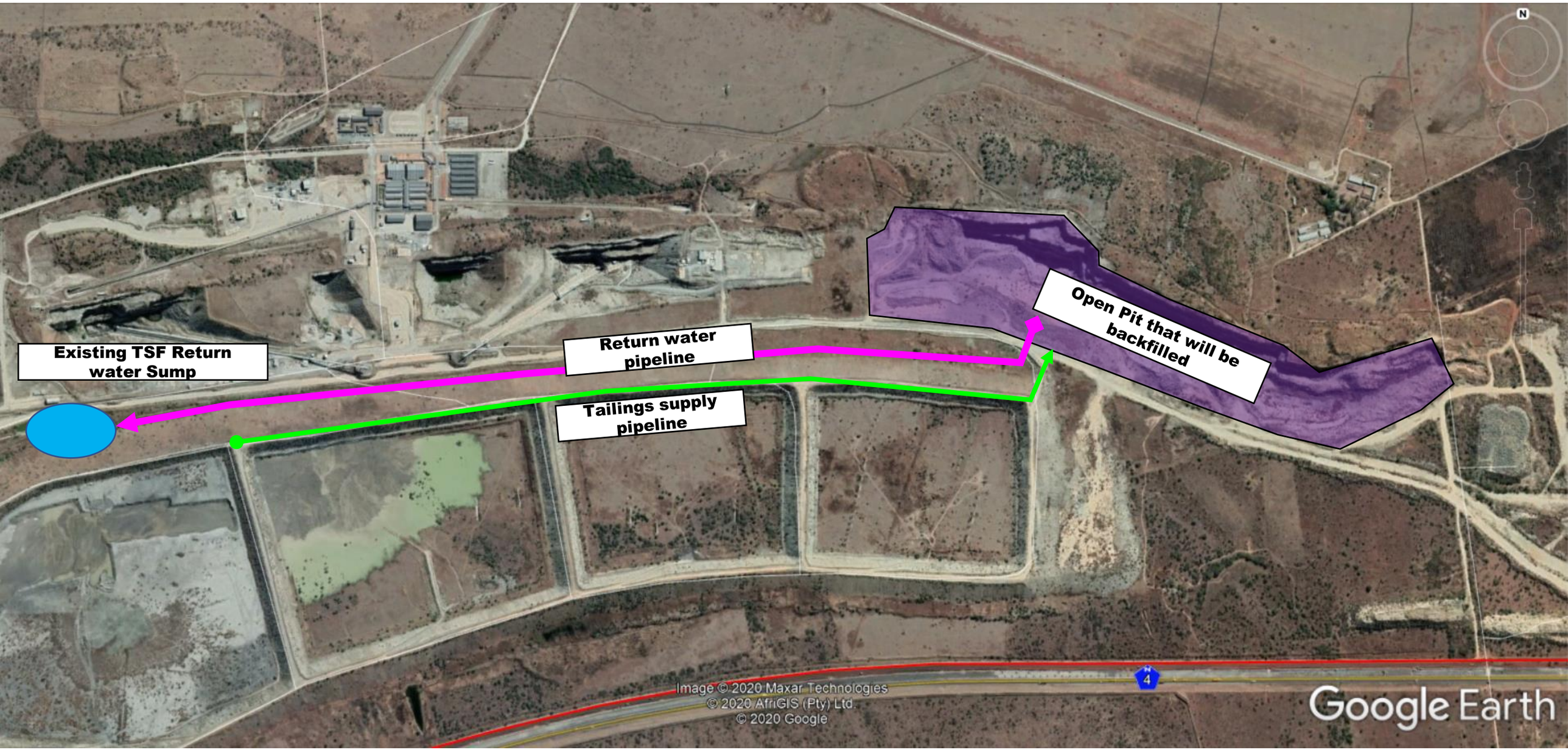
Legend

- EM and MM Surface Boundary
- Chrome Floatation Plant
- ROM Stockpiles
- Merensky Reef Mining Area
- Open pit Backfilling
- Waste Rock Re-processing Area
- UG1 Mining Area
- 11KV Electrical Line
- Water Pipe line



Legend

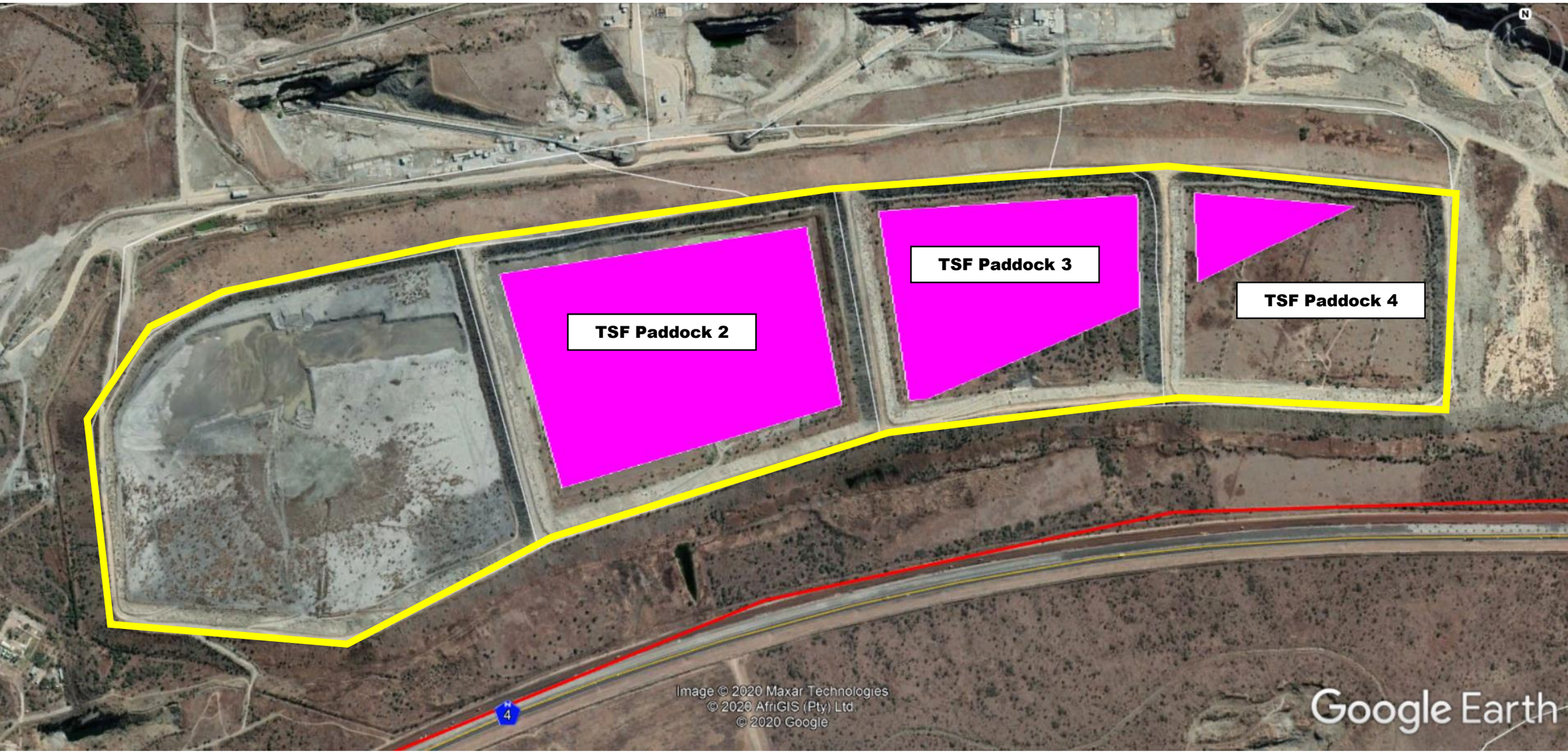
- Open pit Backfilling
- Return water pipeline
- Tailings Supply Pipeline



Legend

- Existing TSF

- Proposed UG1 Mining Area

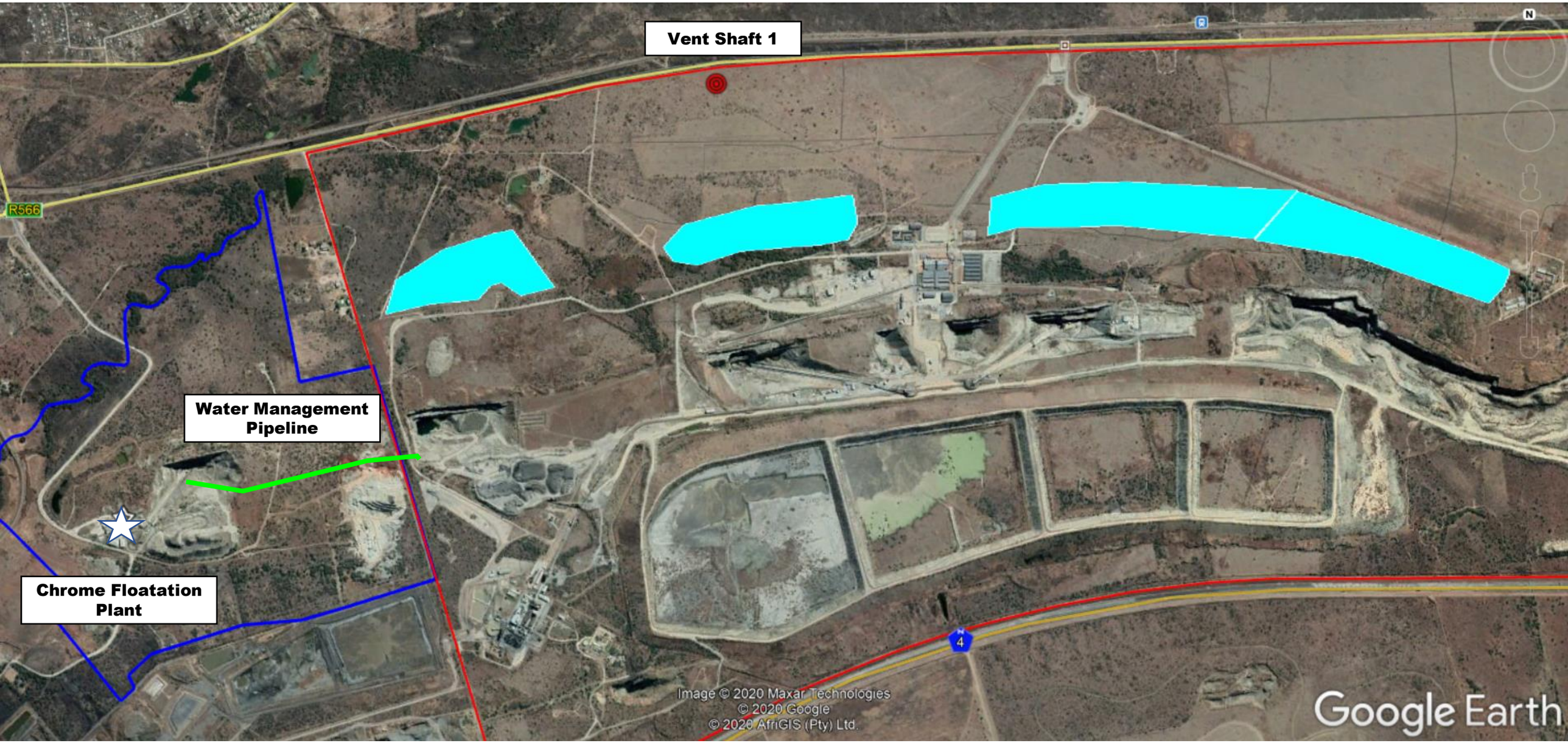


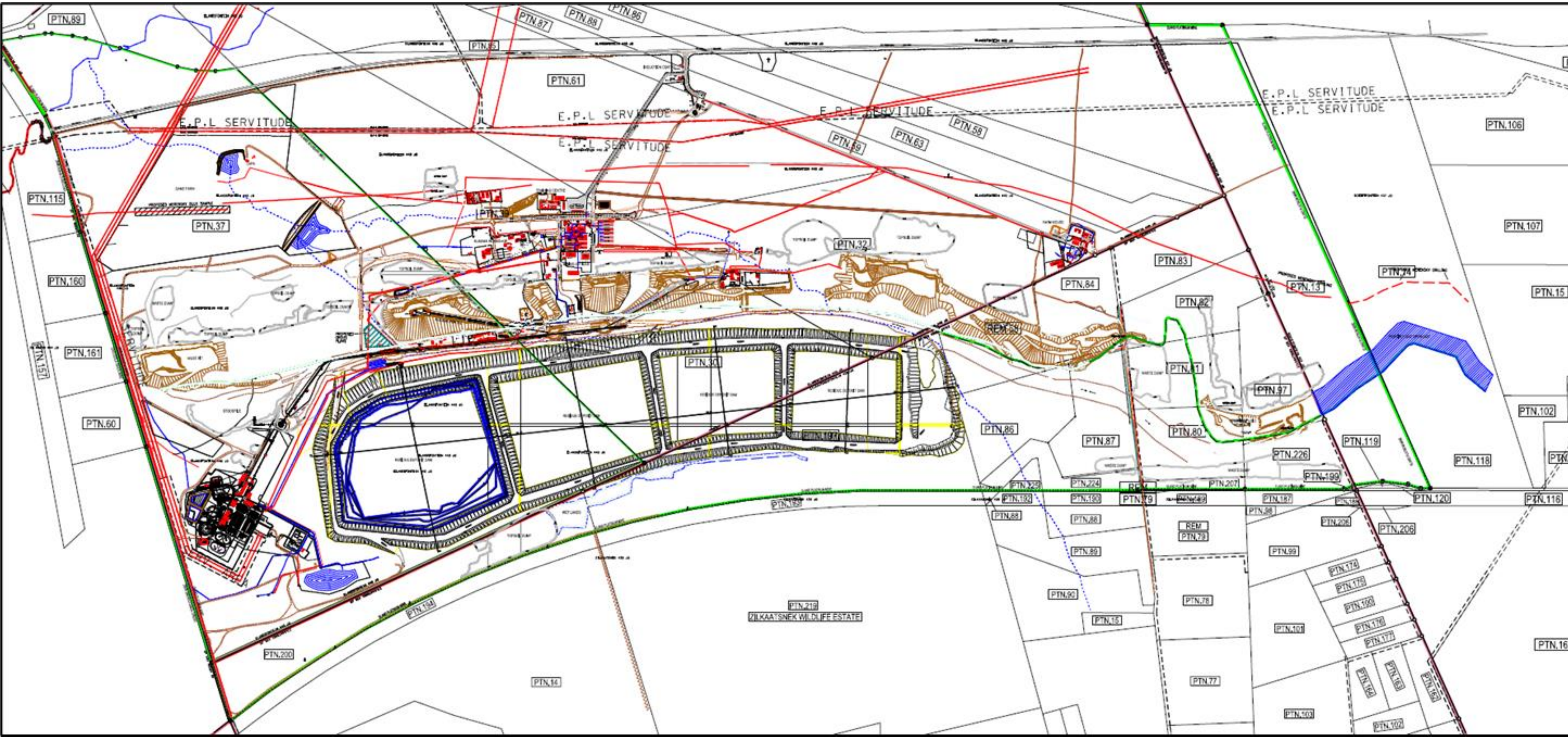
Legend

- EM and MM Surface Boundary
- Proposed ROM Stockpiles
- Existing ROM Stockpiles
- Chrome Floatation Plant
- Waste Rock Re-processing Area
- 11KV Electrical Line
- Water Pipe line

Legend

- Eland Mine Surface Boundary
- Maroelabult Surface Boundary
- Merensky Reef Mining Area

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PTN.161
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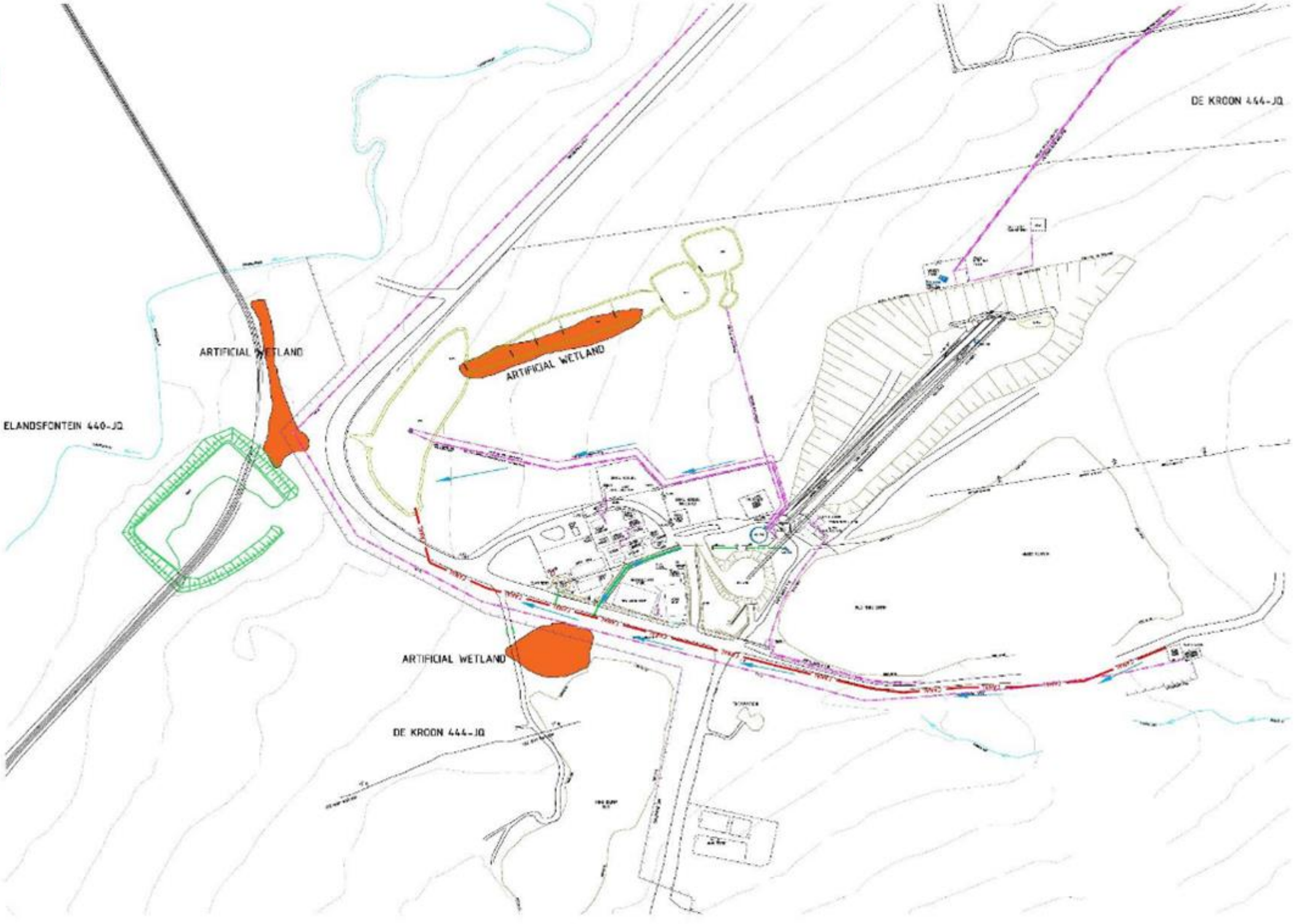
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ARTIFICIAL WETLAND
ELANDSFONTEIN 440-JQ
DE KROON 444-JQ
ARTIFICIAL WETLAND
DE KROON 444-JQ
MAROELABULT MINE - GENERAL LAYOUT
LEGEND
WESTON LIND MRA APPLICATION
WSM LESHIKA

Appendix 5

NORTHAM
ELAND

To grow the business into a long-life, major producer of PGMs, and doing this safely and efficiently while continuously moving down the cost curve.

OUR HSEC POLICY

Eland Mine is to mine PGMs and other metals efficiently and responsibly with due care for the health and safety of our employees, contractors, communities, the environment we operate in and all other stakeholders affected by our mining and beneficiation processes. We subscribe to world class safety, health and environmental practices, guided and directed by our Corporate Safety, Health and Environment Strategy and Objectives.

To achieve this we will:

- Develop, implement and maintain an integrated safety, health and environment management system to comply with Northam Platinum Limited targets and commitments;
- Drive continual improvement through setting objectives and targets based on sound risk management methodologies, conduct regular reviews of the system and measure our performance through management self-audits;
- Comply with all applicable legislation, company policies and procedures and project objectives;
- Apply relevant international best practices to our local conditions as part of our commitment to continual improvement;
- Promote awareness of potential safety, health, environment and quality impacts of each person's activities, and our business processes on an ongoing basis;
- Conserve natural resources such as water, energy and land by encouraging employees, contractors and stakeholders to minimise consumption of resources and prevent pollution through proactively implementing mitigating measures through responsible and accountable construction of the mine;
- Take due care to prevent process loss, property damage, work related injuries and occupational diseases and ensure that activities are safe for employees, contractors, and stakeholders who enter our work environment;
- Adopt a clear vision of future business decisions, harnessing best available technologies, processes, materials, products and management practices which improve safety, health and environment performances;
- Train employees and contractors on issues of safety, health and environment management to ensure sustainable performance;
- Strive to deliver all milestones on time through proactive planning, contingency planning and risk management;
- Place people at the centre of our business through the implementation of People Based/Behavioural Safety Principles;
- Establish and promote a culture of mutual interest and care between employees, to ensure that all our employees and contractors take due care and cognisance of the impact of our own acts, and those of others on the safety and health of fellow workers and the environment.

The personal involvement of each employee and contractor is essential to achieve the successful implementation of this policy. The effort of each employee is worthwhile as it will not only achieve a reduction in injuries, accidents, health and safety risks, environmental incidents and impacts, but also improve the quality of life for all employees and our communities, for all future generations.

Jacques Pretorius **General Manager**	**Trudy Magopa** **H&S Representative**	**William Lehloo** **Employee Representative**

Appendix 6

INTERESTED AND AFFECTED PARTY CONSULTATION REPORT

FOR THE ELAND PLATINUM MINE

CONSOLIDATION PROJECT

Report Prepared by

JEMS Pty Ltd

26 In-Full Flight Mooikloof, 0059

Tel: 083 776 7898 / 082 892 4282

Email: stephan@jems.co.za / jannie@jems.co.za

EXECUTIVE SUMARY

The DSR will be available for review and comments for thirty (30) days from 17 August to 16 September 2020 at the following locations:

- EM Security Office;
- MM entrance;
- Madibeng Local Library in Brits;
- Moumong Store in Mmakau
- The Community Library (at the Community Hall) Damonsville;
- The Community Hall in Mothotlung;
- Madibeng Business Support Centre; and
- Mmakau Police Station next to the Bakgatla-Ba-Mmakau Tribal Council offices.

The information provided in the DSR acts as the baseline resource for the relevant authorities and interested and affected parties ("**I&APs**"), and its aim is to ensure that all I&APs and stakeholders have a clear understanding of the EP Proposed Projects and the biophysical and socio-economic environment where the Projects will be undertaken. The interaction and symbiotic relationship between all involved, by means of inputs and guidance received, will contribute to the rationale of the FSR and the subsequent EIA phase.

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

Term/Abbreviation	Definition
2014 EIA Regulations	Environmental Impact Assessment Regulations promulgated in terms of NEMA in GN 982 of Government Gazette 38282 on 4 December 2014 (as amended in 2017).
BID	Background Information Document
DEAFF	Department of Environmental Affairs, Forestry and Fisheries
DEIAR	Draft EIA Report
DHSWS	Department of Human Settlements, Water and Sanitation
DMRE	Department of Mineral Resources and Energy
DSR	Draft Scoping Report
EA	Environmental Authorisation
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EM	Eland Platinum Mine
EMP	Environmental Management Programme

EMPR	Environmental Management Programme Report
EP	Eland Platinum (Pty) Ltd, a subsidiary of Northam
FEIAR	Final EIA Report
FSR	Final Scoping Report
GN	Government Notice
I&APs	Interested and Affected Parties
MLM	Madibeng Local Municipality
MM	Maroelabult Mine
MPRDA	Mineral and Petroleum Resources Development Act (Act No. 28 of 2002), as amended
NEMA	National Environmental Management Act (Act No. 107 of 1998), as amended
NWREAD	North West Department of Rural, Environment and Agricultural Development
Northam	Northam Platinum Limited
PPP	Public Participation Process
RSA	Republic of South Africa
WUL	Water Use Licence

LIST OF TABLES

LIST OF APPENDIXES

1. INTRODUCTION:

EP owns and operates the Eland Platinum Mine ("**EM**") and Concentrator Plant at EM. EM is located in the North-West Province ("**NWP**") of the Republic of South Africa ("**RSA**") and falls under the local jurisdiction of the Madibeng Local Municipality ("**MLM**"), situated in the larger district of the Bojanala Platinum District Municipality ("**BPDM**"). The town of Brits is located 10km east of EM, with the Tshwane Metropolitan 60 km to the west. The northern boundary of the EM Surface Area is bounded by the R566 (Brits - Rosslyn) provincial road and N4 Bakwena National Highway (Pretoria-Rustenburg) to the south.

EP recently concluded the Sale Agreement to acquire the underground Maroelabult Mine ("**MM**"), bordering to the west of EM, from Barplats Mines (Pty) Ltd ("**Barplats**"), a subsidiary of Eastplats (Pty) Ltd, including portions of mining rights NW30/5/1/2/2/151MR and NW30/5/1/2/2/78MR and the entire NW30/5/1/2/2/363MR ("**MR Sale Portion**").

MM forms part of the Crocodile River Mine and is operated under mining rights DMR Ref. No. NW30/5/1/2/2/151MR and DMR Ref. No. NW30/5/1/2/2/78MR and DMR Ref. No. NW30/5/1/2/2/363MR.

EP has submitted an application under section 102 of the Mineral and Petroleum Resources Development Act 28 of 2002 (**"MPRDA**") to consolidate the following mining rights into the Elandsfontein Mining Right:

- MR Sale Portion and
- Zilkaatsnek Mining Right,

("**Section 102 Application**").

One of the conditions precedent to the Sale Agreement is the grant of the Section 102 Application.

To take the abovementioned operations forward, EP and Northam have identified the EP Proposed Projects. EP has consequently submitted the Integrated DMRE Environmental Application under the NEMA and NEMWA respectively to the DMRE and will be submitting the WUL Consolidation Application to the Department of Human Settlement, Water and Sanitation ("**DHSWS**") for the following activities:

- Consolidation of the existing Environmental Management Programmes ("**EMPrs"**), EAs and WMLs for EM and the portions of the EMPrs ("**Maroelabult EMPrs**") and IEA for the area held under the MR Sale Portion ("**Sale Portion Area**") into the Environmental Impact Assessment ("**EIA**") / EMPr for the Elandsfontein Mining Right

(approved by the DMRE on 21 December 2006 – Ref No: (NW) 30/5/1/2/3/2/1/280EM) ("**Environmental Licence Consolidation Application**");

- Consolidation of the Water Use Licences ("**WUL**") for the Consolidated MR Area;

EP Proposed Projects -

- Mining at MM, including the Boundary Pillar on the UG2 reef horizon between EM and MM;
- Construction and operation of two Run of Mine ("**ROM**") stockpiles at EM;
- Raise-boring and operation of two underground Vent Shafts at EM;
- Mining of the Merensky Reef at EM, including associated infrastructure, Overburden Stockpiles and WRDs;
- Mining of the UG1 in the existing TSF Paddock 2, 3 and 4 at EM;
- Backfilling of existing opencast pits with tailings at EM and the construction of a pipeline to convey the wet tailings to the pits and a return water pipeline between existing TSF return water sump and the opencast pits ("**Pits Pipelines**");
- Water management infrastructure linking EM and MM, including expansion and construction of pump stations and pipelines for the conveying of water and tailings between EM and Maroelabult Mine ("**Water Management Pipelines**");
- Construction of an electrical substation and associated infrastructure at MM;
- Construction and operation of a Chrome Floatation Plant ("**CFP**") and associated infrastructure at the Maroelabult shaft within existing operational area; and
- WRD re-processing at MM.

2. DETAILS OF THE PUBLIC PARTICIPATION PROCESS (PPP) FOLLOWED

The Stakeholder Engagement Process that will be undertaken during the project announcement phase is included in the DSR and will be undertaken in terms of Regulations 40 and 41 of the GN 982 of 8 December 2014, as amended. The following tasks will be performed during the PPP to inform stakeholders and I&Ps.

Public participation will adhere to the requirements of the Covid19 Regulations as captured in the (Disaster Management Act (Act no. 57 of 2002): Directions for alert level 3 regarding measures to address, prevent and combat the spread of COVID-19 relating to national

environmental management permits and licences in Government Gazette 43412 Government Notice 650).

Evidence of PPP that have and will be conducted will be appended under ***Appendix I-VII*** and will include the following:

2.1 Stakeholder Identification and Database (register)

The existing Stakeholder Database from EP and MM will be utilised as the baseline. Key stakeholders and I&APs identified are listed in Table 1 below. The contact details of I&APs were captured and recorded in the I&AP Register (***Refer to Appendix I***). The I&APs Register will be continuously updated as necessary (i.e. with new contact details, new I&APs etc.) in terms of 13 (1) (f) (ii) where … :"access to that information is protected by law in terms of the Protection of Personal Information Act (Act No. 4 of 2013)".

2.2 Stakeholder Notification

I&APs and key stakeholders have and will be notified of the project via the following methods:

2.2.1 Legal Notices in Newspapers

Legal Notices Newspaper will be placed in three newspapers (two local and one national). The notices will be placed in the Beeld, Komorant and Britspos (***Proof of the Legal Notices placed in Newspapers will be provided under Appendix II***).

2.2.2 Site notices

A2 site notices notifying the public of the process and inviting them to register as I&AP's will be placed at the following points (***Proof of the site notices will be placed under Appendix III***):

- Site Entrance of the EM and MM;
- Madibeng Local Library;
- Mmakau Police Station Notice Board;
- Mothotlung Municipal Services Building;
- Damonsville Community Library;
- Entrance of Maroelabult Mine;
- Oukasie Primary School;
- Odi Primary School;
- Botlhabelo High School;

- Moumong Store in Mmakau;
- De Wild Helpmekaar Offices;
- Corner of Jasmyn Street and De Wilt Road in the Damonsville Community; and
- Easy Build Hardware Shop in the De Wild Community.

2.2.3 Correspondence, Electronic and other means of notification

Different means of communication processes will be used to notify I&APs of the EA Application. These will include hand delivered Public notices / flyers and registered mail letters, emails and other electronic methods. Correspondence will also be uploaded to online platforms for ease of access. Refer to ***Appendix IV for the proof of the correspondence provided to stakeholders and I&APs***.

2.3 Stakeholder/I&AP interaction and Participation

The assessment team will ensure that Stakeholders and I&APs will continuously be engaged with in line with the 2014 EIA Regulations, and will include amongst other, include the following:

2.3.1 Stakeholder Engagement and Meetings

A public meeting will be held during the Scoping and EIA Phases (considering the Covid19 regulations and restrictions). I&APs will be notified of a date, time and place in due course. Stakeholder forum meetings will be held with Farmers, community forums and other stakeholders. ***Minutes of meetings and stakeholder forum engagements will be appended under Appendix V***.

2.3.2 Review and Commenting on Reports

a) Scoping Phase:

The DSR will be available for review and comments for thirty (30) days from 17 August to 16 September 2020 at the following locations:

- EM Security Office;
- MM entrance;
- Madibeng Local Library in Brits;
- Moumong Store in Mmakau
- The Community Library (at the Community Hall) Damonsville;
- The Community Hall in Mothotlung;
- Madibeng Business Support Centre; and

- Mmakau Police Station next to the Bakgatla-Ba-Mmakau Tribal Council offices.

Comments received during the commenting period will be appended under Appendix VI. I&APs will be provided with 7 Days review and assessment of the Final Scoping Report. ***Feedback and responses to the comments and issues received will be provided and will be Appended under Appendix VII.***

b) EIA Phase:

The draft EIA Reports will be made available to the public for a 30-day commenting period at the locations as stipulated above for the Scoping Phase.

➢

2.4 Summary of issues raised by I&AP's

Table 1: Table summarising comments and issues raised, and reaction to those responses

Interested and Affected Parties		Date Comments Received	Issues raised	EAP's Response to the issues raised
Affected Parties				
Landowners				
Eland Platinum Mines (Pty) Ltd				*Will be notified as part of the project announcement process.*
Salene Mining (Pty) Ltd				
Republic of South Africa Government				
Hernic Ferrochrome (Pty) Ltd				
Kleinsmit Familie Trust				
M C Botha				
Barplats Mines (Pty) Ltd				
Land claim by Daniel Lebelwane				
Lawful occupier/s of the land				
The EP is the lawful occupier of the land.				
Landowners or lawful occupiers on adjacent properties				
Transnet Ltd				*Will be notified as part of the project announcement process.*
Madibeng Local Municipality				
Jo-Fana Roses CC				
National Housing Board				
Suid - Afrikaanse Ontwikkelings Trust				
Republic of South Africa Government				
Salene Mining (Pty) Ltd				
GOSA				
Hernic Ferrochrome (Pty) Ltd				
Zilkaats Wildlife Estate				
Zolograph Investments (RF) (Pty) Ltd ("Zolograph"),				
Bakwena N1 and N4 Toll Concession				
Madibeng Local Municipality				
National Housing Board				
South African National Roads Agency SOC Ltd				

Interested and Affected Parties		Date Comments Received	Issues raised	EAP's Response to the issues raised
Municipal councillor				
Ward 21 – Eland Platinum situated in the Ward *Mr MW Motlhasedi*				*Will be notified as part of the project announcement process.*
Ward 13 – Surrounding Ward *Cllr Molekoa*				
Ward 17 – Surrounding Ward *Mr MA Mokgoko*				
Ward 18 – Surrounding Ward *Mr Barney A Maubane*				
Ward 19 – Surrounding Ward *Mr TS Bogale*				
Ward 20 – Surrounding Ward *Mr Chris Seabi*				
Ward 35 – Surrounding Ward *Ms Nomsa Maqakamba*				
Ward 31 – Surrounding Ward in Tshwane Metropolitan Municipality *Mr Tshepo Kgaje*				
Municipality				
Bojanala District Platinum Municipality;				*Will be notified as part of the project announcement process.*
Madibeng Local Municipality;				
Organs of state (Responsible for infrastructure that may be affected Roads Department, Eskom, Telkom, DWS etc.				
NWREAD				*Will be notified as part of the project announcement process.*
DHSWS				
DMRE				
SAHRA				
ESKOM				
Communities				
Damonsville Community				*Will be notified as part of the project announcement process.*
Mothotlung Community				
Moumong Community				
Mmakau Community				
De Wildt Community				
Traditional Leaders / Land Claimants				
Bakgatla-Ba-Mmakau Tribal Council;				*Will be notified as part of the project announcement process.*
Land Claimants for Portion 61				
Bakgatla ba Moiletswane				
Bakgatla Ba Rampakong				
Dept. Environmental Affairs Fisheries and Forestry				

Interested and Affected Parties		Date Comments Received	Issues raised	EAP's Response to the issues raised
Director: Environmental Authorisations				*Will be notified as part of the project announcement process.*
Other Competent Authorities				
Department of Public Works Road and Transport				*Will be notified as part of the project announcement process.*
Department of Rural Development				
Department of Local Government and Traditional Affairs				
Land Claims Commission				
Other Affected Parties				
Agri North West				*Will be notified as part of the project announcement process.*
Madibeng Business Support Centre				
VTSD Forum				
Interested Parties				
Culverwell Group of Companies				*Will be notified as part of the project announcement process.*
De Wildt Farmers				
Conservation Areas and NGOs				

3. PUBLIC PARTICIPATION TO FOLLOW

3.1 Particulars of the public participation process with regard to the Impact Assessment process that will be conducted

3.1.1 Steps to be taken to notify interested and affected parties.

The PPP undertaken during the Scoping Phase of the EP Proposed Projects will continue in the Impact Assessment Phase and be undertaken in terms of Regulations 41 to 44 of the 2014 EIA Regulations. I&APs will be notified in the Scoping Phase, in the manner discussed above and registered I&APs will be liaised with during the Impact Assessment Phase. The I&APs Register will continuously be maintained and updated

All comments received from the I&APs during the Impact Assessment Phase will be incorporated into the DEIAR and EIAR. The I&APs Register will be updated as necessary (i.e. with new contact details, new I&APs etc.). The I&APs will be informed of the availability of reports for comment; where/how these reports can be accessed; and the commenting timeframes and how comments can be submitted to the EAP. Proof of the PPP undertaken during the Impact Assessment Phase will be appended to the EIAR.

3.1.2 Details of the engagement process to be followed.

The compilation of the EIAR and draft EMPr, as per the 2014 EIA Regulations, will include, but is not limited to, the following PPP:

- submitting the DEIAR to the CA and public for a review period of 30 days;
- all comments, objections and/or representations received during the PPP will be included and addressed in the DEIAR and this document will be finalised for submission to the CA;
- I&APs will be given an opportunity to comment on the final EIAR; and
- I&APs will be consulted during the Impact Assessment Phase, in the same manner discussed above in relation to the Scoping Phase.

3.1.3 Description of the information to be provided to Interested and Affected Parties.

Tasks to be performed to inform the registered I&APs of the availability of the documents for comment are set out below.

All registered and I&APs will be informed of the availability of the reports for comment by means of notices sent via a legal notice in a newspaper, posted letters, e-mails and electronic

messages (SMS, etc.) using the existing, proven channels of communication (forums and committees);

- The DEIAR will be made available to the public for a 30-day commenting period;
- The final EIAR will be made available to the public for a 7-day commenting period;
- These reports will be made available for comment be means of:
  - Placement at the public places listed in ***Section 2*** of this DSR Report – the same places used as during the Scoping Phase of the project, including online platforms.

The DEIAR and final EIAR will include a site plan and sufficient detail of the EP Proposed Projects and its anticipated post-mitigation impacts of each activity, to enable I&APs to assess what impact the activities will have on them or on the use of their land once the EMP has been implemented.

4. CONCLUSION AND RECOMMENDATIONS

The public participation process will and have been undertaken in accordance with the NEMA, the 2014 EIA Regulations and best practices.

The information provided in the DSR is intended to act as a preliminary description of the baseline biophysical and socio-economic environmental resources where the EP Proposed Projects are planned to be undertaken.

The purpose of the baseline information is to ensure that the relevant authorities and registered I&APs have a clear understanding of the proposed activities and the predicted effect on the environment, such that they are able to make an informed decision and contribution to the application process, respectively. The interaction and symbiotic relationship between all involved, by means of inputs and guidance received will contribute to the rationale of the FSR and the subsequent EIA phase.

The I&APs and stakeholders who have been identified will either receive access to, or be notified of the availability and whereabouts of the DSR.

5. REFERENCES

- Department of Environmental Affairs, 2014. National Environmental Management Act, 1998 (Act 107 of 1998). Environmental Impact Assessment Regulations. Government Gazette 38282, Government Notice R 982 of 4 December 2014, Government Printer, Pretoria.
- South Africa, Republic, 2008. Mineral and Petroleum Resources Development Amendment Act, Act No 49 of 2008. Government Gazette 32151, Government Printer, Pretoria.

Appendix I

Surname	First Name	Title	Organisation	Category
de Bruyn	Chris	mr	Environment Watchdog	Concerned Groups
Nel	Pieter	Mr	North West Parks Board	Provincial Authorities
Auret	W.P.		Agri North West	Community Organisations
Makamu	Desmond	Mr	DMR	Competant Authority
Nethwadzi	Phumudzo	Mr	North West Department of Mineral Resources	Competant Authority
Tshilidzi	Phalala	Mr	North West Department of Mineral Resources	Competant Authority
Amanda	Bubu	Ms	Bojanala Platinum District Municipality	District municipality
Boitumelo	Mabale	Ms	Bojanala Platinum District Municipality	District municipality
Kutama	Herbert	Mr	DWS Hartebeespoort	DWS
Mogomotsi	George	Mr	Bakgatla-Ba-Rampakong Trust	Family & Committee Members
Matlou	George	Mr	Bakgatla-Ba-Rampakong Trust	Family & Committee Members
Lebeloane	Metse	Mr	Bakgatla-Ba-Rampakong Trust	Family & Committee Members
Mogomotsi	Titus	Mr	Bakgatla-Ba-Rampakong Trust	Family & Committee Members
Lebeloane	Abiot	Mr	Bakgatla-Ba-Rampakong Trust	Family & Committee Members
Lebeloane	Aobakwe	Mr	Bakgatla-Ba-Rampakong Trust	Family & Committee Members
Sereme	Angy	Ms	Bakgatla-Ba-Rampakong Trust	Family & Committee Members
Bogale	Tseko	Mr	Bakgatla-Ba-Rampakong Trust	Family & Committee Members
Lekgetho	Isaac		Madibeng Local Municipality	Local Municipality
Mahlangu	Lucas	Mr	DEA	National Authority
Sambo	Tsakani		Department of Environmental Affairs	National Authority
Barnes	Gareth	Mr	WESSA	NGO
Director: Environmental Authorisations			Department of Environmental Affairs	Provincial Authority

Surname	First Name	Title	Organisation	Category
Lobakeng	C	Mr	Department of Water and Sanitation (DWS)	Provincial Authority
Mahlangu	Eva	Mrs	NWREAD	Provincial Authority
Mphaki	Petunia	Ms	North West Department of Rural, Environment and Agriculture Development (NWREAD)	Provincial Authority
Ouma	Skosana	Ms	North West Department of Rural, Environment and Agriculture Development (NWREAD)	Provincial Department
Tjale	Philip	Mr	DWS	Provincial Department
Bopape	Thabakgolo	Mr	DWS	Stakeholder
			ESKOM	Stakeholder
Hine	Phillip	Mr	SAHRA	Stakeholder
Imasiku	Queen	Mrs	NWREAD	Stakeholder
Itumeleng		Mr	Northwest Development Corporation	Stakeholder
Lobakeng	Keitumetse	Ms	Department of public Works Road and Transport	Stakeholder
Mokaila	Ponsho	Dr	Department of Rural Development	Stakeholder
Monageng		Mr	Department of Local Government and Traditional Affairs	Stakeholder
Nemutandani	Charles	Mr	DWS	Stakeholder
Smuts	Kathryn	Ms	SAHRA	Stakeholder
			South African Heritage Resource Association (SAHRA)	Stakeholder
Wentzel	JH	Mr	Culverwell group of companies	Stakeholder
Matukane	Kenneth	Mr	Land Claims Commisions	Stakeholder
Raborifi	Lesego	Me	Hernic Ferrochrome	Stakeholder
Motsepe	Norman	Mr	Traditional Council of Bakgatla Ba Mmakau	Stakeholder
Grundlingh	Magda	Me	Culverwell group of companies	Stakeholder (Zilkaats Wildlife Estate)
Bogatsu	Lengene		Land Claims Commisions	Stakekolder
Lesenjani	Moremi	Ms	North West Parks and Tourism	Stekholder
			Transnet Ltd	Surrounding landowner
			Madibeng Local Municipality	Surrounding landowner
			Jo-Fana Roses CC	Surrounding landowner
			Salene Mining (Pty) Ltd	Surrounding landowner
			Republic of South Africa Government	Surrounding landowner
Raphela	Robert	Ms	Hernic	Surrounding Mines
Mithileni		Mr	Vametco	Surrounding Mines
Hlapolosa	Convince	Mr	East plats (Crocodile)	Surrounding Mines

Surname	First Name	Title	Organisation	Category
Legoale	Mmereki	Mr	Lonmin	Surrounding Mines
Motsepe	Norman	Mr	Bakgatla-Ba-Mmakau	Tribal Council Representative
Senna	Motshabi	Ms	VTSD members	VTSD members
Moche	Fikile	Mr	VTSD members	VTSD members
Sekwele	Moscow	Mr	VTSD members	VTSD members
Brown	Veronica	Ms	VTSD members	VTSD members
Damon	B K	Mr	VTSD members	VTSD members
Mosidi	Anna	Ms	VTSD members	VTSD members
Bojosi	Fikile	Mr	VTSD members	VTSD members
Motlhasedi	MW	Mr	Ward 21	Ward Councillor for Eland Mining Area
Theunissen	Cornia	Mrs	DWS - North West Region	Water Affairs
Theunissen	Cornia	Me	North West Provincial Operations,Water Resource Management	Water Affairs
Mahlaku	Delta	Ms	Department of Economic Developmen, Environmetn and Conservation	
Maluleke	Justice	Mr	DWS	
Matlala	Ramabele	Mr	Department of Public Works, Roads and Transport	
Nkosi	Jacqueline	Ms	Department of Rural Development and Land Reform	
Ramashala	Lethabo	Ms	DWS - North West Region	
Mafoane	Sam	Mr	Hernic	
Botha	Herman	Mr	Land Owner	Surrounding landowner
Kleinsmit	Liezel	Ms	Land Owner	
Lombard	Christoph	Mr		Surrounding landowner
Crafford	Charlotte	Ms	Land Owner	Surrounding landowner
Nel	Harry	Mr	Land Owner	Surrounding landowner
Snyman	Koos	Mr	Land Owner	Surrounding landowner
Bezuidenhout	Vanessa	Ms	De Wildt	Stakeholder
Grove	Jannie	Mr	Land Owner	Surrounding landowner
Raath	PC	Mr	Land Owner	Surrounding landowner
Janse van Rensburg	Johan	Mr	Land Owner	Surrounding Landowner
Snyman	Jan	Mr	Land Owner	Surrounding Landowner

Surname	First Name	Title	Organisation	Category
Tshabalala	Vosi	Mr	Previous employee at Eland Mine	Previous Employee
Mlangeni	MT	Mr	Previous employee at Eland Mine	Previous Employee
Mngobolo	Eliot	Mr	Previous employee at Eland Mine	Previous Employee
Moshidi	Koos	Mr	Previous employee at Eland Mine	Previous Employee
Baitsomedi	patrick	Mr	Previous employee at Eland Mine	Previous Employee
Matjila	Zabilou	Mr	Previous employee at Eland Mine	Previous Employee
Motaung	Mpho	Mr	Previous employee at Eland Mine	Previous Employee
Miyambo	Zodwa	Mr	Previous employee at Eland Mine	Previous Employee
Kelebojile	Madumo	Ms	Previous employee at Eland Mine	Previous Employee
Sibisi	Noluthando	Ms	Previous employee at Eland Mine	Previous Employee
Van Deventer	CL	Mr	Previous employee at Eland Mine	Previous Employee
Baloyi	Bonang	Mr	Previous employee at Eland Mine	Previous Employee
Seemise	Boitumelo	Mr	Previous employee at Eland Mine	Previous Employee
Molotsane	Noma	Mr	Previous employee at Eland Mine	Previous Employee
Nguluwe	James	Mr	Previous employee at Eland Mine	Previous Employee
Nguluwe	Alex	Mr	Previous employee at Eland Mine	Previous Employee
Zulu	Bonginkosi	Mr	Department of Rural Development and Land Reform	Stakeholder
Sebolai	Richard	Mr	Department of Rural Development and Land Reform (North West)	Stakeholder
Lambrechts	Fatima	Ms	Eland Platinum Mines (Pty) Ltd	Landowner
Klos	Christel	Me	Wynand Wildlife	Surrounding landowner
Louw	Elbie	Ms	eCcentTrix	Surrounding landowner
	J.	Mr		Surrounding landowner
van Staden	Jaco	Mr	van Staden Boerdery	Surrounding landowner
Louw	Jakes	Mr	Plot 100	Surrounding landowner
Scribante	JL	Mr	TLUSA, DWHM, De Wildt Boere vereniging	Surrounding landowner

Surname	First Name	Title	Organisation	Category
Scribante	JC	Mrs		Surrounding landowner
van Staden	Melissa	Me	van Staden Boerdery	Surrounding landowner
Dellemÿn	Pierre	Mr		Surrounding landowner
Dellemÿn	Susan	Mrs		Surrounding landowner
Kemp	Sylvia	Mrs		Surrounding landowner
Breytenbach	Wynand	Mr		Surrounding landowner
Lebogo	Simon	Mr	Land Claimant	Land claimant
Motlogeloe	Andrew	Mr	Bakgatla Ba Mmakae Sports organisation	Stakeholder
Thekave	Moswere	Mr	Moses Kotane	Stakeholder
Sedumedi	Jeffrey	Mr	Moses Kotane	Stakeholder
Pheyaga	Beinyana	Mr	Moses Kotane	Stakeholder
Moses	Blom	Mr	Moses Kotane	Stakeholder
Modiga	Ndo		Bakgatla Moletswane	Stakeholder
Letlhathlha	Tshepo	Mr	Bakgatla Moletswane	Stakeholder
Motma	Given	Mr	MLM	Stakeholder
Moagi	Sello	Mr	MLM	Stakeholder
Moepye	Morris	Mr	Lethabile Damonsville	Stakeholder
Montoedi	Tebogo		Damonsville	Stakeholder
Motshwane	Badanile		Damonsville	Stakeholder
Khumalo	James		Damonsville	Stakeholder
Makete	Suzan	Me	Moses Kotane	Stakeholder
Banda	Solomon	Mr	Moses Kotane	Stakeholder
Diale	Nicky		Rampakong Comminity	Stakeholder
Rakomane	JJ		LED	Stakeholder
Letlhatlh	Eskia		Bakgatla Ba Moletswane	Stakeholder
Sekgothe	Maggie		Bakgatla Ba Mmkau	Stakeholder
Pholo	Refilwe		Moses Kotane	Stakeholder
Shongwane	Lydia		Moses Kotane	Stakeholder
Motlhabi	Simon		Moses Kotane	Stakeholder
Seuhule	S	Mr	Oukasie (Odi Primary)	Stakeholder
Kgathatso	Rosina	Ms		Stakeholder
Mofavelane	Priscilla	Ms		Stakeholder
Mogotsi	Magdeline	Ms	Mothotlung Community	Stakeholder

Surname	First Name	Title	Organisation	Category
Masemole	Kedibone	Mrs	Bojanala	Stakeholder
Motshabi	Kwadi	Mrs		Stakeholder
Motsepe		Mr		Stakeholder
Minau	Lefoka	Ms		Stakeholder
Moumakwe	Andrew	Mr	Dikotelo Construct	Stakeholder
Rakamakwe	SH	Mr		Stakeholder
De Wildt Boerevereniging			De Wildt Boerevereniging	Stakeholder
Janse van Rensburg	Johan	Mr	Pr. Pln (A/244/1985), BSc, BSc(T&RP) t/a Calcuplan	Stakeholder
Lebelwane	Metse	Mr	Bakgatla-Ba-Rampakong	Land claimant
Mogomotsi	George	Mr	Bakgatla-Ba-Rampakong	Land claimant
Lebogo	Simon	Mr	Bakgatla-Ba-Rampakong	Land claimant
Lebelwane	Abiot	Mr	Bakgatla-Ba-Rampakong	Ward councillor
Molekoa	M	Cllr	Ward 13	Ward councillor
Mokgoko	MA	Cllr	Ward 17	Ward councillor
Maubane	MA	Cllr	Ward 18	Ward councillor
Bogale	Tsheko	Cllr	Ward 19	Ward councillor
Seabi	Chris	Cllr	Ward 20	Ward councillor
Motlhasedi	MW	Cllr	Ward 21	Ward councillor
Maqakamba	Nomsa	Cllr	Ward 35	Ward councillor

Appendix II

PUBLIC PARTICIPATION NOTICE
Xanadu Eco Park Homeowners' Association
Madibeng Local Municipality, North West Province

Notice is hereby given that Xanadu Eco Park HOA (the applicant) is applying for a Water Use License Application in terms of Section 40 of the National Water Act, 1998 (Act 36 1998). The following water uses were included for the Eco Park on Farm Rietfontein No 485 Remaining Extent of Portion 43:

- Section 21(a): Re-use of water for processes;
- Section 21(b): Storing of water;
- Section 21(c): Impeding or diverting the flow of water in a watercourse;
- Section 21(i): Altering the bed, banks, course or characteristics of a watercourse;
- Section 21(e): Engaging in a controlled activity; and
- Section 21(k): Water used for recreational purposes.

The Department of Water and Sanitation has accepted the application and Interested and Affected Parties (I&APs) are invited to participate in the Public Participation Process. Registration for comments on the Water Use Licence Application must be received within 30 calendar days of the publication of this notice (i.e. 12 September 2020).

For further information and documentation, please contact:
M2 Environmental Connection (Pty) Ltd
Charné Appelman
PO Box 2047, Garsfontein East, 0060
Tel: 012 004 0362
Fax: 086 621 0292
E-mail: charne@menco.co.za

PUBLIC NOTICE

APPLICATION FOR AN ENVIRONMENTAL AUTHORISATION & WASTE MANAGEMENT LICENCE, INCLUDING CONSOLIDATION OF A WATER USE LICENCE & THE ENVIRONMENTAL MANAGEMENT PROGRAMMES FOR ELAND PLATINUM & MAROELABULT MINES
DMR Ref No: NW 30/5/1/2/2/341, 280, 151, 78 & 363 MR (NW-00273-MR/102)
WUL License No: 03/A21J/ABCGIJ/1547 / 04/A21J/ABCFGIJ/5045

Notice is given for the following applications:
- Integrated Environmental Authorisation ("EA") & Waste Management Licence ("WML") application, in terms of the:
  - National Environmental Management Act 107 of 1998 ("NEMA") and the Environmental Impact Assessment (EIA) Regulations, 2014;
  - National Environmental Management: Waste Act 59 of 2008 (NEM:WA) and List of Waste Management Activities, 2013;
- Amendment & Consolidation of the Eland Platinum and Maroelabult Water Use Licences (WULs) under sections 21 and 50 of the National Water Act 36 of 1998 ("NWA"); and
- Amendment & Consolidation of the existing Environmental Management Programmes (EMPr(s)), EAs and WMLs for Eland Platinum (EM) and Maroelabult (MM) Mines in terms of NEMA and the EIA Regulations, 2014.

Proponent:
Eland Platinum (Pty) Ltd, a wholly owned subsidiary of Northam Platinum Ltd, is the owner of EM, situated in the Brits area.

Property Description:
The application area is located 10 km south-east of Brits, north of the N4 national freeway and south of the R566 Brits-Rosslyn provincial road. The proposed listed activities will be taking place within the mine boundary area, on the following portions: Remaining Extent (RE) of Portion (Ptn) 58 (Ptn 19); RE(s) of Ptns 59 and 63 (Ptn. 58), Ptn 61 (Ptn 32), RE of Ptn 32 (Ptn 18); Ptns 30 and 39 (Ptn 17); Ptn 37 (Ptn 16) of the Farm Elandsfontein 440 JQ and RE 58, Ptns 82 & 84 (Ptn 58), Ptn 197 (Ptn 113) of the Farm Zilkaatsnek 439 JQ, REs of Ptns 48, 49, 50, RE 141 & 142 (Ptns 49), 51, 52, 115, 119, 121, 122, 123, 159 and 161 (Ptns 115), 160, RE 165, RE 157 (50), 166, 167 and 168 (Ptns 47), portions of Portions 296 & 297, Portion 353, 333 (Ptns 165) of the Farm De Kroon 444 JQ.

Project Description:
EP has concluded a sale agreement with Barplats Mines Pty Ltd to acquire the MM, including portions of mining rights NW30/5/1/2/2/151, 78 and 363MR. The purpose of the application is to obtain necessary authorisations to consolidate and amend the EMPRs, EAs, WMLs and WULs of EM and MM into a single authorisation from the Department of Mineral Resources and Energy (DMRE) and Department of Human Settlement, Water and Sanitation (DHSWS). The application will include proposed projects at EM and MM – Mining at MM by EP, Run of Mine stockpiles, Vent Shafts; Additional Mining at EM; Backfilling of existing pits with tailings, Chrome Floatation plant, re-processing of waste rock dumps and associated infrastructure (Proposed Project).

Activities applied for:
a) Activities, as listed in terms of the NEMA EIA Regulations, 2014 as amended, under the following listing notices have been applied for:
- Listing Notice 1 of 2014 (G.N. 983)
- Listing Notice 2 of 2014 (G.N. 984)
- Listing Notice 3 of 2014 (G.N. 985)

b) Activities as listed in terms of the NEM:WA – G.N. 921 of 2013: Category B
c) The amendment and consolidation of the WULs to and include Section 21 Water Uses as per the NWA, 1998.
d) The amendment and consolidation of the EMPr(s), EAs, WMLs in terms of the EIA Regulations, 2014,

Availability of the Draft Report
The Draft Scoping Report ("DSR") will be available for public review for a period of thirty (30) days from 17 August 2020. An electronic copy of the DSR is available on request and hard copies will be available at the following locations:
- Eland Platinum Security Office
- Maroelabult Mine entrance
- Madibeng Business Support Centre
- Moumong Store in Mmakau
- The Community Library Damonsville
- The Community Hall in Mothutlung
- Madibeng Local Library in Brits
- Mmakau Police Station

Stakeholder Involvement:
Stakeholders are invited to register as Interested and Affected Parties and participate in the application process by identifying issues of concern and suggestions for consideration in the technical studies. Please submit your written comments by mail, fax or email within 30 days of this notice to JEMS Pty Ltd at:

JEMS Pty Ltd:
Tel number: **083 776 7898 or 082 892 4282**
Fax number: 086 658 3132
Postal address: **P.O. 92269, MOOIKLOOF, 0059**
Email: stephan@jems.co.za or jannie@jems.co.za

Date of Notice: 13 August 2020

JEMS

Platinum
TOWN PLANNERS

KENNISGEWING IN TERME VAN ARTIKELS 68, 86 EN 87 VAN DIE MADIBENG RUIMTELIKE BEPLANNING EN GRONDGEBRUIKSBESTUURSBYWET, 2016

Ek, Amund Paul Beneke ((Platinum Town and Regional Planners CC (2008/161136/23)), synde die gemagtigde agent van die eienaar van Gedeelte 61 ('n gedeelte van Gedeelte 29) van die plaas Syferfontein 483-JQ, gee hiermee ingevolge Artikels 68, 86 en 87 van die Madibeng Ruimtelike Beplanning en Grondgebruiksbestuursbywet, 2016 (soos gepubliseer in die Noordwes Provinsiale Koerant op 21 Maart 2017), kennis dat ek by die Madibeng Plaaslike Munisipaliteit aansoek gedoen het vir toestemming om 'n "plek van onderrig" vanaf genoemde eiendom te bedryf. Die eiendom is ongeveer 350m oos van Beethovenweg (R511) geleë. Toegang is via die geregistreerde R.V.W. Serwituut (LG Diagram A.3654/54), ook bekend as Wagnerweg ten weste van Beethovenweg.

Besonderhede van die selfverduidelikende memorandum en bylaes lê ter insae gedurende gewone kantoorure by die Kantoor van die Munisipale Bestuurder, Burger Sentrum, Van Veldenstraat 53, Brits vir 'n tydperk van 32 dae vanaf 4 Augustus 2020 tot 4 September 2020. As gevolg van Covid19, kan die selfverduidelikende memorandum en bylaes ook aangevra word by 072 184 9621 of amund@vodamail.co.za

Besware teen of vertoë ten opsigte van die aansoek moet binne 'n tydperk van 32 dae vanaf 4 Augustus 2020 skriftelik en in tweevoud by of tot die Munisipale Bestuurder by bovermelde adres, of by Posbus 106, Brits, 0250 ingedien of gerig word. Alternatiewelik kan dit via epos gestuur word na portiaraphala@madibeng.gov.za en AnnetteSchoeman@madibeng.gov.za en amund@vodamail.co.za binne die tydperk van 32 dae vanaf 4 Augustus 2020. Die skrywer van hierdie besware of vertoë moet die skrywer se belange duidelik aandui. Die kontakbesonderhede (bv. eposadres en telefoon / selfoonnommer) van die skrywer moet ook duidelik aangedui word.

Sluitingsdatum vir enige besware en / of vertoë: 4 September 2020

Adres van gemagtigde agent: Platinum Town and Regional Planners, Posbus 1194, Hartbeespoort, 0216. Telefoonnommers: 072 184 9621 of 083 226 1316

Datums waarop kennisgewing gepubliseer word: 4 en 11 Augustus 2020 (Noordwes Provinsiale Koerant), 6 en 13 Augustus 2020 (Kormorant).

Platinum
TOWN PLANNERS

NOTICE IN TERMS OF SECTIONS 68, 86 AND 87 OF THE MADIBENG SPATIAL PLANNING AND LAND-USE MANAGEMENT BY-LAW, 2016

I, Amund Paul Beneke ((Platinum Town and Regional Planners CC (2008/161136/23)), being the authorized agent of the owner of Portion 61 (a portion of Portion 29) of the farm Syferfontein 483-JQ, hereby gives notice in terms of Sections 68, 86 and 87 of the Madibeng Spatial Planning and Land-Use Management By-law, 2016 (as published in the North West Provincial Gazette on 21 March 2017), that I have applied to the Madibeng Local Municipality for consent for a "place of instruction" to be operated from the said property. The property is located approximately 350m to the east of Beethoven Road (R511). Access is via the registered R.O.W. servitude (SG Diagram A.3654/54), also known as Wagner Road to the west of Beethoven Road.

Details of the self-explanatory memorandum and annexures will lie for inspection during normal office hours at the Office of the Municipal Manager, Civic Center, 53 Van Velden Street, Brits, for a period of 32 days from 4 August 2020 until 4 September 2020. Because of Covid19, the
self-explanatory memorandum and annexures can also be requested via telephone at 072 184 9621 or amund@vodamail.co.za

Objections to or representations in respect of the application must be lodged with or made in writing in duplicate to the Municipal Manager at the above address or at PO Box 106, Brits, 0250. Alternatively it can be sent via email to portiaraphala@madibeng.gov.za and AnnetteSchoeman@madibeng.gov.za and amund@vodamail.co.za within the period of 32 days from 4 August 2020. The author of these objections or representations must clearly indicate the writer's interests. The contact details (e.g. email address and phone / mobile number) of the author must also be clearly indicated.

Closing date for any objections and / or representations: 4 September 2020

Address of authorized agent: Platinum Town and Regional Planners, PO Box 1194, Hartbeespoort, 0216. Telephone Numbers: 072 184 9621 or 083 226 1316

Dates on which notice will be published: 4 and 11 August 2020 (North West Provincial Gazette); 6 and 13 August 2020 (Kormorant).

Other Notices will be included in FSR

Appendix III

Will be included in FSR

Appendix IV

Will be included in FSR

Appendix V

Will be included in FSR

Appendix VI

DSR will be available at the following locations

- EM Security Office;
- MM entrance;
- Madibeng Local Library in Brits;
- Moumong Store in Mmakau
- The Community Library (at the Community Hall) Damonsville;
- The Community Hall in Mothotlung;
- Madibeng Business Support Centre; and
- Mmakau Police Station next to the Bakgatla-Ba-Mmakau Tribal Council offices.

Appendix VII

Will be included in FSR