



**mineral resources**  
Department:  
Mineral Resources  
**REPUBLIC OF SOUTH AFRICA**

## **URU METALS SOUTH AFRICA (PTY) LTD**

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### **BASIC ASSESSMENT REPORT AND ENVIRONMENTAL MANAGEMENT PROGRAMME REPORT**

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

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## **mineral resources**

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Mineral Resources  
**REPUBLIC OF SOUTH AFRICA**

Compiled in terms of Appendix 1, Appendix 4 of the Environmental Impact Assessment Regulations, 2014 (Government Notice No. R 983) (EIA Regulations, 2014 as Amended in 2017) and Submitted as contemplated in Regulation 19 of Chapter 4 of the EIA Regulations, 2014 as amended

For

The application for an Environmental Authorization in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), Environmental Impact Assessment Regulations 2017, Government Notice R326 - Government Notice R983 - Listing Notice 1 of 2014, as amended in 2017.

## **ABBREVIATIONS**

<b>BAR</b>	Basic Assessment Report
<b>BID</b>	Background Information Document
<b>DBAR</b>	Draft Basic Assessment Report
<b>CA</b>	Competent Authority
<b>CMA</b>	Catchment Management Agency
<b>CV</b>	Curriculum Vitae
<b>DAFF</b>	Department of Agriculture, Forestry and Fisheries
<b>DEA</b>	Department of Environmental Affairs
<b>DEAT</b>	Department of Environment, Agriculture and Tourism
<b>DMRE</b>	Department of Mineral and Resources and Energy
<b>DWS</b>	Department of Water and Sanitation
<b>EA</b>	Environmental Authorisation
<b>EAP</b>	Environmental Assessment Practitioner
<b>ECA</b>	Environmental Conservation Act (Act No. 73 of 1989)
<b>EIA</b>	Environmental Impact Assessment
<b>EMP</b>	Environmental Management Plan
<b>EMPR</b>	Environmental Management Programme
<b>FBAR</b>	Final Basic Assessment Report
<b>FDRCP</b>	Final Decommissioning, Rehabilitation and Closure Plan
<b>GN</b>	Government Notice
<b>GNR</b>	Government Notice Regulation
<b>HIA</b>	Heritage Impact Assessment
<b>I&amp;AP's</b>	Interested and Affected Parties
<b>IWULA/IWMMP</b>	Integrated Water Use Licence Application / Integrated Waste Water Management Plan
<b>LBCP</b>	Limpopo Biodiversity Conservation Plan
<b>LED</b>	Local Economic Development
<b>LEDET</b>	Limpopo Department of Economic Development Environment and

	Tourism
<b>LDP</b>	Limpopo Development Plan
<b>LP</b>	Limpopo Province
<b>MAE</b>	Mean Annual Evaporation
<b>MAP</b>	Mean annual Precipitation
<b>MAR</b>	Mean Annual Runoff
<b>MHSA</b>	Mine Health and Safety Act
<b>MLM</b>	Mogalakwena Local Municipality
<b>MPRDA</b>	Minerals and Petroleum Resources Development Act, 2002
<b>NEMA</b>	National Environmental Management Act, 1998
<b>NEM: AQA</b>	National Environmental Management: Air Quality Act, 2004 (Act no. 39 of 2004)
<b>NEM: BA</b>	The National Environmental Management: Biodiversity Act (Act No. 10 of 2004)
<b>NEM: WA</b>	National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008)
<b>NDP</b>	National Development Plan
<b>NFA</b>	The National Forestry Act, 1998 (Act No. 84 of 1998)
<b>SIA</b>	Social Impact Assessment
<b>NFPAP</b>	National Freshwater Protected Areas Programme
<b>PPE</b>	Personal Protective Equipment
<b>PPP</b>	Public Participation Process
<b>PR</b>	Prospecting Right
<b>SAHRA</b>	South African Heritage Resources Agency
<b>SAHRIS</b>	South African Heritage Resources Information System
<b>SCPE</b>	Sekhukhune land Centre of Plant Endemism
<b>SHE</b>	Safety, Health and Environmental
<b>TCIR</b>	Tshifcor Investment and Resources (Pty) Ltd
<b>WDM</b>	Waterberg District Municipality

<b>WMA</b>	Water Management Area
<b>WML</b>	Waste Management Licence
<b>WUL</b>	Water Use License
<b>WULA</b>	Water Use License Application

## Units of measurement

Ha	Hectare
Km	Kilometre
Km <sup>2</sup>	Square kilometres
ktpm	Kilo tones per month
L	Litre
M	Meter
m <sup>3</sup>	Cubic meter
MI	Mega litre
MI/d	Megalitre/day
mm	millimetre
Tpa	Tonnes per annum

## Disclaimer

This is not a legally binding document and many of the actions and recommendations remain the responsibility of the client (as the owner / lessee of the property). This is the Basic Assessment Report for the Proposed Prospecting Project on Townlands Farm Portions and does not constitute a binding legal commitment of the parties. TCIR has exercised all due care in reviewing the gathered information and compiling this report. TCIR does not accept responsibility for any errors or omissions in the information and does not accept any consequential liability arising from commercial decisions or actions resulting from them. Opinions presented in this report apply to the site conditions and features as they existed at the time of TCIR investigations, and those reasonably foreseeable. These opinions do not necessarily apply to conditions and features that may arise after the date of this Report, about which TCIR had no prior knowledge nor had the opportunity to evaluate.

## EXECUTIVE SUMMARY AND IMPORTANT NOTICE

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### **Summary and Overview of the Project**

URU Metals South Africa (Pty) Ltd, has applied for an Environmental Authorisation for proposed Prospecting activities in respect of Platinum Group Metals (PGM), Cobalt (Co), Nickel Ore (Ni), Chrome Ore (Cr), Copper Ore (Cu), Iron Ore (Fe) and Gold on portions 52, 53, 54, 55, 56, 57, RE/58, 59, 60 and 199 of the farm Piet Potgietersrus & Townlands 44 KS, in the Magisterial District of Mogalakwena, Limpopo Province, South Africa. The application has been lodged in terms of Regulation 16 of the National Environmental Management Act (Act 107 of 1998) (NEMA): Environmental Impact Assessment (EIA) Regulations 2014 as amendment in 2017 and Section 16 of the Mineral and Petroleum Resources Development Act, 2004 (Act 28 of 2004). See **Figure 1-1** for the Regulation 2(2) plan for the applied prospecting area.

In terms of the NEMA (Act 107 of 1998) and EIA regulations of 2014 as amended in 2017, the proposed prospecting activities triggers Listed Activity 20 & 56 of the Listing Notice 1 (GNR 327) and Listed Activity 12(e)(ii) of the Listing Notice 3 (GNR 324) and therefore the applicant cannot proceed without an approved Environmental Authorisation and the Prospecting Right for the mentioned listed activities. Tshifcor Investment and Resources (Pty) Ltd has been appointed by URU Metals South Africa (Pty) Ltd as an independent environmental assessment practitioner (EAP) to undertake the environmental impact assessment for the proposed prospecting project. The purpose of the Impact Assessment is to identify and assess all the possible impacts that may arise from the implementation of the proposed project and to find the most effective ways of enhancing environmental benefits and mitigating potential impacts to encourage sustainable development within the area.

The public participation process was announced in the local newspaper (Bosveld Newspaper) and the registration process for Interested and Affected Parties (IAPs) has been ongoing. The following processes are being undertaken as part of the public participation process:

- Publication of a Newspaper advertisement in the Bosveld local Newspaper;
- Erecting site notices at visible and accessible entry points in and around the proposed project area;
- Directly notifying affected I&APs and Landowners including stakeholders representing various sectors of society by distributing information via e-mail, hand delivery of documents and telephone engagements.

The proposed prospecting activities will be undertaken over a period of Five (5) years and the activities to be carried out includes invasive and non-invasive methods. Non-invasive method will include desktop studies and data acquisition, whereas Invasive methods will include site clearance and borehole drilling within the prospecting area. Other stages will involve geological modelling and analyses of metallurgical test work and resource estimation to ascertain the feasibility of the project. Potential risks and key issues identified will be based on consultation with I&APs, through an internal process based on similar projects, current state of the environment on site, and a site visit. A summarised



description of the surrounding land use is provided within this report, ensuring that all environmental aspects are highlighted. A description of the biophysical and social environment is also included in the report, to ensure that all potential risks and issues are taken into consideration in all phases of the proposed project.

All environmental data (*i.e.* surface and ground water qualities and quantities, topographical analyses, soil, vegetation, wetland, and geological conditions including socio-economic aspects) including the historic land uses that has been used in this report has been obtained through desktop studies, IAPs engagements and site assessments. Weather data was acquired from the Climate Data Online, 2020. The data accumulated and analysed is therefore deemed sufficient to gain a baseline indication of the present state of the environment. The use of this baseline data for determining the potential impacts associated with this project is thus justified, and reliable conclusions will be made on completion of public participation process. The impacts that could arise during and after the proposed activities at the Project Area have been determined and ranked according to their significance.

The findings and conclusions of this document (DBAR and EMPr), which concerns assessment of environmental impacts and a programme for management of the impacts for the proposed prospecting activities at the Townlands Project site, was compiled in terms of the EIA Regulations of 2014 as amended in 2017, for review by interested and affected parties including the Competent Authority (CA). Based on the collected data in respect of impact assessment, several recommendations are already made to mitigate significant negative impacts as well as to maximize positive impacts that will result from the proposed project.

## **Important Notice**

In terms of the Mineral and Petroleum Resources Development Act (Act 28 of 2002 as amended), the Minister must grant a mining 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, 1998 (Act 107 of 1998) (NEMA), it cannot be concluded that the said activities will not result in unacceptable pollution, ecological degradation or damage to the environment.

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

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

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

NOTE: This Report comprises of Part A: The Basic Impact Assessment (BIA) and Part B: the Environmental Management Programme (EMPr) of the proposed Prospecting Project. The Report has been compiled in terms of the provisions of Appendix 1 and Appendix 4 of the 2014 EIA Regulations (as amended) promulgated under the National Environmental Management Act, Act 107 of 1998 (NEMA).





## **PART A (BASIC ASSESSMENT PROCESS)**

### OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

## OBJECTIVE OF THE BASIC ASSESSMENT PROCESS

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

- (a) determine the policy and legislative context within which the proposed activity is located and how the activity complies with and responds to the policy and legislative context;
- (b) identify the alternatives considered, including the activity, location, and technology alternatives;
- (c) describe the need and desirability of the proposed alternatives,
- (d) through the undertaking of an impact and risk assessment process inclusive of cumulative impacts which focused on determining the geographical, physical, biological, social, economic, heritage, and cultural sensitivity of the sites and locations within sites and the risk of impact of the proposed activity and technology alternatives on these aspects to determine:
  - (i) the nature, significance, consequence, extent, duration, and probability of the impacts occurring to; and
  - (ii) the degree to which these impacts—
    - (aa) can be reversed;
    - (bb) may cause irreplaceable loss of resources; and
    - (cc) can be managed, avoided or mitigated;
- (e) through a ranking of the site sensitivities and possible impacts the activity and technology alternatives will impose on the sites and location identified through the life of the activity to—
  - (i) identify and motivate a preferred site, activity and technology alternative;
  - (ii) identify suitable measures to manage, avoid or mitigate identified impacts; and
  - (iii) identify residual risks that need to be managed and monitored

## TABLE OF CONTENTS

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<b>OBJECTIVE OF THE BASIC ASSESSMENT PROCESS .....</b>	<b>X</b>
<b>1. INTRODUCTION .....</b>	<b>1</b>
1.1 WHO IS DEVELOPING THE BAR AND EMPr? .....	1
1.1.1 Name and contact details of the EAP who prepared the BAR and EMPr .....	1
1.1.2 Expertise of the EAP who prepared the BAR and EMPr .....	1
1.2 WHO WILL EVALUATE AND APPROVE THE BAR AND EMPr? .....	2
1.3 DETAILS OF THE APPLICANT .....	3
1.3.1 Property description .....	3
1.3.2 Land Tenure and Use of Immediate and Adjacent Land .....	4
<b>2. DESCRIPTION OF THE SCOPE OF THE PROPOSED PROJECT .....</b>	<b>9</b>
2.1 LISTED ACTIVITIES AND SPECIFIED ACTIVITIES .....	9
2.2 DESCRIPTION OF THE PROPOSED PROSPECTING PROJECT .....	11
2.2.1 Target Mineral .....	11
2.2.2 Prospecting Method Statement to be used for proposed Project .....	11
2.2.3 Non-Invasive: Desktop Studies (Data Acquisition) .....	12
2.2.3.1 Data gathering .....	12
2.2.3.2 Data Interpretation .....	12
2.2.3.3 Decision to commence with prospecting activities .....	12
2.2.4 Invasive: Construction Phase .....	12
2.2.4.1 Establishment of access to the Project site .....	12
2.2.4.2 Detailed Site Survey and Investigation .....	12
2.2.4.3 Pegging of Drill Sites .....	12
2.2.5 Operational Phase .....	13
2.2.5.1 Diamond Drilling for boreholes and sump construction .....	13
2.2.5.2 Access Roads .....	13
2.2.5.3 Campsite .....	13
2.2.5.4 Ablution .....	13
2.2.5.5 Hydrocarbon storage .....	13
2.2.5.6 Topsoil Storage Site .....	13
2.2.5.7 Vehicle and machinery storage .....	13
2.2.5.8 Logging and Sampling of core .....	13
2.2.5.1 Site Rehabilitation .....	15
2.2.6 Decommissioning phase .....	15
2.2.6.1 Final Rehabilitation .....	15
2.2.6.2 Pre-feasibility Study .....	15
2.2.6.3 Mining feasibility study .....	15
2.2.7 After Closure Phase .....	15
<b>3. POLICY AND LEGISLATIVE CONTEXT .....</b>	<b>17</b>
3.1 CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA (ACT NO. 108 OF 1996) .....	17
3.2 THE PROMOTION OF ACCESS TO INFORMATION ACT (ACT NO. 2 OF 2000) .....	17
3.3 THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT NO. 28 OF 2002) .....	18

3.4	NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT NO. 107 OF 1998)	18
3.5	NATIONAL ENVIRONMENTAL MANAGEMENT AIR QUALITY ACT (ACT NO. 39 OF 2004)	19
3.6	THE NATIONAL HERITAGE RESOURCES ACT (ACT NO. 25 OF 1999)	19
3.7	NATIONAL ENVIRONMENTAL MANAGEMENT BIODIVERSITY ACT (ACT NO. 10 OF 2004) (NEMBA)	20
3.8	NATIONAL WATER ACT (ACT NO. 36 OF 1998) (NWA)	21
3.9	NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (ACT NO. 59 OF 2008)	21
3.10	THE NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (ACT NO. 57 OF 2003)	22
3.11	THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 9 OF 1997)	22
3.12	THE MINE HEALTH AND SAFETY ACT (ACT NO. 29 OF 1996)	22
<b>4.</b>	<b>NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES</b>	<b>25</b>
4.1	Mineral benefits	25
4.2	Environmental responsibility	25
4.3	Socio-economic benefits	26
4.4	Employment and local procurement opportunities	26
<b>5.</b>	<b>MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT</b>	<b>28</b>
5.1	CONSIDERATION OF ALTERNATIVES	28
5.1.1	Location Alternatives	28
5.1.1.1	Prospecting Site and Access Routes	28
5.1.1.2	Campsite Location	28
5.1.2	Design/Layout Alternatives	29
5.1.3	Technology Alternatives	29
5.1.4	Input Material Alternatives	29
5.1.5	Operational Alternatives	29
5.1.5.1	Exploration Drilling Methods	29
5.1.6	No Go Option	30
5.2	DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED AND RESULTS THEREOF	30
5.2.1	Registration and BAR phase	31
5.2.1.1	Notification of the potential interested and affected parties	31
5.2.1.2	Registered Interested and affected parties	32
5.2.1.1	Proof of Consultation	34
5.2.1.2	Finalisation of interested and affected parties	34
5.2.2	Draft Basic Assessment Report	35
5.2.2.1	Notification of potential and registered interested and affected parties	35
5.2.2.2	Comments, Issues and Response on the Draft report	35
5.3	ENVIRONMENTAL ATTRIBUTES (BASELINE INFORMATION AS PER DESKTOP INVESTIGATIONS AND SITE OBSERVATION)	36
5.3.1	BIOPHYSICAL ENVIRONMENT	36
5.3.1.1	Geology	36
5.3.1.2	Climate	39
5.3.1.3	Topography	41

5.3.1.4	Soils .....	43
5.3.1.6	Natural Vegetation/ Plant Life.....	48
5.3.1.7	Water .....	53
5.3.1.8	Sensitive Landscapes.....	55
5.3.1.9	Air Quality .....	58
5.3.1.10	Noise.....	58
5.3.1.11	Socio-Economic Status.....	59
5.3.1.12	Population size, Culture and Composition.....	59
5.3.1.13	Education and Income Levels.....	62
5.3.1.14	Economy.....	64
5.3.1.15	Employment Status.....	66
5.3.1.16	Housing and Basic Services .....	67
<b>6.</b>	<b>ENVIRONMENTAL IMPACT ASSESSMENT.....</b>	<b>71</b>
6.1	ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOLLOWED.....	71
6.1.1	Approach to Environmental Impact Assessment.....	71
6.1.2	Environmental Impact Assessment Process Followed .....	71
6.1.2.1	Pre-application consultation with the Competent Authority .....	71
6.1.3	Public Participation Process .....	71
6.1.3.1	BAR Phase.....	72
6.1.3.2	Information Gathering .....	72
6.1.3.3	Decision on the BAR application .....	72
6.2	ENVIRONMENTAL IMPACT ASSESSMENT METHODOLOGY .....	72
6.3	RESULTS OF THE ENVIRONMENTAL IMPACT ASSESSMENT.....	74
6.3.1	Assessment of the prospecting Application Area impacts/risks .....	74
6.3.1.1	Construction Phase .....	74
6.3.1.2	Operational Phase.....	78
6.3.1.3	Decommissioning and Closure Phases .....	82
6.4	SUMMARY OF SPECIALIST REPORTS.....	84
6.5	ENVIRONMENTAL IMPACT STATEMENT.....	84
6.5.1	Description of affected environment .....	84
6.5.2	Summary of key findings of the environmental impact assessment.....	84
6.5.3	Final Master Layout Plan.....	85
6.6	ASPECTS FOR INCLUSION AS CONDITIONS OF THE ENVIRONMENTAL AUTHORISATION.....	85
6.7	DESCRIPTION OF ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE.....	86
6.8	REASONED OPINION AS TO WHETHER THE PROPOSED PROJECT SHOULD OR SHOULD NOT CONTINUE.....	86
6.8.1	Reason why the activity should be authorised or not .....	86
6.9	PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION .....	86
6.10	UNDERTAKING .....	87
6.11	FINANCIAL PROVISION .....	87
6.12	OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY ....	87
6.13	OTHER MATTERS REQUIRED IN TERMS OF SECTION 24 (4)(A) AND (B) OF THE ACT.....	87
<b>7.</b>	<b>ENVIRONMENTAL MANAGEMENT PROGRAMME.....</b>	<b>89</b>
7.1	DETAILS OF THE EAP .....	89

7.2	DESCRIPTION OF THE ASPECTS OF THE ACTIVITY .....	89
7.3	COMPOSITE MAP .....	89
7.4	DESCRIPTION OF THE MANAGEMENT OBJECTIVES INCLUDING MANAGEMENT STATEMENTS .....	89
7.4.1	GENERAL CLOSURE PRINCIPLES AND OBJECTIVES .....	89
7.4.2	MANAGEMENT OF ENVIRONMENTAL DAMAGE, ENVIRONMENTAL POLLUTION AND ECOLOGICAL DEGRADATION CAUSED BY THE PROJECT ACTIVITIES .....	89
7.4.2.1	Infrastructure Areas .....	89
7.4.3	POTENTIAL RISK OF ACID MINE DRAINAGE .....	90
7.4.4	STEPS TAKEN TO INVESTIGATE, ASSESS AND EVALUATE THE IMPACTS OF THE ACID MINE DRAINAGE .....	90
7.4.5	ENGINEERING AND DESIGNS SOLUTIONS TO BE IMPLEMENTED TO AVOID OR REMEDY ACID MINE DRAINAGE .....	90
7.4.6	MEASURES TO REMEDY RESIDUAL OR CUMULATIVE IMPACTS FROM ACID MINE DRAINAGE .....	90
7.4.7	VOLUMES AND RATES OF WATER USE REQUIRED FOR THE PROPOSED PROJECT .....	90
7.4.8	WATER USE LICENCE APPLICATION .....	90
7.5	ENVIRONMENTAL MANAGEMENT PROGRAMME .....	91
7.6	FINANCIAL PROVISION .....	101
7.6.1	DESCRIPTION OF CLOSURE OBJECTIVES AND EXTENT TO WHICH THEY HAVE BEEN ALIGNED TO THE DESCRIBED BASELINE ENVIRONMENT .....	101
7.6.2	CONFIRMATION THAT THE ENVIRONMENTAL OBJECTIVES IN RELATION TO CLOSURE HAVE BEEN CONSULTED WITH LANDOWNERS AND INTERESTED AND AFFECTED PARTIES .....	101
7.6.3	REHABILITATION PLAN FOR THE PROPOSED PROJECT .....	101
7.6.4	COMPATIBILITY OF THE REHABILITATION PLAN WITH THE CLOSURE OBJECTIVES .....	105
7.6.5	DETERMINATION OF THE QUANTUM OF THE FINANCIAL PROVISION REQUIRED TO MANAGE AND REHABILITATE THE ENVIRONMENT .....	105
7.6.6	METHOD OF PROVIDING FOR THE FINANCIAL PROVISION .....	105
7.7	MECHANISM FOR MONITORING COMPLIANCE WITH AND PERFORMAMCE ASSESSMENT AGAINST THE ENVIRONMENTAL MANAGEMENT PROGRAMME AND REPORTING THEREOF .....	107
7.7.1	INSPECTIONS AND MONITORING .....	107
7.7.2	MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT AGAINST THE ENVIRONMENTAL MANAGEMENT PROGRAMME AND REPORTING THEREOF .....	107
7.7.3	ENVIRONMENTAL AWARENESS PLAN .....	107
7.7.3.1	Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment .....	108
7.7.3.2	Environmental Awareness Training Content – Induction Training .....	108

7.7.3.3	Development of procedures and checklists .....	109
7.7.3.4	Emergency Preparedness and Response.....	109
7.7.3.5	Incident Reporting Procedure .....	110
7.7.3.6	Environmental and Social Audit Checklist .....	110

**8. UNDERTAKING ..... 111**

LIST OF TABLES

<b>Table 1-1:: Details of the Environmental Assessment Practitioner 1</b>	
<b>Table 1-2: Details of the Applicant 3</b>	
<b>Table 1-3: Details of the Prospecting Right Application 3</b>	
<b>Table 2-1: Proposed Townlands prospecting project listed Activities 10</b>	
<b>Table 2-2: Equipment's to be used or needed 11</b>	
<b>Table 5-1: List of Registered Interested and Affected Parties 32</b>	
<b>Table 5-2: Interested and affected parties (IAP) list of comments and their response for the public participation carried out until the 20 October 2021.</b>	<b>35</b>
<b>Table 5-3: Red Data 49</b>	
<b>Table 5-4: Demographic profile, 2018 (Quantec, 2019) 60</b>	
<b>Table 5-5: Income levels of Mogalakwena LM (2011), (Statistics SA,2012) 63</b>	
<b>Table 5-6: Municipality Contributions to Waterberg DM and Limpopo Province (Urban-Econ Calculations based on Quantec, 2019) 64</b>	
<b>Table 5-7: Sector contributions to the Mogalakwena Economy (Urban-econ calculations based on Quantec, 2019) 65</b>	
<b>Table 5-8: Indicates Employment status per economic sector (Quantec, 2019)</b>	<b>67</b>
<b>Table 6-1 : Environmental impact criteria expressed for each impact in tabular form according to each definition. 73</b>	
<b>Table 6-2: Site Establishment: Establishment of the access (tracks) to the prospecting site, Establishment of the mobile office site, Site physical surveying and pegging of borehole sites 74</b>	
<b>Table 6-3 : Drilling and rehabilitation of the exploration boreholes 78</b>	
<b>Table 6-4: Decommissioning of prospecting site (Site Rehabilitation) 82</b>	
<b>Table 7-1: Establishment of access to prospecting sites 91</b>	
<b>Table 7-2: Assessment of the quantum for financial provision for prospecting project, 2021 106</b>	
<b>Table 7-3: Environmental Awareness and Risk Assessment 107</b>	

LIST OF FIGURES

**Figure 1-1: Regulation 2.2 Plan as referred to in terms of the MPRDA Act 28 of 2002** 5

**Figure 1-2: Locality Map showing the applied prospecting area** 6

**Figure 1-3: Land use within the proposed project area** 7

**Figure 2-1: Proposed borehole for the proposed prospecting project** 14

**Figure 5-1: Geological Map for the applied area** 37

**Figure 5-2: Geological map of the applied prospecting area** 38

**Figure 5-3: Mokopane Climate Table** (<https://en.climate-data.org/africa/south-africa/limpopo/mokopane-953/>) 39

**Figure 5-4: Temperature around Mokopane areas** (<https://en.climate-data.org/africa/south-africa/limpopo/mokopane-953/>) 40

**Figure 5-5: Weather by month around Mokopane** (<https://en.climate-data.org/africa/south-africa/limpopo/mokopane-953/>) 40

**Figure 5-6: Average daily sunhours per month in Mokopane (2019-  
www.climate-data.org)** 41

**Figure 5-7: Map showing topography of the proposed project area** 42

**Figure 5-8: Vegetation type associated with the proposed project area** 51

**Figure 5-9: Biodiversity map of the applied area** 52

**Figure 5-10: Freshwater ecosystems priority areas within the Limpopo Water Management area** 54

**Figure 5-11: Sensitive landscapes map** 57

**Figure 5-12: Population Demographics in the Mogalakwena LM (Quantec, 2019)** 60

**Figure 5-13: Mogalakwena LM: Serious crime levels (Quantec,2019)** 61

**Figure 5-14: Graph showing most spoken languages in the area (Stats, 2012)** 62

**Figure 5-15: Education Levels in Mogalakwena LM (Quantec, 2019)** 63

**Figure 5-16: GVA Growth trends for proposed area** 65

**Figure 5-17: Employment rate for Mogalakwena Local Municipality** 66

**Figure 5-18: Access to services in the Mogalakwena LM (Stats SA, 2012)** 68





**PART A (SECTION ONE)**  
**INTRODUCTION**

## 1. INTRODUCTION

### 1.1 WHO IS DEVELOPING THE BAR AND EMPr?

#### 1.1.1 Name and contact details of the EAP who prepared the BAR and EMPr

**Table 1-1:: Details of the Environmental Assessment Practitioner**

<b>Company</b>	Tshifcor Investment and Resources (Pty) Ltd
<b>Contact Person</b>	Mr Mpho Ramalivhana
<b>SACNASP Membership No</b>	400395/14
<b>Tel No</b>	+27 (011) 0275996
<b>Cell No</b>	+27 (078) 901 4833
<b>Fax No</b>	+27 (086) 605 9120
<b>E-mail address</b>	<a href="mailto:info@tshifcor.co.za">info@tshifcor.co.za</a>
<b>Address</b>	20 Pitzer Road, Glen Austin AH, Midrand 1686, Johannesburg, Republic of South Africa

#### 1.1.2 Expertise of the EAP who prepared the BAR and EMPr

##### \* Mpho Ramalivhana

Mpho Ramalivhana is currently the Senior Environmental Consultant and Ecological Specialist at Tshifcor Investment and Resources (Pty) Ltd. He matriculated at Mudinane Secondary School in 2004 with a merit. He then went to the University of Limpopo (Turfloop Campus) to further his career from 2005 to 2007. He obtained a BSc Degree majoring with Microbiology and Botany. Then in 2008 he graduated top of his Honours Botany Class in the field of plant ecology. His honours project involved "the investigation of the floral composition of the granite hills within the campus of the University of Limpopo". Currently he is busy doing his master's degree with Tshwane University of Technology and has over ten (10) years' experience in professional consulting.

He also has extensive experience in conducting Environmental Impact Assessment, developing Environmental Management Plans and implementation of Environmental Monitoring Systems. He also has remarkable experience in conducting Environmental Audit, Environmental Due Diligence, Land Quality Assessment, Ecological Assessment and Environmental Site Assessment.

His recent experience has focused upon formal environmental authorisation processes, particularly the management of public participation processes, environmental screening process projects. He has experience in energy related projects, including alternative energy (solar and wind) and power transmission projects as well as projects for social infrastructure including inter alia road, housing and waste management. He is familiar in compiling the requisite documentation for Environmental Impact Assessments (EIA) and Environmental Management Plans (EMP). Furthermore, he has experience in undertaking environmental compliance monitoring and the bio-monitoring of water resources.

Prior joining Tshifcor, Mpho worked for companies such as Tshikovha Environmental and Communication Consulting, Parsons Brinckerhoff Africa (Now WSP), Muondli Consulting, South African National Biodiversity Institute and Limpopo Department of Economic, Environment and Tourism where his professional working career started. Mpho is a member of the South African Council of Natural Scientific, Profession (400395/14), South African Association of Botanists (SAAB) as well as the International Association of Impact Assessment – South Africa (IAIASa).

**\* Mrs Caroline Munyai**

Mrs. Caroline Munyai is currently a Public Participation Officer at Tshifcor Investment and Resources (Pty) Ltd. She matriculated at Ramauba Secondary School in 2005 with a merit. She then enrolled at the University of Venda to further her studies from 2006 to 2009. She obtained a BESC Honours Degree majoring with Mining and Environmental Geology. Then in 2010 she graduated with a distinction on her honors thesis. She has over Eight (8) years' experience in environmental professional consulting.

Caroline also has extensive experience in environmental compliance/ permitting (including environmental impact assessments, basic assessments, water use license applications, social and environmental due diligence, social and environmental management systems, mining and mining right applications) and public participation /stakeholder engagement. Her recent experience has focused upon formal environmental authorisation processes, Basic Assessment processes, scoping, application for mining licenses including other related licenses.

Prior joining Tshifcor, Caroline worked for state organisations and private sectors such as Department of Rural Development and Land Reform, South African Diamond and Precious Metals Regulations, Mintek and International Resource Limited (SA).

*Please refer to **Appendix 1** for the Curriculum Vitae of EAPs*

## **1.2 WHO WILL EVALUATE AND APPROVE THE BAR AND EMPR?**

Before the proposed project can proceed, an Environmental Assessment Practitioner (EAP) must compile an application for an environmental authorisation for the proposed project. An impact assessment (basic assessment process) and Environmental Management Programme must be undertaken in support of the application for an environmental authorisation. The basic assessment process will determine the potential environmental impacts that may result from the proposed project and an environmental management

programme will be compiled to provide measures for mitigation against the identified impacts. The above-mentioned application must be made to the CA and in terms of section 24D (1) of NEMA, the Minister responsible for mineral resources is the responsible CA for this application. In view of the above, the application for the environmental authorisation for the proposed project was submitted to the Department of Mineral Resources and Energy (DMRE), Limpopo Regional Office for their consideration and decision making.

In the spirit of co-operative governance and in compliance with the requirements of NEMA and the MPRDA, the competent authority may, during the processing for the environmental authorisation application, consult with other organs of state that administers laws that relate to matters affecting the environment relevant to this application.

### 1.3 DETAILS OF THE APPLICANT

**Table 1-2: Details of the Applicant**

<b>Company</b>	URU Metals South Africa (Pty) Ltd
<b>Name of the Project</b>	Townlands Prospecting Project
<b>Responsible Person</b>	Richard Montjoie
<b>Tel No.</b>	011 484 5005
<b>E-mail address</b>	rmontjoie@umbono.co.za
<b>Postal Address</b>	Postnet Suite 201, Pvt Bag X30500 Houghton 2041 Gauteng Province

#### 1.3.1 Property description

**Table 1-3: Details of the Prospecting Right Application**

<b>Farm Name</b>	Portions 52, 53, 54, 55, 56, 57, 58, 59, 60 and 199 of the Farm Piet Potgietersrus Town and Townlands 44 KS
<b>Application Area (Hectares)</b>	246.1763ha
<b>Magistrate District</b>	Mogalakwena
<b>Distance and direction from nearest town:</b>	The proposed prospecting right area is located approximately 4.86 km North East of Mokopane Town and 3.96 Km East of Mahwelereng A&B See <b>Figure 1-2</b> .
<b>21-digit Surveyor General Code of the farm</b>	Portion 52_TOKS00000000004400052 Portion 53_TOKS00000000004400053



**TCIR**  
TSHIFCOR INVESTMENT & RESOURCES (PTY) LTD

	Portion 54_TOKS00000000004400054 Portion 55_TOKS00000000004400055 Portion 56_TOKS00000000004400056 Portion 57_TOKS00000000004400057 Portion 58_TOKS00000000004400058 Portion 59_TOKS00000000004400059 Portion 60_TOKS00000000004400060 Portion 199_TOKS00000000004400199
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### 1.3.2 Land Tenure and Use of Immediate and Adjacent Land

Land use is determined by several factors. These include the land use determined for the Townlands project area as a whole, the exact project area land use and adjacent land specifically, and the associated issues of climate, resources, economic activities, topography, etc. Land use for the properties within and around the proposed project includes but not limited to national road, secondary roads, farm roads, farmstead, cultivated lands, grazing natural lands, mining, build up (township) and railway. The applied portions 52, 53, 54, 55, 56, 57, 58, 59, 60 & 199 of the farm Townlands 44KS are privately owned, **(Figure 1-3)**.

#### 1.1.1 Locality Plan

The proposed prospecting right area is located approximately 4.86 km North East of Mokopane Town and 3.96 Km East of Mahwelereng A&B. Refer to **Figure 1-2** for the locality plan of the proposed project area.

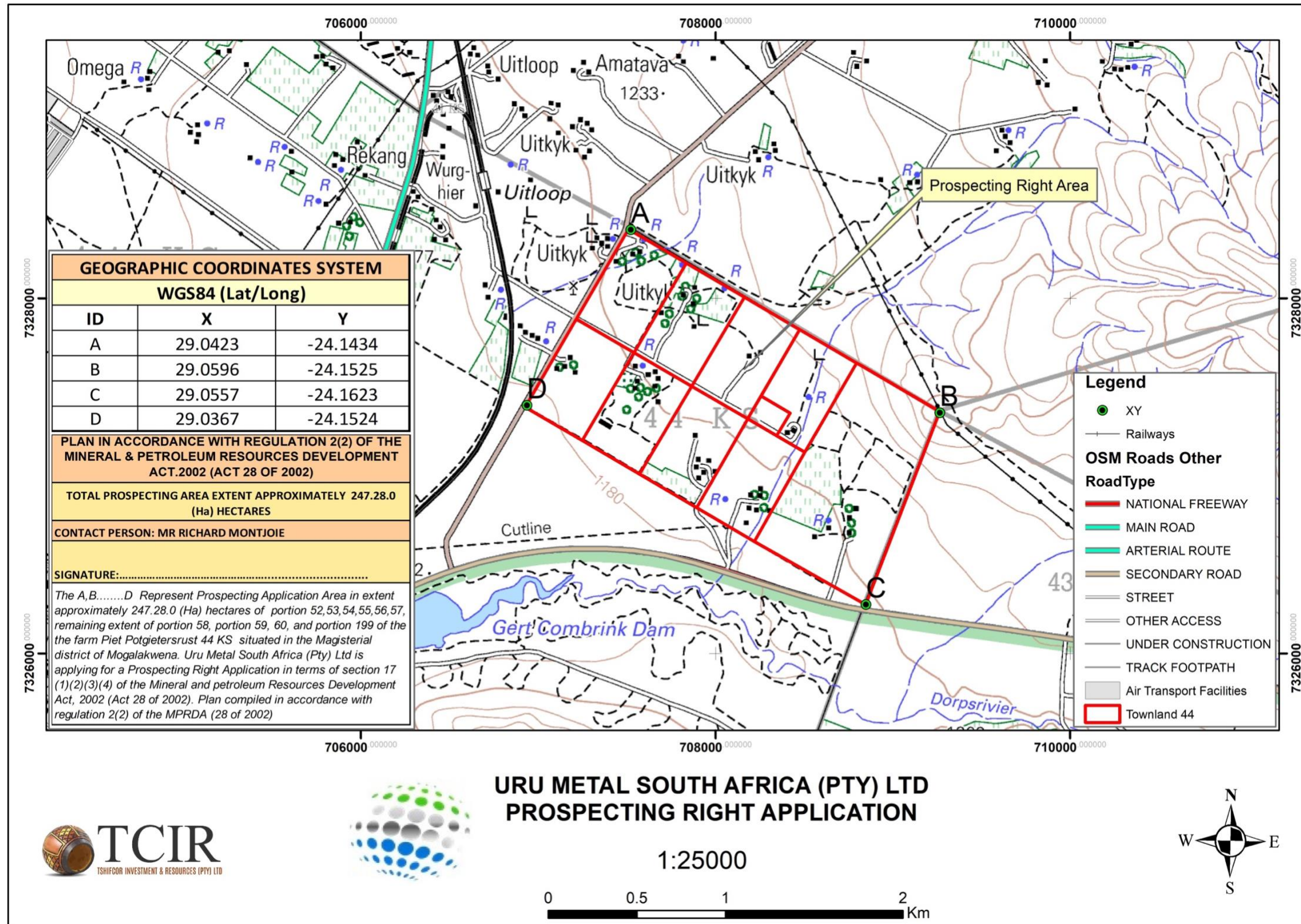


Figure 1-1: Regulation 2.2 Plan as referred to in terms of the MPRDA Act 28 of 2002



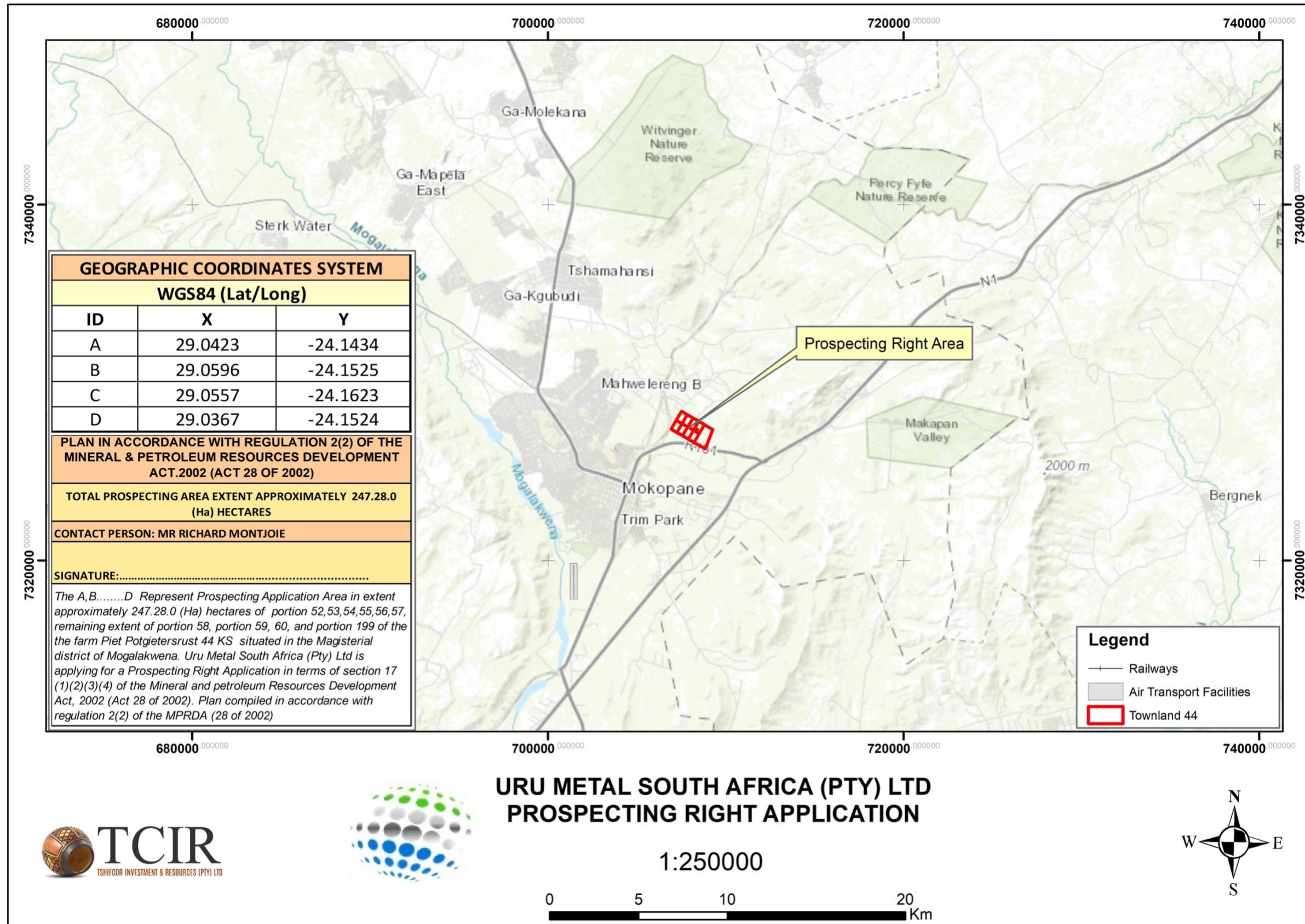


Figure 1-2: Locality Map showing the applied prospecting area



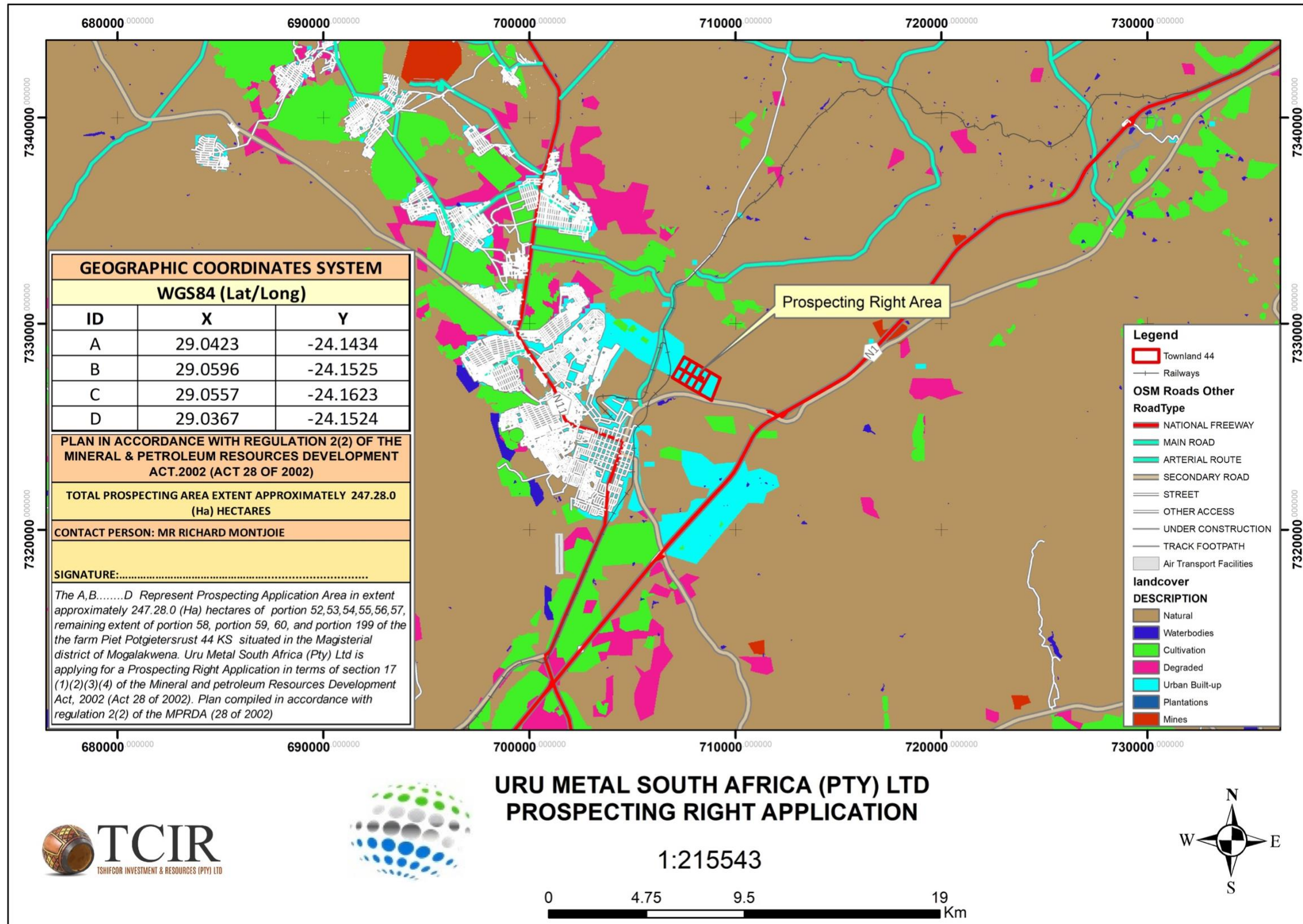


Figure 1-3: Land use within the proposed project area





SECTION TWO

**DESCRIPTION OF THE SCOPE OF THE PROPOSED APPLICATION**

## 2. DESCRIPTION OF THE SCOPE OF THE PROPOSED PROJECT

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### 2.1 LISTED ACTIVITIES AND SPECIFIED ACTIVITIES

URU Metals South Africa has applied for Activity 20 & 56 of Listing Notice 1 (GNR 327) and Activity 12(e)(ii) of Listing Notice 3 (GNR 324) of the NEMA, EIA Regulations 2014 as amended in 2017 to undertake prospecting activities to prospect for Platinum Group Metals (PGM), Cobalt (Co), Nickel Ore (Ni), Chrome Ore (Cr), Copper Ore (Cu), Iron Ore (Fe) and Gold on a portions 52, 53, 54, 55, 56, 57, 58, 59, 60 and 199 of the farm Townlands 44KS within the Magisterial District of Mogalakwena, in Limpopo Province. The proposed project entails prospecting of the above specified minerals through drilling of approximately 30 holes of +/-100m deep, using the Diamond Core Drill Rig. Access to the prospecting area will be via existing farm roads and tracks should the need arise.

URU Metals South Africa (Pty) Ltd, must obtained environmental authorisation before the commencement of the proposed activities. The above-mentioned environmental authorisation application was lodged on the 26 January 2021 and acknowledgement by the Department of Mineral Resources and Energy (Limpopo Offices) on the 22 April 2021. **Table 2-1** below has been compiled as prescribed by the Department of Mineral Resources and Energy Basic Assessment Report and EMPr template and reflect all applied activities in relation to the proposed project.

**Table 2-1: Proposed Townlands prospecting project listed Activities**

NAME OF ACTIVITY	AERIAL EXTENT OF THE ACTIVITY	LISTED ACTIVITY	APPLICABLE LISTING NOTICE
<b>PROPOSED GOUDMYN PROJECT LISTED AND SPECIFIC ACTIVITIES</b>			
<b>NATIONAL ENVIRONMENTAL MANAGEMENT ACT</b>			
<p>Prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including— (a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resources such as drilling, sampling, logging, sample analysis.</p>	<p>246.1763ha</p>	<p><b>ACTIVITY 20 OF THE LISTING NOTICE 1:</b></p> <p>Any activity including the operation of that activity which requires a prospecting right in terms of section 16 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002), including— (a) associated infrastructure, structures and earthworks, directly related to prospecting of a mineral resource[.]; or [including activities for which an exemption has been issued in terms of section 106 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002)] (b) the primary processing of a mineral resource including winning, extraction, classifying, concentrating, crushing, screening or washing; but excluding the secondary processing of a mineral resource, including the smelting, beneficiation, reduction, refining, calcining or gasification of the mineral resource in which case activity 6 in Listing Notice 2 applies.</p> <p><b>ACTIVITY 56 OF LISTING NOTICE 1:</b></p> <p>The widening of a road by more than 6 metres, or the lengthening of a road by more than 1 kilometre—</p> <p>(i) where the existing reserve is wider than 13,5 meters; or</p> <p>(ii) where no reserve exists, where the existing road is wider than 8 metres; excluding where widening or lengthening occur inside urban areas.</p>	<p>GNR 327 (08 Dec 2014 as amended on the 07 April 2017)</p>
		<p><b>ACTIVITY 12 (e)(ii) OF THE LISTING NOTICE 3:</b></p> <p>The clearance of an area of 300 square metres or more of indigenous vegetation except where such clearance of indigenous vegetation is required for maintenance purposes undertaken in accordance with a maintenance management plan.</p>	<p>GNR 324 (08 Dec 2014 as amended on the 07 April 2017)</p>

## 2.2 DESCRIPTION OF THE PROPOSED PROSPECTING PROJECT

URU Metals South Africa (Pty) Ltd proposes to drill 30 holes using Diamond Core drill rig and sample where all samples intersected Platinum Group Metals (PGM), Cobalt (Co), Nickel Ore (Ni), Chrome Ore (Cr), Copper Ore (Cu), Iron Ore (Fe) and Gold then takes the samples to the accredited laboratory for analysis, the results of analysis will allow “URU Metals SA” to determine the feasibility and value of the project. Please refer to **Error! Reference source not found.** for the equipment that would be utilised for the proposed project.

**Table 2-2: Equipment’s to be used or needed**

<b>Equipment and/or Technology to be used</b>	Excavator Drill Rig 4x4 Bakkies Generator Water bouser
<b>Materials required</b>	Diesel
	Grease
	Hydraulic Oil
	Picks, shovels,
<b>Storage Facility</b>	Diesel, Grease and Oil
<b>Spillage control</b>	Dip trays
<b>Sanitation Facility</b>	Chemical toilets
<b>Waste Management</b>	Waste skip and Bins
<b>Water</b>	Water will be transported to drilling site
<b>Safety</b>	Safety Boards

### 2.2.1 Target Mineral

Targeted minerals are Platinum Group Metals (PGM), Cobalt (Co), Nickel Ore (Ni), Chrome Ore (Cr), Copper Ore (Cu), Iron Ore (Fe) and Gold found within the Northern Limb of the Bushveld Igneous Complex.

### 2.2.2 Prospecting Method Statement to be used for proposed Project

In terms of NEMA regulations and requirements by the DMRE, BAR and EMPr template, URU Metals South Africa (Pty) Ltd must describe the methods and technology to be utilised for the proposed project. In view of the above, a method statement for each phase

of the proposed project has been provided below. This identifies all actions, activities or processes associated with the proposed prospecting operation.

### **2.2.3 Non-Invasive: Desktop Studies (Data Acquisition)**

#### **2.2.3.1 Data gathering**

Applicable data concerning the potential of the proposed prospecting area will be sourced from institutions such as the Council for Geosciences, Universities and other libraries and previous explorers may be approached with a view to obtaining their results. During this phase, the photo geological and satellite interpretations will also be undertaken and the data collected during Basic Assessment Process will be utilised.

#### **2.2.3.2 Data Interpretation**

The interpretation of data will result in compiling a preliminary potential project report. The report will give indication as to what processes can be prioritised and followed in order to complete the proposed prospecting activities.

#### **2.2.3.3 Decision to commence with prospecting activities**

Once all factors are gathered, physical inspection of the terrain will be conducted to verify certain aspects. The important point to note is that a decision on whether or not to proceed with prospecting depends not only on the scientific and reliability of the methods under consideration, but also upon many less tangible factors, such as restrictions that might be imposed by the relevant Department when granting a prospecting right and an environmental authorisation.

### **2.2.4 Invasive: Construction Phase**

#### **2.2.4.1 Establishment of access to the Project site**

There will be no need to establish an access road to site as an existing secondary road such as R101 and existing farm roads will be utilised. Where necessity arise for access to the drilling sites, tracks will be established as access to the drilling site. These tracks will be established to be more than 500meters away from any sensitive landscapes. The tracks will also be sited away from protected areas. Vegetation clearance will be avoided during the establishment of the access tracks.

#### **2.2.4.2 Detailed Site Survey and Investigation**

Demarcation of sensitive and protected areas will be conducted by physical survey of the Proposed area by a suitability qualified person. This should be done before establishment of access to the site, campsites and drilling of exploration boreholes.

#### **2.2.4.3 Pegging of Drill Sites**

All exploration borehole sites will be staked by a suitably qualified person. The sites will be plotted according to the determined borehole layout as shown in Error! Reference source not found.. However, should they be any changes on the proposed borehole layout, DMRE will be alerted of such changes.

## **2.2.5 Operational Phase**

### **2.2.5.1 Diamond Drilling for boreholes and sump construction**

Geological boreholes will be drilled on a determined grid of 350m-1000m apart. The depth of the borehole is planned to approximately 100m through HQ or TNW Diamond Core drilling equipment.

### **2.2.5.2 Access Roads**

Existing access roads and tracks will be used. Where there are no access roads tracks will be created to access the drilling site.

### **2.2.5.3 Campsite**

The drilling team will be housed on a camp that will be erected within the site area.

### **2.2.5.4 Ablution**

Mobile chemical abluion systems will be used on site during prospecting activities. The proposed abluions will be located away from the drilling site as part of avoiding any leakage that might be caused due to drilling towards the drilled boreholes. The water to be used will be sourced from farm owners and transported to the site by water tanker.

### **2.2.5.5 Hydrocarbon storage**

The hydrocarbons will be stored on site and only a maximum of 220l of diesel will be stored during prospecting activities. This will be stored on a certified drums to avoid any spillage on the ground. The drums will be monitored twice a day throughout the prospecting activities.

### **2.2.5.6 Topsoil Storage Site**

The tops and sub soils removed from the drilled boreholes will be stockpiled near the borehole. The boreholes will be backfilled manually by spade, immediately the drilling and sampling and wire survey of boreholes is completed.

### **2.2.5.7 Vehicle and machinery storage**

Only one or at most two rigs will be utilised during prospecting activities of which will be mounted on a 10tonne truck. This rig will be left on site throughout the prospecting activities and the space that it will utilise on a packing area will be approximately 9300mm x 2500mm.

### **2.2.5.8 Logging and Sampling of core**

This involves the physical description of the rocks intersected by the drilling process. The interpretation of these rock descriptions will assist in establishing the general stratigraphy of the area. Sampling will be taken at the desired horizons and sent to the laboratory for analyses.

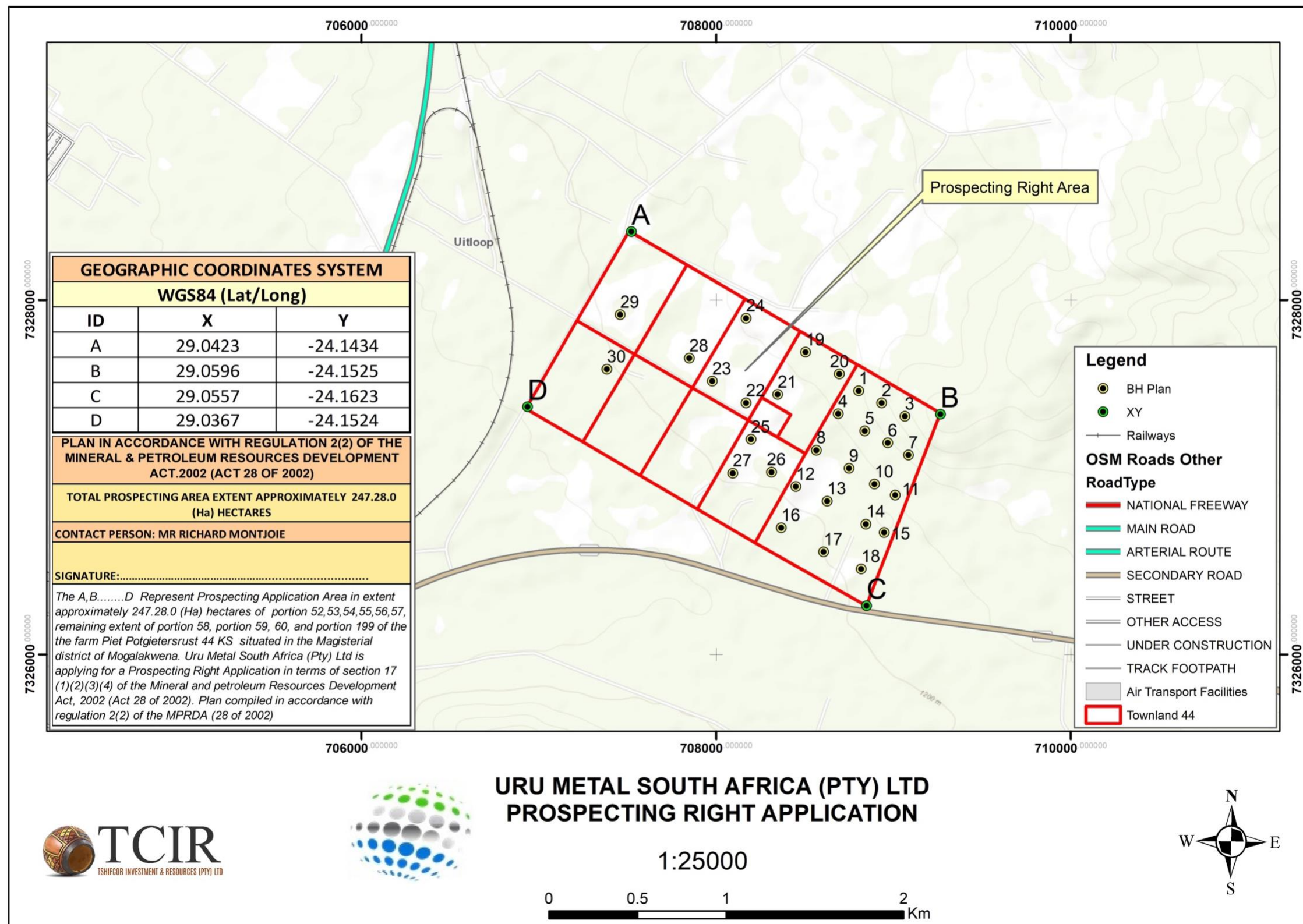


Figure 2-1: Proposed borehole for the proposed prospecting project

### **2.2.5.1 Site Rehabilitation**

Concurrent rehabilitation (Plugging and reseeded) of disturbed areas will be undertaken as drilling continues. Vegetation similar to that surrounding area will be used, or if necessary, the opinion of an Ecologist will be sought for rehabilitation.

## **2.2.6 Decommissioning phase**

### **2.2.6.1 Final Rehabilitation**

Except for farm roads, no tracks and infrastructure related to the prospecting operation will remain in place after the decommissioning phase. Where tracks have resulted in more damage, such tracks will be ripped at 90° to the inherent slope and seeded with the recommended seed mix. The boreholes will be rehabilitated in such a manner to return the area to its pre-drilling environment.

Post closure, the prospecting area will consist of re-vegetated areas with vegetation cover comparable to the surrounding areas. This will be unaffected by the prospecting activities. No prospecting related infrastructure will remain on the prospecting site. The area will conform to the pre-prospecting topography. The areas affected by prospecting will be stable and erosion free.

### **2.2.6.2 Pre-feasibility Study**

This involves the compilation of a final geological competent person's report, reserve determination and pre-feasibility studies.

### **2.2.6.3 Mining feasibility study**

This involves the conducting of a mining feasibility study, market research, sales agreements.

## **2.2.7 After Closure Phase**

The rehabilitated area will be monitored until closure of the site which is for approximately a period of one (1) year. After the decommissioning of the site and if it can be determined that the site is stable, an environmental authorisation for the decommissioning of the site and a closure certificate will be applied for in terms of the relevant laws. The borehole layout has been determined and is shown in Figure 2-1, and this will not be changed based on the fact that it has been determined taking into consideration of the environmental aspect within the project area, however should there be any determined changes to be done such will be reported to DMRE.



SECTION THREE  
**POLICY AND LEGISLATIVE CONTEXT**

### 3. POLICY AND LEGISLATIVE CONTEXT

#### **3.1 CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA (ACT NO. 108 OF 1996)**

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

- a. to an environment that is not harmful to their health or well-being; and
- b. to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that;
  - i. prevent pollution and ecological degradation;
  - ii. promote conservation; and
  - iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

In terms of Section 24 of the Constitution of the Republic of South Africa (Act No.108 of 1996), everyone has the right to an environment that is not harmful to their health or well-being. In addition, people have the right to have the environment protected, for the benefit of present and future generations, through applicable legislations and other measures that prevent pollution, ecological degradation and promote conservation and secure ecological sustainable development through the use of natural resources while prompting justifiable economic and social development.

The needs of the environment, as well as affected parties, should thus be integrated into the overall project in order to fulfil the requirements of Section 24 of the Constitution. In view of the above-mentioned, a number of laws pertaining to environmental management were promulgated to give guidance on how the principles set out in section 24 of the Constitution of the Republic of South Africa (Act No.108 of 1996) would be met. Below are laws applicable to the proposed project that were promulgated to ensure that section 24 of the Constitution of the Republic of South Africa (Act No.108 of 1996) is complied with.

*This document was accordingly prepared, submitted and considered within the constitutional framework set by, inter alia, section 24 and 33 of the Constitution.*

#### **3.2 THE PROMOTION OF ACCESS TO INFORMATION ACT (ACT NO. 2 OF 2000)**

Without access to information, a person may be unable to determine whether or not his or her right to just administrative action (or to an environment not harmful to human health or wellbeing or, for that matter, any other Constitutional right) has been infringed. The purpose of the Promotion of Access to Information Act ("PAIA") is to give effect to the Constitutional right of access to any information held by the State and any information that is held by another person and that is required for the exercise or protection of any rights, and to provide for matters connected therewith. In addition to providing access to information, cognisance should be taken that PAIA also makes provision for the refusal of access to information that is deemed to be of a sensitive, confidential or classified nature. This is captured under Chapter 4 of part 2 and 3 of PAIA.

*This document is accordingly prepared and is being distributed to all IAPS and all stakeholders for public reviews and comments in terms of PAIA.*

### **3.3 THE MINERAL AND PETROLEUM RESOURCES DEVELOPMENT ACT (ACT NO. 28 OF 2002)**

The MPRDA was passed in order to make provision for equitable access to and sustainable development of the nation's mineral and petroleum resources, and to provide for matters connected therewith. The Preamble to the MPRDA inter alia affirms the State's obligation to: • protect the environment for the benefit of present and future generations; • ensure ecologically sustainable development of mineral and petroleum resources, and; • promote economic and social development. The aforesaid MPRDA preamble affirms the general right to an environment provided for in section 24 of The Constitution of the Republic of South Africa, Act 108 of 1996 (then Constitution).

The national environmental management principles provided for in section 2 of the National Environmental Management Act (NEMA), Act No.107 of 1998 apply to all prospecting and mining operations and any matter relating to such operation. These principles apply throughout the Republic to the actions of all organs of state including, inter alia, the Department of Mineral Resources (DMR), previously known as the Department of Minerals and Energy (DME), that may significantly affect the environment. Any prospecting or mining operation must be conducted in accordance with generally accepted principles of sustainable development by integrating social, economic and environmental factors into the planning and implementation of prospecting and mining projects in order to ensure that exploitation of mineral resources serves present and future generations.

*The project is in relation to prospecting activities, and for that instant the Mineral and Petroleum Resource Development Act applied herewith, and necessary licensing application has been taken into consideration in terms of Section 16 of the MPRDA.*

### **3.4 NATIONAL ENVIRONMENTAL MANAGEMENT ACT (ACT NO. 107 OF 1998)**

Section 24(1) of the NEMA states: "In order to give effect to the general objectives of integrated environmental management laid down in this Chapter [Chapter 5], the potential consequences for or impacts on the environment of listed activities or specified activities must be considered, investigated, assessed and reported on to the competent authority or the Minister of the Department of Mineral Resources, as the case may be, except in respect of those activities that may commence without having to obtain an environmental authorisation in terms of this Act." In order to regulate the procedure and criteria as contemplated in Chapter 5 of NEMA relating to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, subjected to environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts, and for matters pertaining thereto, Regulations (EIA Regulations, 2014) were promulgated. These Regulations took effect from the 8<sup>th</sup> of December 2014 and was amended in 2017.

In addition to the above, Section 28 of the NEMA includes a general "Duty of Care" whereby care must be taken to prevent, control and rehabilitate the effect of pollution and environmental degradation. This section stipulates the importance to protect the

environment from degradation and pollution irrespective of the operations taking places or activities triggered / not triggered under GN983, GN984 and GN985. In view of the above, an environmental impact assessment is being undertaken to comply with the requirements of the NEMA and the NEMA EIA Regulations, 2014. The NEMA EIA Regulations of December 2014 determines requirements to be met in order to obtain an environmental authorisation. This report has therefore been compiled in compliance with the above regulations.

*The listed activities triggered by the proposed project are activity 20 & 56 of the Listed Notice 1 of the GNR327 and Activity 12(e)(ii) of Listing Notice 3 of GNR324 as amended and these activities have been assessed in the EIA process that was undertaken (i.e. Basic Assessment). This DBAR and EMPr is being circulated to all identified and registered IAPs including the competent and commenting authority in support of the application for environmental authorisation.*

### **3.5 NATIONAL ENVIRONMENTAL MANAGEMENT AIR QUALITY ACT (ACT NO. 39 OF 2004)**

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

On 22 November 2013 the list of activities which result in atmospheric emissions which have or may have a significant detrimental effect on the environment, including health, social conditions, economic conditions, ecological conditions or cultural heritage was published under GN R893 in Governmental Gazette No 37054, in terms of Section 21(1)(b) of the NEM: AQA.

*The proposed activities will not trigger any of the activities listed under the above-mentioned Regulations as URU Metals SA (Pty) Ltd will ensure that emissions from their activities complies with the standards as set in the above-mentioned regulations. Dust Control Regulations describe the measures for control and monitoring of dust, including penalties.*

### **3.6 THE NATIONAL HERITAGE RESOURCES ACT (ACT NO. 25 OF 1999)**

The National Heritage Resources Act (Act No. 25 of 1999) (NHRA) focuses on the protection and management of South Africa's heritage resources. The governing authority for this act is the South African Heritage Resources Agency (SAHRA). In terms of the NHRA, historically important features such as graves, trees, archaeology and fossil beds

are protected as well as culturally significant symbols, spaces and landscapes. Section 38 of the NHRA stipulates the requirements a developer must undertake prior to development. In terms of Section 38 of this act, certain listed activities require authorisation from provincial agencies:

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
- (b) the construction of a bridge or similar structure exceeding 50 m in length;
- (c) any development or other activity which will change the character of a site—
  - (i) exceeding 5 000 m<sup>2</sup> in extent; or**
  - (ii) involving three or more existing erven or subdivisions thereof; or**
  - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or**
  - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;**
- (d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,

The applicant must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

Stand-alone HIAs are not required where an EIA is carried out as long as the EIA contains an adequate HIA component that fulfils the provisions of S38. In such cases only those components not addressed by the EIA should be covered by the heritage component.

*Further assessment of the proposed area will be done prior to prospecting activities commencement to determine if there are any sites that require protection. Any sites identified will be marked and no drilling will be undertaken in close proximity of such site. A permit may be required should identified cultural/heritage sites on site be required to be disturbed or destroyed as a result of the proposed prospecting activities.*

### **3.7 NATIONAL ENVIRONMENTAL MANAGEMENT BIODIVERSITY ACT (ACT NO. 10 OF 2004) (NEMBA)**

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

In terms of S57, the Minister of Environmental Affairs has published a list of critically endangered, endangered, vulnerable, and protected species in GNR 151 in Government Gazette 29657 of 23 February 2007 and the regulations associated therewith in GNR 152 in GG29657 of 23 February 2007, which came into effect on 1 June 2007.

In terms of GNR 152 of 23 February 2007: Regulations relating to listed threatened and protected species, the relevant specialists must be employed during the EIA Phase of the project to incorporate the legal provisions as well as the regulations associated with listed threatened and protected species (GNR 152) into specialist reports in order to identify permitting requirements at an early stage of the EIA Phase.

The Act provides for listing threatened or protected ecosystems, in one of four categories: critically endangered (CR), endangered (EN), and vulnerable (VU) or protected. The first national list of threatened terrestrial ecosystems has been gazetted, together with supporting information on the listing process including the purpose and rationale for listing ecosystems, the criteria used to identify listed ecosystems, the implications of listing ecosystems, and summary statistics and national maps of listed ecosystems (National Environmental Management: Biodiversity Act: National list of ecosystems that are threatened and in need of protection, (GG 34809, GN 1002), 9 December 2011).

*The Basic Assessment Report and Environmental Management Programme has been compiled to ensure that all applicable requirements prescribed in the NEMBA are complied with.*

### **3.8 NATIONAL WATER ACT (ACT NO. 36 OF 1998) (NWA)**

The National Water Act (Act No. 36 of 1998) (NWA) is the primary regulatory legislation, controlling and managing the use of water resources as well as the pollution thereof in South Africa. The NWA recognises that the ultimate aim of water resource management is to achieve sustainable use of water for the benefit of all users and that the protection of the quality of water resources is necessary to ensure sustainability of the nation's water resources in the interests of all water users. The NWA presents strategies to facilitate sound management of water 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. The National Government has overall responsibility for and authority over water resource management, including the equitable allocation and beneficial use of water in the public interest. Further, an industry can only be entitled to use water if the use is permissible under the NWA. The enforcing authority on water users is the Department of Water and Sanitation (DWS). Furthermore, Regulation 704 of the NWA deals with the control and use of water for mining and related activities aimed at the protection of water resources.

*No water use licence application has been submitted to the Department of Water and Sanitation for their consideration in respect of this project, as the proposed project will not trigger any water use in terms of the NWA and the GN 704, as per NWA (Act.36 of 1998).*

### **3.9 NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT (ACT NO. 59 OF 2008)**

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

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

*As no waste disposal site is to be associated with the proposed project, no permit is required in this regard. Waste handling, storage and disposal during operation is required to be undertaken in accordance with the requirements of the Act, as detailed in the EMPr.*

### **3.10 THE NATIONAL ENVIRONMENTAL MANAGEMENT: PROTECTED AREAS ACT (ACT NO. 57 OF 2003)**

The aim of the National Environmental Management: Protected Areas Act (No 57 of 2003) is to provide for the protection and conservation of ecologically viable areas representative of South Africa's biological diversity and natural seascapes. The purpose of a Protected Environment is amongst others to protect a specific ecosystem outside a special nature reserve world heritage site or nature reserve and also to ensure the use of the natural resources in the area is sustainable.

*URU Metals SA (Pty) Ltd has applied this legislation during the application of the proposed project and has ensured that the applied area does not fall under protected and conserved areas.*

### **3.11 THE OCCUPATIONAL HEALTH AND SAFETY ACT (ACT NO. 9 OF 1997)**

The Occupational Health and Safety Act, 1993 (No.85 of 1993) provides for the health and safety of people at work as well as the health and safety of persons using plant and machinery. The applicant, URU Metals SA (Pty) Ltd, will be required to meet the requirements of the OHS Act during the construction and operational phases of the proposed project.

*URU Metals SA (Pty) Ltd, will ensure that the proposed project complies with the OHSA.*

### **3.12 THE MINE HEALTH AND SAFETY ACT (ACT NO. 29 OF 1996)**

The Mine Health and Safety Act, Act 29 of 1996 provide for protection of the health and safety of employees and other persons at mines and, for that purpose -

- to promote a culture of health and safety;
- to provide for the enforcement of health and safety measures;
- to provide for appropriate systems of employee, employer and State participation in health and safety matters;
- to establish representative tripartite institutions to review legislation,
- promote health and enhance properly targeted research;
- to provide for effective monitoring systems and inspections, investigations and inquiries to improve health and safety;
- to promote training and human resources development;
- to regulate employers' and employees' duties to identify hazards and eliminate, control and minimise the risk to health and safety;
- to entrench the right to refuse to work in dangerous conditions; and



- to give effect to the public international law obligations of the Republic relating to mining health and safety; and to provide for matters connected therewith.

*URU Metals SA (Pty) Ltd, will be required to meet the requirements of the MHS Act during the operational phases of the proposed project.*





SECTION FOUR

**NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES**

## 4. NEED AND DESIRABILITY OF THE PROPOSED ACTIVITIES

In terms of the EIA Regulations the need and desirability of any development must be considered by the relevant competent authority when reviewing an application. The need and desirability must be included in the reports to be submitted during the environmental authorisation application processes. This section of the DBAR and EMPr indicates the need and desirability for the proposed project.

### 4.1 Mineral benefits

The mineral exploration at the Townlands project is considered to be in the best interest of the public at large, by generating earning power both locally and internationally, in the absence of significant alternative employment opportunities in the area.

Platinum Group Metals (PGM), Cobalt (Co), Nickel Ore (Ni), Chrome Ore (Cr), Copper Ore (Cu), Iron Ore (Fe) and Gold is sold both locally and overseas and therefore, the project can be an earner of foreign exchange for South Africa should it be explored and project be taken to mining phase. In addition, the mine also has a positive impact on the economic growth of the Limpopo Province, particularly in the communities around the project and through its rates and taxes to the National fiscus.

### 4.2 Environmental responsibility

The purpose of this document is to make sure that the EMPrs include the activities and infrastructure associated with the proposed Project and to develop one comprehensive document that will be in line with the legislated requirements of the NEMA. This document contains management measures to avoid, minimise and reduce the potential negative impacts on the environment, as a result of the proposed prospecting activities.

This document will make sure that URU Metals SA is conducting activities that have been approved by the DMRE in black and white and the document will be reviewed on a yearly basis with the annual reports being issued to DMRE each year of the work conducted and the impact including the mitigation measures conducted.

URU Metals SA commits to participate in relevant environmental forums as part of environmental responsibility for the surrounding areas. URU Metals SA will also actively be involved in the Waterberg Air Quality Management Forum as part of Air Quality management strategy.

URU Metals SA, will also have an open-door policy for dealing with any complaint/issues received from the public and information will be provided to the landowners and surrounding landowners if and when requested. In addition to this, the Company will have a grievance register where members of the public and communities can lodge their complaints.

### **4.3 Socio-economic benefits**

URU Metals SA is considered to have a positive socio-economic benefit through employment of locals. Unskilled and semi-skilled labour will be sourced mainly from the local communities and surrounding areas and recruitment is in conjunction with the local unemployment forum. Specialist and skilled labour are recruited outside the local boundaries when required due to skills scarcity. It is anticipated that the cumulative impact of employment, and associated benefits will be most profound during the drilling activities/operation phase of the project, albeit of a temporary nature.

### **4.4 Employment and local procurement opportunities**

As far as possible, all labour requirements associated with the operation of the proposed Project will be prioritised for local temporary employment. External labour will only be sourced if skilled candidates are not available locally.

It is currently anticipated that approximately 5 temporary workers may be employed during the operational phase project (approximate duration of 6 months). Once the exploration is complete and the project gets to mining phase, then additional permanent higher rate of job opportunities for the mining operation.

Procurement for the project will be done as per the prevailing URU Metals SA Procurement policies. Meaningful participation of local businesses will be maximised as far as possible.



SECTION FIVE

**MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT**

## 5. MOTIVATION FOR THE PREFERRED DEVELOPMENT FOOTPRINT

Mineral Exploration is the most important economic sector in the country where the Mining Business is concerned. The proposed project lies within the Northern Limb of the Bushveld Igneous Complex which is mostly famous for PGMs bearing. The farm Townlands 44KS on which the proposed project located, is underlain by rocks of the Platreef pyroxenite which shows a transgressive relationship with the floor rocks such that its base lies at progressively higher levels in the stratigraphical succession. The floor rocks of the project area belong to the Transvaal Super group (Malmani dolomites), while to the north the floor rocks are Archean Hout River Gneiss with intrusive Utrecht granites making up the hills in the project area. The hanging wall rocks for the proposed area are comprised of norite, gabbro and gabbronorite (Refer to Figure 5-1).

The interactions between the Platreef and Malmani dolomites has resulted in the formation of calc-silicates and parapyroxenites in the footwall whereas further to the north, granofels and gneiss footwall is exposed.

### 5.1 CONSIDERATION OF ALTERNATIVES

The National Environmental Management Act 107 of 1998, Environmental Impact Assessment Regulations, 2014 as amended requires BAR and EMPr to identify alternatives for projects applied for. In terms of the above-mentioned regulations an alternative in relation to a proposed activity, means different means of meeting the general purpose and requirements of the activity, which may include alternatives to the (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.

#### 5.1.1 Location Alternatives

The location alternative considered for the proposed project includes the prospecting site and access routes. The location alternatives were selected based on a number of criteria, which include the environmental considerations (how sensitive is the area in terms of soils, wetlands, groundwater etc.) and the dependency of the project to the required infrastructure.

##### 5.1.1.1 Prospecting Site and Access Routes

One Locations was considered for the proposed prospecting sites. This is based on historical data that indicates the existence of required minerals within the proposed areas. The areas surrounding the project on the Southern West and Northern West couldn't be even considered due to the highly sensitive of the lands as it falls under Critical biodiversity areas (refer to Figure 5-11).

##### 5.1.1.2 Campsite Location

Regarding location of the campsite, three (3) alternatives were considered. These locations included (i) a static location closer to the farm homesteads, (ii) a mobile campsite and (iii) an offsite campsite. Since the site closer to the farm homesteads may result in undesirable

impacts to the existing farm owners and the offsite campsite could also result in unnecessary environmental impact such as noise impact during mobilisation and demobilisations of drilling rigs, the onsite mobile campsite alternative may result in unforeseen impacts due to the unavailability of other necessary services that come with having a local campsite these two alternatives were discarded. An offsite camp has been considered as the best option as it has minimal environmental social impacts on the environment.

### **5.1.2 Design/Layout Alternatives**

The proposal layout for the prospecting activity will be as per the attached infrastructure sketch plan (**Error! Reference source not found.**). The prospecting sites, consists of one entrance via existing access gravel road from the R101 road and farm gravel roads.

### **5.1.3 Technology Alternatives**

It has been determined that the only best technological way of undertaking the proposed activities would be to use energy currently available to the applicant (diesel and petrol), water from the nearby farm owners and existing waste management facilities from the municipality for the operation of the proposed project. In view of the above, no technology alternatives were considered for this project.

### **5.1.4 Input Material Alternatives**

As mentioned above, current water sources used by the farm owners and currently available energy in the area will be used for the operation of the proposed project. In view of the above, no input material alternatives were considered for this project. Note that no building facilities will be constructed at the project site since only mobile facilities will be used for the proposed project.

### **5.1.5 Operational Alternatives**

#### **5.1.5.1 Exploration Drilling Methods**

Drilling of proposed minerals will be used to determine the depth, thickness and quality of the minerals at any point across a prospecting area. Drilling is also used to determine the strata of which the minerals are associated with. Drilling will be conducted via a core drilling techniques.

##### Non-Core Drilling Methods

Non-core drilling techniques mostly uses the rotary drilling methods. In this technique, string of metal rods is rotated axially and a bit at the base of the string is forced downward, under controlled pressure, breaking up the ground and advancing the depth of the hole. Cuttings are swept away from the bit and lifted to the surface either by means of pumped circulating water or by jets of compressed air. Logging of the hole drilled by non-core drilling methods is mainly based on the cuttings obtained as the drill progresses. In view of the above and taking into consideration of the applied minerals, the non-core drilling technique is not preferably for this project.

## Core-Drilling Methods

Core drilling techniques uses diamond drilling methods. In this technique, a hollow cylindrical drill bit impregnated with industrial diamonds is attached to a series of metal drill rods and rotated under controlled downward pressure. A circle of rock is ground away, the cutting removed by water flushing and a cylindrical core remains in the hollow centre of the drill string. Core drilling is the only satisfactory means of obtaining representative samples of seams at depth for quality determination, and this method is preferably for the proposed project.

### **5.1.6 No Go Option**

The 'no-go' alternative is the option of not undertaking prospecting activities on the project site. The no-go option assumes the site remains in its current state. The no go alternative would result in no impacts on the social and biophysical environment.

URU Metals SA (Pty) Ltd intends on exploring the proposed area in order to determine availability of Platinum Group Metals (PGM), Cobalt (Co), Nickel Ore (Ni), Chrome Ore (Cr), Copper Ore (Cu), Iron Ore (Fe) and Gold. Should these minerals be found at the prospecting area, the proposed Townlands Prospecting Right area will therefore achieve this Company long term objective of expanding its Mineral Resource to benefit of the local community where the operation take place. In addition to the above, the proposed prospecting project will on its own result in the creation of employment opportunities and will also result in the support of local businesses.

Accordingly, the consequences of not proceeding with the proposed project will have a detrimental impact on the potential positive impact this project may have on the current and future labour force and the labour to be used for the prospecting project. The no go alternative is therefore not considered desirable at a local, regional and national scale.

## **5.2 DETAILS OF THE PUBLIC PARTICIPATION PROCESS FOLLOWED AND RESULTS THEREOF**

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

In terms of the EIA Regulations of-2014 as amended in 2017, when applying for environmental authorisation, the Environmental Assessment Practitioner managing the

application must conduct at least a public participation process where all potential or registered interested and affected parties, including the competent authority, are given a period of at least 30 days to submit comments on the basic assessment reports, EMPr, scoping report and environmental impact assessment report, and where applicable the closure plan. In this case a Basic Assessment Report (BAR) is considered.

This section of the BAR and EMPr will give an explanation of the public participation process undertaken in order to comply with the above-mentioned requirements. A number of public participation guidelines were published in a bid to assist persons responsible for the environmental authorisation applications. The available guidelines were used in determining the public participation process, in guiding the public participation process of the proposed project.

URU Metals SA (Pty) Ltd has applied for an environmental authorisation for the proposed Prospecting Project. The application for the environmental authorisation is undertaken in terms of the process as laid out in part 2 of Chapter 4 under the NEMA EIA Regulations, 2014 as amended in 2017. The abovementioned regulations require that an applicant for an environmental authorisation submit a BAR and EMPr to the competent authority after having subjected the reports to a public participation process. In view of the above, a public participation process is being undertaken for the proposed project. The public participation process for the proposed project is designed to provide sufficient and accessible information to interested and affected parties (I&APs) in an objective manner to assist them to:

- raise issues of concern and make suggestions for enhanced benefits;
- contribute local knowledge and experience;
- verify that their issues have been captured;
- verify that their issues have been considered in the technical investigations; and
- comment on the findings of the EIA.

The following is being conducted in undertaking of the public participation process for the proposed project.

### **5.2.1 Registration and BAR phase**

The public participation process commenced by compiling the database of all IAPs and providing potential Interested and Affected Parties (I&AP's) 30 days to register as interested and affected parties and to comment on the DBAR and EMPr. The registration and commenting process has been stipulated to continue until the 20 October 2021. The DBAR and EMPr is made available for 30 days as from the 20 September 2021 to the 20 October 2021.

#### **5.2.1.1 Notification of the potential interested and affected parties**

The following methods of notification were used to notify the potential interested and affected parties of the opportunity to register and access the DBAR and all related project information during the public participation process for the proposed project:

- Circulation of the written notices and reports to all identified IAPs.



- Fixing of site notices at different areas surrounding the properties affected by the project. The notices are compiled in compliance with the requirements of Regulation 41(3) of the EIA Regulations, 2014 as amended.
- A newspaper advert inviting the public to register as interested and affected parties and to comment on the proposed project published in one of the local newspapers (Bosveld Newspaper). The newspaper notice was published in English. The advert was in compliance with the requirements of Regulation 41(3) of the EIA Regulations, 2014 as amended in 2017.

### 5.2.1.2 Registered Interested and affected parties

The following **Table 5-1** shows the identified and registered interested and affected parties for the proposed project (database of IAPs will be updated at all times):

**Table 5-1: List of Registered Interested and Affected Parties**

Farm Number/ Company	Contact Person	Contact Number	Email/Physical Address
WATERBERG DISTRICT MUNICIPALITY	Cllr S.M.Mataboge: Executive Mayor.	(014) 718-3300	
MOGALAKWEN A LOCAL MUNICIPALITY MANAGER	B.S Gunqisa	(015) 491 9707	
DEPARTMENT OF MINERAL RESOURCES AND ENERGY	Mr. A. Mulaudzi	(015) 287 4700	<a href="mailto:Azwihangwisi.mulaudzi@dmre.gov.za">Azwihangwisi.mulaudzi@dmre.gov.za</a>
Dept. Agriculture and Rural Development	Mr. Manthatha	(015) 294 4506	mangenamarothi@dard.gov.za
Dept. Rural Development and Land Reform	Ms Maphuti Ramalla	(082) 8276027	maphuti.ramalla@drdlr.gov.za
Dept. Water & Sanitation	Monyamane Makoti	(015) 290 2214	Dineoma@polokwane.gov.za

Dept. Economic Development, Environment and Tourism	Mokgadi Mogashoa	(015) 293 8806	MogashoaMS@ledet.gov.za
Limpopo Heritage Resources Authority	Kgothatso Mate	(015) 2844173	hodpa@sac.limpopo.gov.za
Transnet	Yuza Chabalala	(060) 5834470	Yuza.chabalala@transnet.net
Department of Agriculture, Forestry and Fisheries	Mr Joe Kgobokoe	(012) 319-6120	MokutuleK@daff.gov.za
Department of Roads and Transport (Waterberg)	Mr Kgobe N.	(014) 718 3000	
Portion 52 Piet Potgietersrus Town and Townlands 44KS	Straaten Frederik Van		
Portion 53 Piet Potgietersrus Town and Townlands 44KS	VILJOEN JOHANNES JURGENS		
Portion 54 Piet Potgietersrus Town and Townlands 44KS	BOTHA PIETER		
Portion 55 Piet Potgietersrus Town and Townlands 44KS	ESSACK FAMILY TRUST		
Portion 56 Piet Potgietersrus Town and Townlands 44KS	BAKKOS PROJECTS PTY LTD		2 KOPPER STREET, CHROOMPARK, MOKOPANE, LIMPOPO, 0600  P O BOX 546, MOKOPANE, MOKOPANE, LIMPOPO, 0602

Portion 57 Piet Potgietersrus Town and Townlands 44KS	MABUSELA MALOSE JERRY		
Portion 58 Piet Potgietersrus Town and Townlands 44KS	HAMER SAMUEL		
Portion 59 Piet Potgietersrus Town and Townlands 44KS	ROUX CHRISTIAN ERNST		UITKYK PLOTTE 44, DISTRIK POTGIETERSRUS, LIMPOPO, 0601  POSBUS 226, POTGIETERSRUS, LIMPOPO, 0600
Portion 60 Piet Potgietersrus Town and Townlands 44KS	KLEIN KALAHARI PTY LTD		
Portion 199 Piet Potgietersrus Town and Townlands 44KS	PIETERSE LUCAS JOHANNES BARTEL		
Farm Amatava portion 16 of portion 1	Johannes du toit	(063) 5317708	hannessonja@live.co.za

### 5.2.1.1 Proof of Consultation

Proof of the above-mentioned consultation will be attached as appendices on the final report to be submitted to DMRE.

### 5.2.1.2 Finalisation of interested and affected parties

On expiry of registration and comment period, the database of interested and affected parties will be updated for finalisation. All parties that indicated the interest in the project will be listed on the above IAPs database for DMRE submission.

*Note: All organs of state, which have jurisdiction in respect of any aspect of the proposed project and the competent authority are automatically registered as interested and affected parties.*

## 5.2.2 Draft Basic Assessment Report

The DBAR and EMPr is being made available for review and comments to all relevant stakeholders during the abovementioned registration and comments phase of the proposed project. DBARs will be hand-delivered and emailed to all identified IAPs and the availability and ways of accessing the same was also advertised on the Local Newspaper and on all the site Notices.

### 5.2.2.1.1 Notification of potential and registered interested and affected parties

Different methods of notification are used to notify the potential and registered interested and affected parties of the opportunity to comments on the DBAR and EMPr during the public participation process for the proposed project:

- Fixing notices as described under the registration phase to invite comments from the potential interested and affected parties.
- Written notices to all identified and potential interested and affected parties, land owners, lawful occupiers, municipal councillors and local municipalities, authorities responsible for roads, environment, water, minerals and agriculture are used to invite comments on the DBAR and EMPr.
- Public meetings: Focus group meetings especially with landowners and lawful occupiers will be conducted.

### 5.2.2.2 Comments, Issues and Response on the Draft report

On lapsing of the commenting period, all comments and issues, responses and reactions received from the interested and affected parties will be recorded and attached on the FBAR to be submitted to DMRE and the table below will be populated with all comments received as per NEMA regulation.

**Table 5-2: Interested and affected parties (IAP) list of comments and their response for the public participation carried out until the 20 October 2021.**

INTERESTED AND AFFECTED PARTIES (IAPS) <i>(this column, and Mark with an X were those who were in fact consulted)</i>	DATE COMMENTS RECEIVED	ISSUES RAISED	EAP RESPONSE TO ISSUES	SECTION AND PARAGRAPH REFERENCE

## **5.3 ENVIRONMENTAL ATTRIBUTES (BASELINE INFORMATION AS PER DESKTOP INVESTIGATIONS AND SITE OBSERVATION)**

### **5.3.1 BIOPHYSICAL ENVIRONMENT**

#### **5.3.1.1 Geology**

*The information presented in this section of the report is extracted from the Mogalakwena Mine Expansion Project EMPs where the data belongs to Geohydrology specialist study undertaken by Itasca in 2019.*

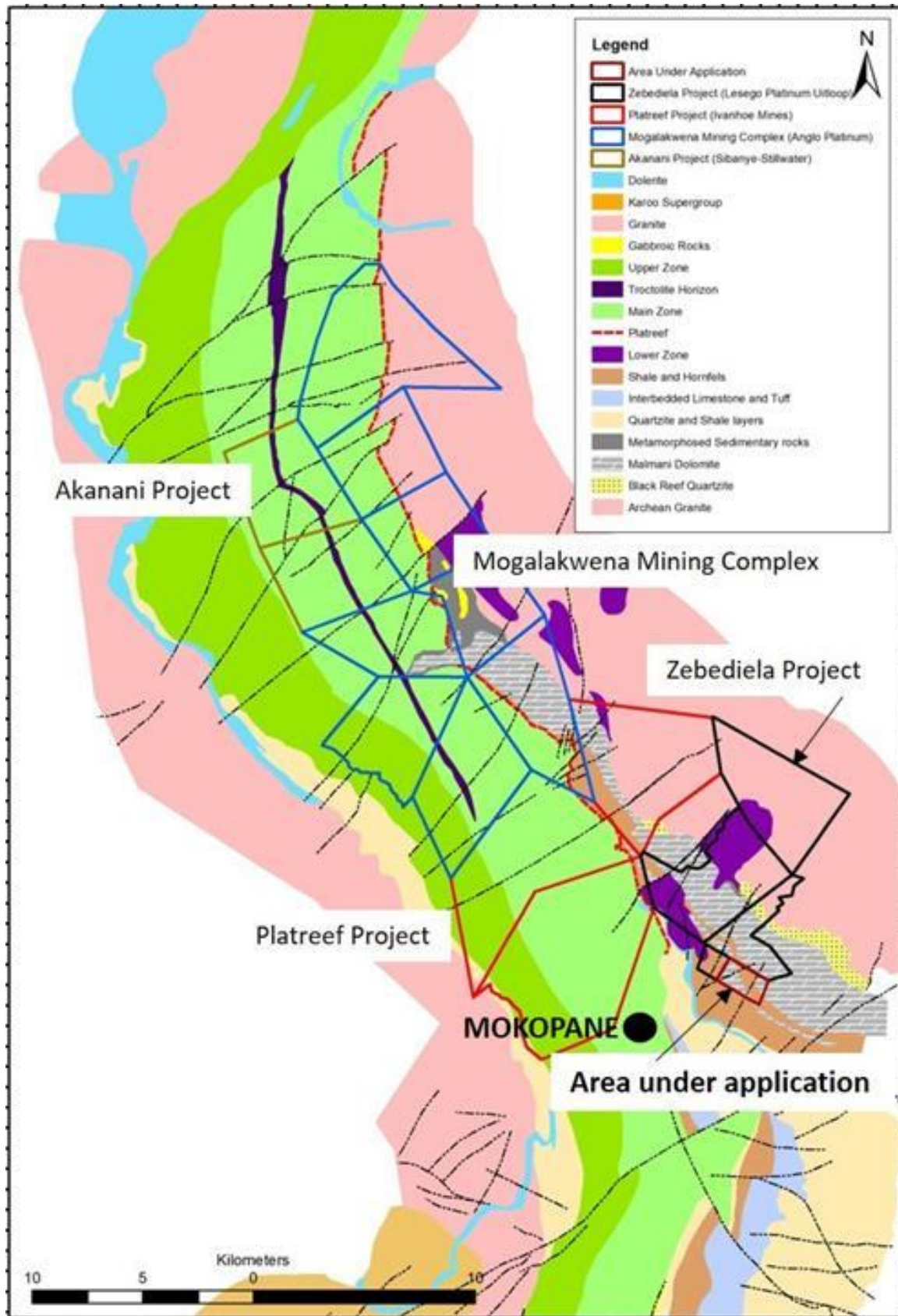
##### **5.3.1.1.1 Regional Geology**

The proposed project is situated in the Northern Limb of the Bushveld Igneous Complex (Figure 5-2). The Platreef orebody lies at the base of the Main Zone of the Bushveld Complex and is overlain by gabbronorites which are in turn overlain by Upper Zone ferrogabbros. It is a 100 m thick tabular body that strikes north-south, dips 45° to the west and reaches a depth of at least 2,000 m.

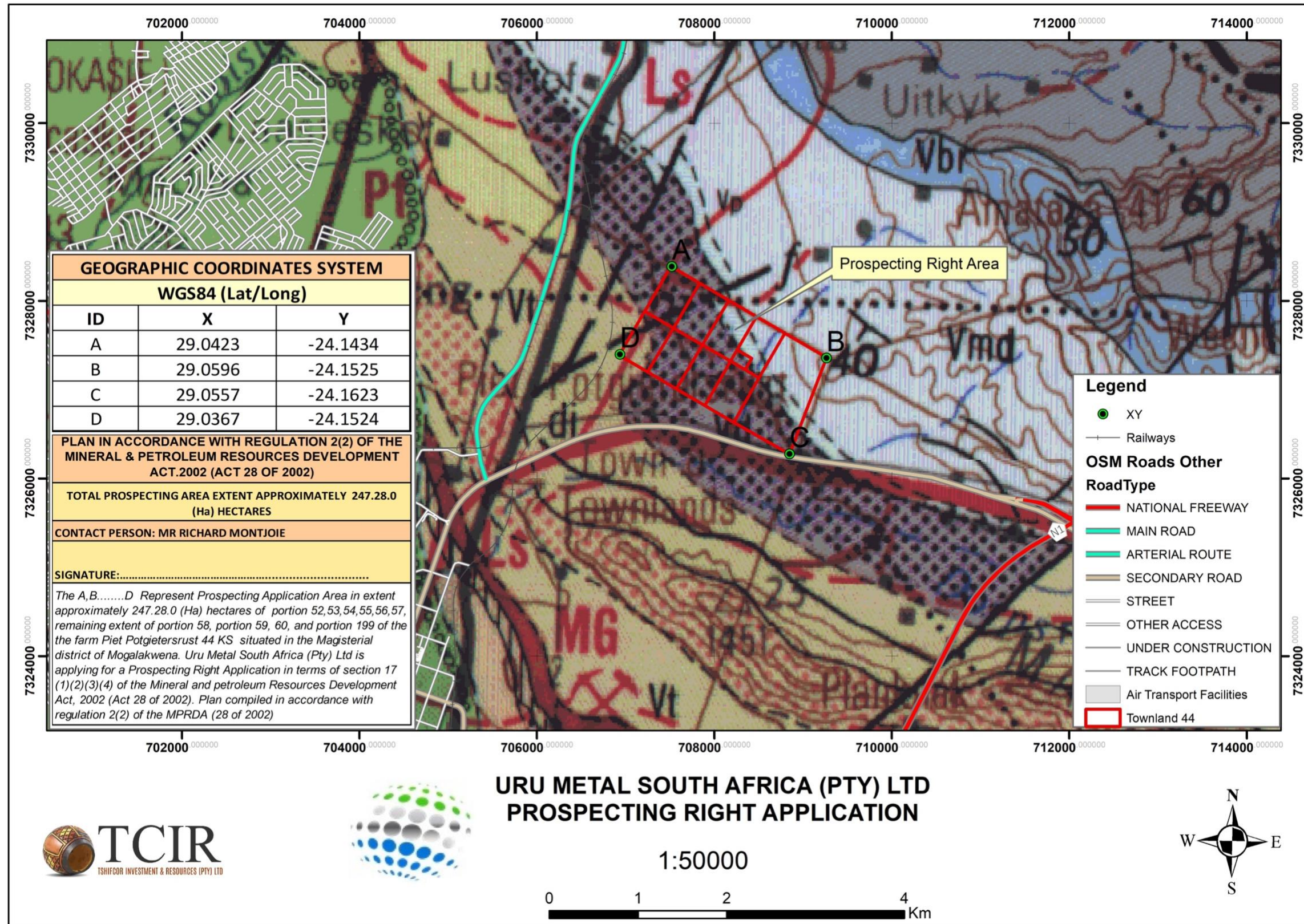
##### **5.3.1.1.2 Local Geology**

The Platreef pyroxenite shows a transgressive relationship with the floor rocks such that its base lies at progressively higher levels in the stratigraphical succession. MSA (2012) describe the geological setting surrounding the proposed mine as mafic-ultramafic Bushveld Complex which are the metasedimentary floor rocks of the Transvaal Supergroup and crystalline granites of the basement complex. The floor rocks of the proposed project area belong to the Transvaal Super group (Malmani dolomites), while to the north the floor rocks are Archean Hout River Gneiss with intrusive Utrecht granites. The hanging wall rocks for the project area are comprised of norite, gabbro and gabbronorite (Refer to Figure 5-1).

The majority of the orebody is overlain by a brucite-enriched calcrete cap which extends up to 7m. This calcrete cap has developed from the weathering of the underlying ultramafic body. The main orebody is underlain by calcareous metasediments and overlain by hornfelsed shales which both belong to the Pretoria Group. The orebody in the northeast of the project area is underlain by Archaean granitoids and overlain by the dolomites that form the footwall to the main south-western orebody.



**Figure 5-1: Geological Map for the applied area**



**Figure 5-2: Geological map of the applied prospecting area**

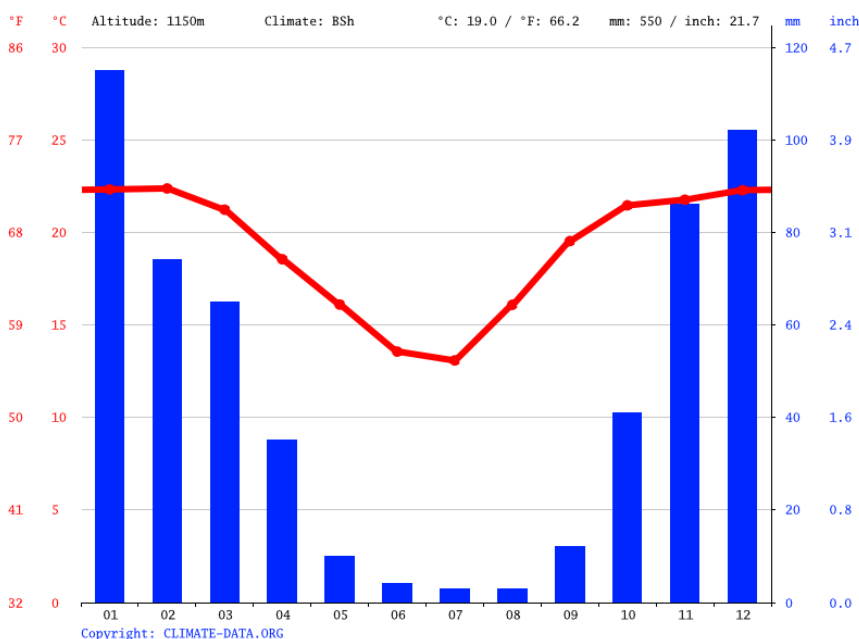
### 5.3.1.2 Climate

#### 5.3.1.2.1 Regional Climate

Mokopane's climate is a local steppe climate. During the year there is little rainfall. This location is classified as BSh by Köppen and Geiger. The average temperature in Mokopane is 19.0 °C | 66.2 °F. The annual rainfall is 550 mm | 21.7 inch. Precipitation is the lowest in July, with an average of 3 mm | 0.1 inch. Most of the precipitation here falls in January, averaging 115 mm | 4.5 inch. At an average temperature of 22.4 °C | 72.3 °F, February is the hottest month of the year. July is the coldest month, with temperatures averaging 13.1 °C | 55.5 °F (Figure 5-3).

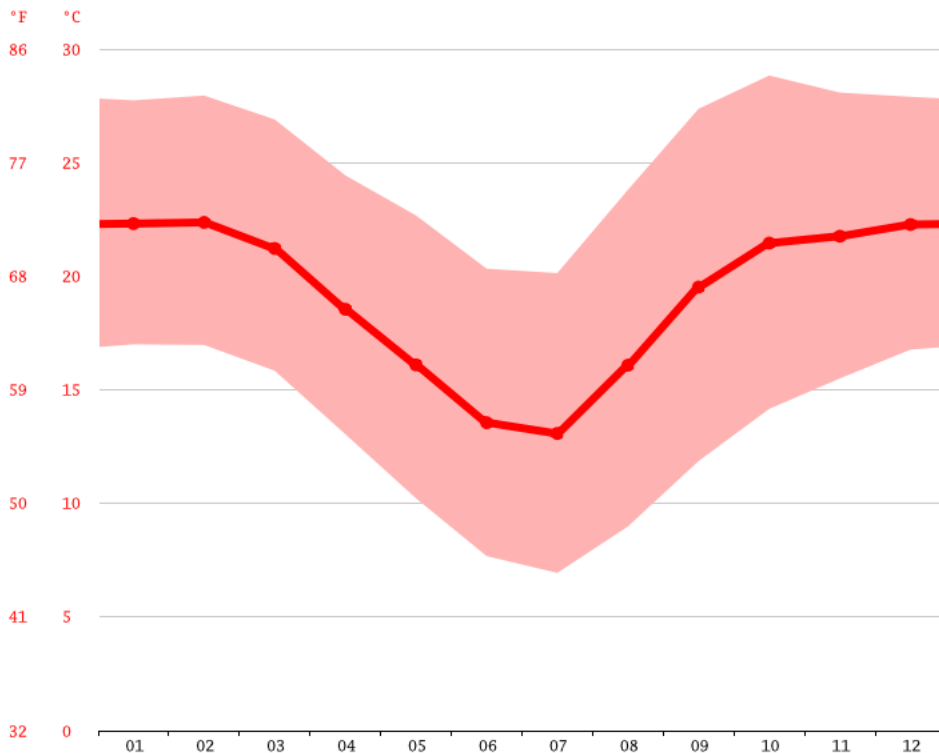
Between the driest and wettest months, the difference in precipitation is 112 mm | 4 inch. Throughout the year, temperatures vary by 9.3 °C | 16.7 °F. The month with the highest relative humidity is January (63.06 %). The month with the lowest relative humidity is September (37.15 %). The month with the highest number of rainy days is December (14.37 days). The month with the lowest number of rainy days is July (0.63 days) (Figure 5-4).

Mokopane are in the southern hemisphere. Summer starts here at the end of January and ends in December. There are the months of summer: December, January, February, March (Figure 5-5). In October the highest number of daily hours of sunshine is measured in Mokopane on average. In October there is an average of 10.11 hours of sunshine a day and a total of 313.52 hours of sunshine throughout October. In January, the lowest number of daily hours of sunshine is measured in Mokopane on average. In January there are an average of 9.64 hours of sunshine per day and a total of 298.94 hours of sunshine. Around 3404.33 hours of sunshine are counted in Mokopane throughout the year. On average there are 111.91 hours of sunshine per month (Figure 5-6).



**Figure 5-3: Mokopane Climate Table** (<https://en.climate-data.org/africa/south-africa/limpopo/mokopane-953/>)

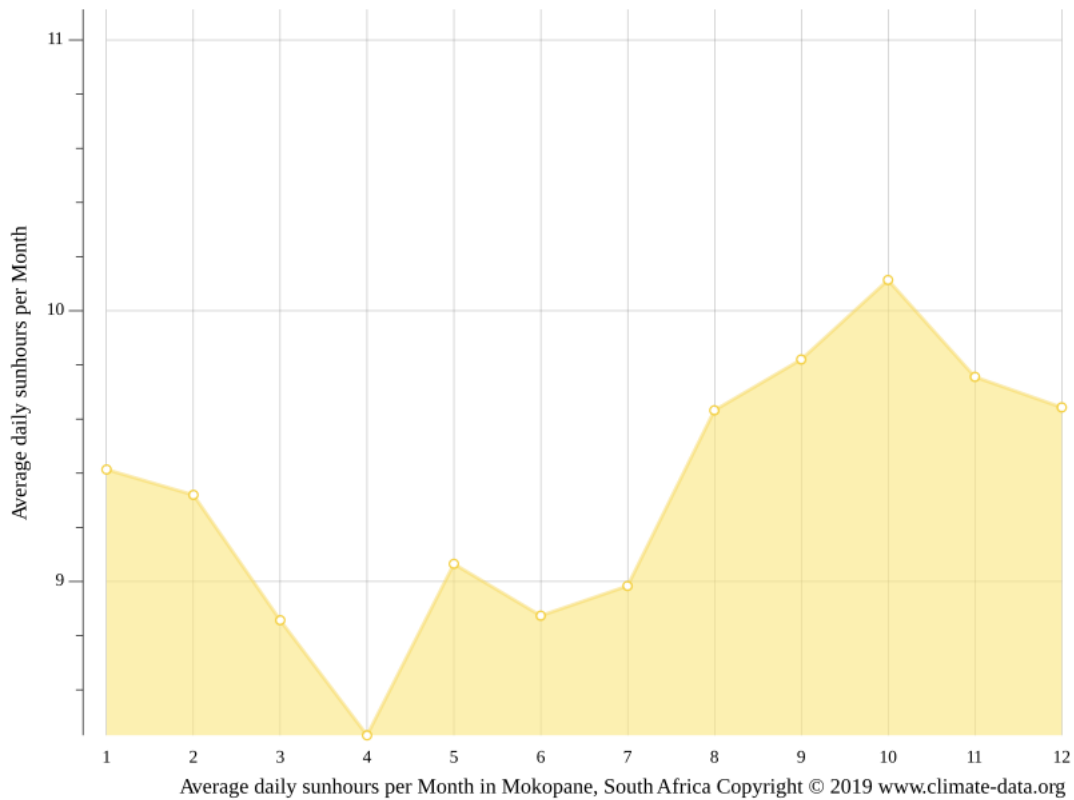




**Figure 5-4: Temperature around Mokopane areas** (<https://en.climate-data.org/africa/south-africa/limpopo/mokopane-953/>)

	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temperature °C (°F)	22.3 °C (72.2) °F	22.4 °C (72.3) °F	21.2 °C (70.2) °F	18.5 °C (65.4) °F	16.1 °C (61) °F	13.6 °C (56.4) °F	13.1 °C (55.5) °F	16.1 °C (60.9) °F	19.5 °C (67.1) °F	21.5 °C (70.6) °F	21.8 °C (71.2) °F	22.3 °C (72.1) °F
Min. Temperature °C (°F)	17 °C (62.6) °F	17 °C (62.6) °F	15.8 °C (60.5) °F	13 °C (55.5) °F	10.2 °C (50.4) °F	7.7 °C (45.8) °F	6.9 °C (44.5) °F	9 °C (48.2) °F	11.9 °C (53.4) °F	14.2 °C (57.5) °F	15.5 °C (59.9) °F	16.8 °C (62.2) °F
Max. Temperature °C (°F)	27.7 °C (81.9) °F	28 °C (82.3) °F	26.9 °C (80.4) °F	24.4 °C (76) °F	22.7 °C (72.8) °F	20.3 °C (68.6) °F	20.1 °C (68.2) °F	23.8 °C (74.8) °F	27.4 °C (81.3) °F	28.8 °C (83.9) °F	28.1 °C (82.5) °F	27.9 °C (82.2) °F
Precipitation / Rainfall mm (in)	115 (4.5)	74 (2.9)	65 (2.6)	35 (1.4)	10 (0.4)	4 (0.2)	3 (0.1)	3 (0.1)	12 (0.5)	41 (1.6)	86 (3.4)	102 (4)
Humidity(%)	63%	61%	61%	61%	51%	49%	45%	39%	37%	44%	54%	62%
Rainy days (d)	9	7	6	4	1	1	0	1	2	5	8	11
avg. Sun hours (hours)	9.4	9.3	8.9	8.4	9.1	8.9	9.0	9.6	9.8	10.1	9.8	9.6

**Figure 5-5: Weather by month around Mokopane** (<https://en.climate-data.org/africa/south-africa/limpopo/mokopane-953/>)



**Figure 5-6: Average daily sunhours per month in Mokopane (2019-www.climate-data.org)**

### 5.3.1.3 Topography

The Limpopo Province can be split into several topographic zones. The topography of the proposed prospecting footprint area varies from slightly undulating valleys, and plains to moderately undulating hills with a mountain ridge occurring in the northern section of the site. Three non-perennial drainage channels bisect the project area.

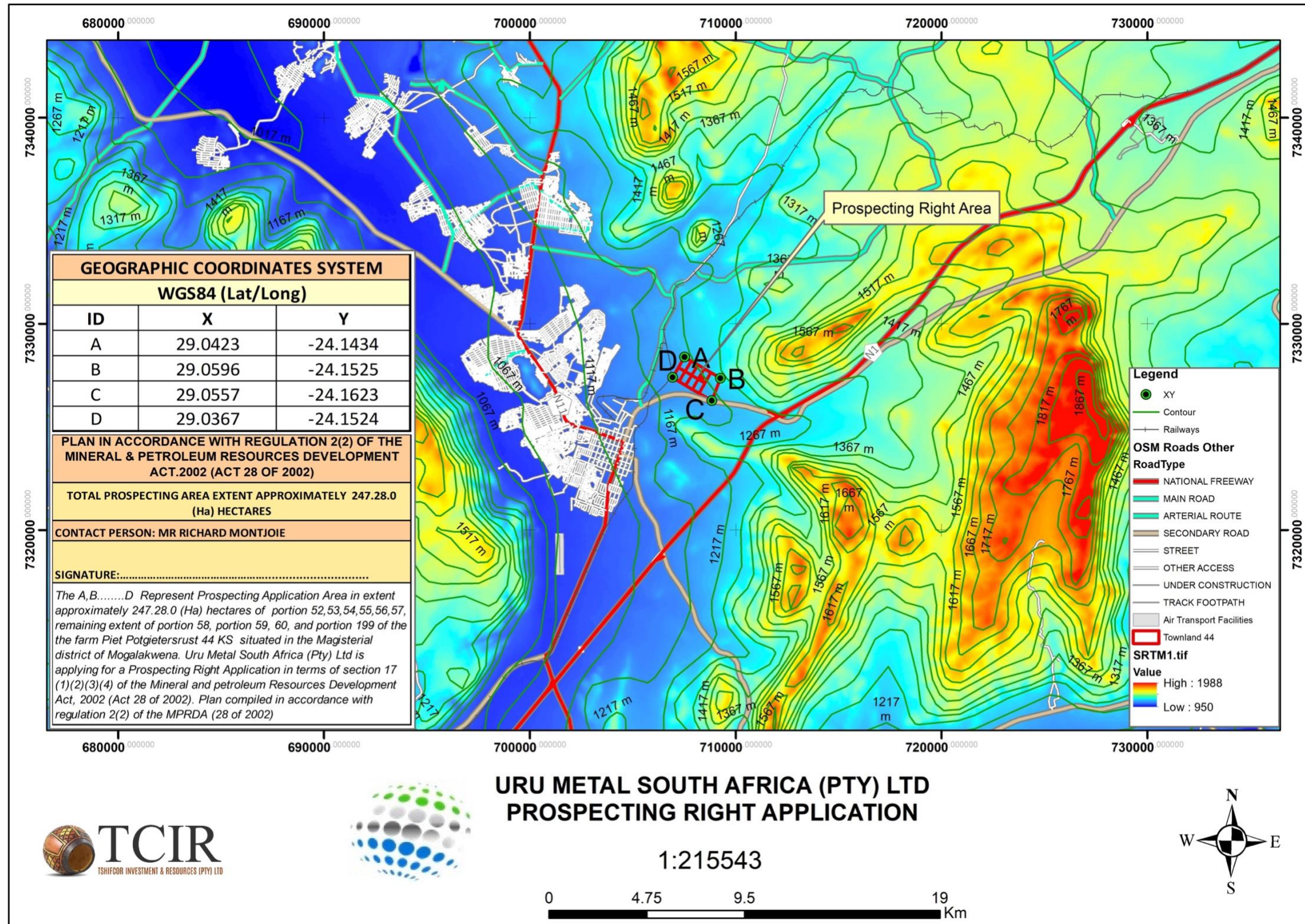


Figure 5-7: Map showing topography of the proposed project area

### 5.3.1.4 Soils

The existing land type data and the previous conducted scoping report (Zebediela Nickel Mine: Scoping Report) for the neighbour project has been used to obtain generalised soil patterns and terrain types for the Townlands project area. The soils on site were classified into broad classes according to the dominant soil form and family as follows (the soil forms for the study area are indicated in Figure 23):

#### 5.3.1.4.1 Shallow Mispah Soils / Exposed Bedrock on steep slopes

- **Binominal Classification S.A.:** Mispah / bedrock soil form
- **Description:** The soils are generally shallow and derived from dolomite or quartzite ridges in the project area. All three these soil forms can be categorised in the international classification group of lithic soil forms. In lithic soil forms the solum is dominated by rock or saprolite (weathered rock). These soils have sandy to sandyloam texture, while topsoil structure is apedal and the profiles are very shallow. Exposed rocks and boulders is spread on the soil surface throughout the area.

The soil in this area is often weakly structured, sandy to loamy and forms a mosaic of shallow rocky soils (Mispah soil form), with the outcrops mostly consisting of bedrock. The Mispah soils found on this section of the site are widespread and shallow in depth, although it has a medium clay content.

- **Landscape:** Rocky ridges / undulating slopes
- **Depth:** 50-200mm
- **Texture:** Sandy to sandy loam soils
- **Average Clay Content:** 4-10%
- **Agricultural Potential:** Low potential soils, due to the shallow nature of the soils and sloping terrain, making these areas not suitable for crop cultivation under arable conditions. The orthic A-horizon of the lithic soil group is unsuitable for annual cropping or forage plants (poor rooting medium since the low total available moisture causes the soil to be drought prone). These topsoils are not ideal for rehabilitation purposes for they are too shallow and/or too rocky to strip. Topsoil stripping and stockpiling of the "shallow" soils should only be attempted where the surface is not too rocky.
- **Land capability:** The grazing potential of these areas is low. The most suitable and optimal utilization of the area would be grazing by game species (wilderness land).

#### 5.3.1.4.2 Shallow Gravelly Soils of the Mispah / Glenrosa Soil Form on slightly undulating hills and plains

- **Binominal Classification S.A.:** Mispah / Glenrosa / bedrock soil form
- **Description:** The soils are generally shallow and derived from dolomite or quartzite in the project area. All three these soil forms can be categorised in the international classification group of lithic soil forms. In lithic soil forms the solum is dominated by rock or saprolite (weathered rock). These soils have sandy to sandyloam texture, while topsoil structure is apedal and the profiles are very shallow. Exposed rocks and boulders is spread on the soil surface throughout the area. Where dolomitic soils occur the soil clay content is higher compared to quartzitic soils.

The soil in this area is often weakly structured, sandy to loamy and forms a mosaic of shallow Glenrosa soils and very shallow rocky soils (Mispah soil form). The Mispah and Glenrosa soils found on this section of the site are widespread and shallow in depth, although it has a medium clay content.

- **Landscape:** undulating plains / hills • Depth: 50-200mm • Texture: Sandy to sandy loam soils
- **Average Clay Content:** 8-20%
- **Agricultural Potential:** Low potential soils, due to the shallow nature of the soils and sloping terrain, making these areas not suitable for crop cultivation under arable conditions. The orthic A-horizon of the lithic soil group is unsuitable for annual cropping or forage plants (poor rooting medium since the low total available moisture causes the soil to be drought prone). These topsoils are not ideal for rehabilitation purposes for they are too shallow and/or too rocky to strip. Topsoil stripping and stockpiling of the "shallow" soils should only be attempted where the surface is not too rocky.
- **Land capability:** The grazing potential of these areas is moderate-low. The most suitable and optimal utilization of the area would be grazing by small livestock or game species.

#### 5.3.1.4.3 Shallow Red Apedal Soils of the Cartref / Hutton / Glenrosa Soil Form

- **Binominal Classification S.A.:** Hutton soil form; Glenrosa soil form / Cartref soil form (dolomite)
- **Description:** The Hutton soils found on the site occur in pockets throughout the study area on plateaus and slightly undulating plains. The shallow Hutton soil forms are especially dominant in the central and eastern section of the study area where the underlying bedrock is dolomite or quartzite. The Hutton soil form on site varies from shallow to deeper and has a medium to high clay content. The relatively high magnesium and iron content of the parent rocks from which these soils are derived, impart the strong red colours noted. Where it becomes very shallow the soils are classified as Glenrosa soil form.
- **Landscape:** Plains / Plateaus
- **Depth of soil forms:** 100-400 mm
- **Texture:** Sandyloam
- **Average Clay Content:** 10-15% (Hutton); 6-15% (Glenrosa)

- **Agricultural Potential:** Moderate potential soils depending on soil depth and size of land available for sustainable arable agriculture. Soils vary from shallow and sandy in some areas (Glenrosa, Hutton soil form) to deeper with a higher clay content (Hutton soil form). The red apedal Hutton soils with a higher clay content in the topsoil has a high water holding capacity. Under the climatic conditions these soils would sustain arable crop production, although as isolated pockets that cannot be considered economically viable units. The areas with deeper soils represent the most viable options for crop production under arable conditions considering the rainfall and moisture availability in the topsoil. Considering that the amount of land that is needed to economically sustain arable agriculture, the soil type described above cannot be considered as viable for crop production. The many old cultivated fields confirm that crop cultivation over the longer term is not a financially viable option under the prevailing climatic conditions.
- **Land capability:** Livestock and / or game grazing are viable due to the slightly higher nutrient and organic content of the topsoil in grassland areas that support a mixture of palatable and unpalatable species

#### 5.3.1.4.4 Deep, Red Apedal Soils of the Hutton Soil Form

- **Binominal Classification S.A.:** Hutton soil form
- **Description:** The Hutton soil form on site is deep and has a medium to high clay content. The Hutton soil forms consist of an orthic A horizon on a red apedal B horizon overlying unspecified material. The red apedal soils B1- horizon has more or less uniform "red" soil colours in both the moist and dry states and has weak structure or is structureless in the moist state. The range of red colours that is a key identification tool in differentiating between a red apedal and yellow-brown apedal is defined by the Soil Classification Working Group Book, 1991. Some of the defining red soil colours identified on the sites are bleached (10R 3/6), while some are bright red. The relatively high magnesium and iron content of the parent rocks from which these soils are derived, impart the strong red colours noted.
- **Landscape:** Plains
- **Depth of soil forms:** 600-1200mm+
- **Texture:** Sandyloam to Loam
- **Average Clay Content:** 10-20%

- **Agricultural Potential:** Soils not under irrigation (arable agriculture) have a Moderate Agricultural Potential, while the soils in the north-western section of the project area are under irrigation (pivots) and classified as having a High Agricultural Potential. The Hutton soils are deep and often have a sandyloam structure that causes a medium water holding capacity, although the clay content of the soils is sufficient. However, under the prevailing climatic conditions these soils would not sustain arable crop production. The most viable option for crop production on the soil form is under irrigation considering the variable rainfall and moisture availability due to higher day temperatures. Irrigation is practiced in the north-western section of the site, although for other farm portions to utilize crop cultivation under irrigation, it will require the installation of a number of surface water impoundments as storage during the dry months. The availability of groundwater on the dolomitic bedrock is considered High, although high evaporation rates and high water demands by crops would render crop cultivation still a risky venture on some of the farm portions in the study area, with the size of the farm portion in combination with soil form (deep Hutton soils) and water availability for irrigation being the main factors contributing to soils being classified as High Potential Soils under irrigation or not. The many old cultivated fields confirm that crop cultivation without irrigation on small pockets of land over the longer term is not a financially viable option under the prevailing climatic conditions. Sustainable crop cultivation can only be supported on large portions of land under irrigation as seen in the western section of the site.
- **Land capability:** Livestock and / or game grazing are viable due to the slightly higher nutrient and organic content of the topsoil in woodland areas that support a mixture of palatable and unpalatable species. Arable crop cultivation under the current climatic conditions is not considered a viable option.

#### **5.3.1.4.5 Black or Dark Grey Clayey Soils associated with the drainage channels and floodplains of the Oakleaf, Cartref and Valsrivier Soil Forms**

- **Binominal Classification S.A.:** Oakleaf, Cartref and Valsrivier soil forms
- **Description:** The soils are generally dark grey to black in the topsoil horizons, and high in transported clays. These soils occur within the zone of groundwater influence. The soils are alluvial and are deep (>1,2m) with an orthic A and neocutanic B with signs of wetness in the horizons. Brown A horizon and redbrown B horizon. The soils are slightly sensitive to erosion. The subsoil is more sensitive to erosion and should preferably not be exposed.
- **Landscape:** Bottomlands (drainage channel and floodplains)
- **Depth:** >1200mm
- **Texture:** Sandy clay to Sandy clay loam
- **Average Clay Content:** 10-30%
- **Agricultural Potential:** Zero potential soils, due to the soil wetness these areas are not suitable for crop cultivation under arable conditions.

- **Land capability:** The grazing potential of these low-lying areas is high due to the palatable grasses growing throughout the year on these soils. The only limiting factor may be that livestock movement is limited during the wet season when the clay expands, causing livestock to get stuck in the muddy conditions. Soils are very sensitive and prone to erosion. A specific strategy is needed to prevent damage to these soils considering that overgrazing and trampling has already caused some degradation of the floodplains.

### 5.3.1.5 Land Capability

#### 5.3.1.5.1 Climatic conditions

The area is expected to receive an annual total rainfall between 400 and 500mm, of which most fall from October to April. This amount is considered Moderate, although in combination with the high evaporation rate and sandy soil conditions in this section of the Limpopo Province, the climatic conditions are considered unsuitable for crop cultivation under arable conditions (WWF, 2004). Furthermore, the high variability in rainfall distribution within the area could however render dry land farming a risky venture, even under irrigated conditions considering the sandyloam nature of the soils which has a low water holding capacity.

The study area is thus dry which would contribute to moisture stress conditions during crop growth and development. The potential of groundwater is high considering the dolomitic bedrock throughout large parts of the study area, and therefore irrigated cropping is considered a viable option.

#### 5.3.1.5.2 Crop production

The typical landscape of the study area is dominated by shallow, gravelly to rocky soils associated with rocky ridges or very sandy / gravelly soils associated with plateaus, ridges and footslopes. These soils have a low clay content and water holding capacity, and in combination with the climatic conditions render this section of the proposed development site unfavourable for effective crop production which could result from high moisture demands by planted crops. The isolated pockets of moist grassland and ravines have shallow sandy-clay or clay soils that are seasonally flooded or have a perched water table. These areas are unsuitable for crop cultivation.

The climatic conditions in combination with the shallow nature of the soils often render the study area unfavourable for effective crop production which could result from high moisture demands by planted crops. The study area is also expected to receive an annual total rainfall of about 450 mm which is relatively low and highly variable. In addition, the farms are considered to be located in an area which is marginal for rain-fed arable crop production. Economically viable farming is thus restrictive to irrigated cropping due to the high risk that could be associated with dry-land farming. Higher day temperatures in summer months may hamper soil moisture storage for crop use. Irrigation is practiced on the Remainder of the Farm Uitloop in the north-western section of the site under pivots.



### 5.3.1.5.3 Livestock production / wildlife grazing

The natural vegetation in the study area has a grazing capacity that varies from low (shallow, rocky or sandy soils) to medium (seasonally wet soils, deeper loamy soils). The different sections of the study area can support grazing according to the soil nutrient content as follows:

- The shallow, rocky soils associated with the slopes of outcrops has low quality grazing and at present game species utilize these areas, especially during the early summer months (September to December) when the grasses resprout in burned areas.
- The deep sandy and gravelly soils associated with the footslopes, valley floors and plateaus has low quality grazing with limited potential for livestock farming. These areas are however suitable grazing for specialized grazers such as sable antelope.
- The red-yellow apedal soils associated with the study area has a medium potential for livestock grazing due to the slightly higher nutrient content of the soil supporting a mixture of palatable and unpalatable grasses. Grazing value decreases as the season changes from summer to winter though, with the lowest grazing potential available to livestock at the end of the season.
- The seasonally wet soils of the study area support palatable grass species and these areas have a medium to high suitability for livestock or game grazing. These soils have a good water holding capacity and grass species that grow in these areas vary from having a medium to high palatability depending on the seasonal changes.

### 5.3.1.6 Natural Vegetation/ Plant Life

The project area lies within the Savanna Biome, the largest biome in Southern Africa. The biome is characterized by a grassy ground layer and a distinct upper layer of woody plants (trees and shrubs). The most recent classification of the area by Mucina & Rutherford shows that the proposed development site is classified as Polokwane Plateau Bushveld and Makhado Sweet Bushveld. The Polokwane Plateau Bushveld occurs on moderately undulating plains with short open tree layer with a well-developed grass layer to grass plains with occasional trees at higher altitudes. Hills and low mountains of the Mamabolo Mountain Bushveld are embedded within this unit. This vegetation type has a Least Threatened conservation status with less than 2% statutorily conserved and some 17% transformed, including about 10% cultivated and 6% urban built up. The Makhado Sweet Bushveld vegetation type is characterized by slightly to moderately undulating plains sloping to the north, with some hills in the southwest and a short and shrubby bushveld with a poorly developed grass layer. This vegetation type has a vulnerable conservation status with about 1% statutorily conserved and some 27% transformed (*Zebediela Nickel Mine: Scoping Report*).

The vegetation map of the proposed project is presented in Figure 5-8.

• **Flora**

The proposed project area is located within the Ecological Support Area 1 (Figure 5-9). A desktop study was undertaken, aiming to produce a checklist of all species that could be identified on site. The following literature was consulted for this purpose:

- PRECIS (National Herbarium Pretoria Computerised Information System) (Appendix A);
- SIBIS: SABIF – South African Biodiversity Information Facility; and
- Mucina and Rutherford, 2006.

From the overall species list, a list of Species of Special Concern can be drawn up. In order to be fully comprehensive, this list includes plants on each of the following lists:

- The SANBI Red List of South African plants version 2012;
- National Environmental Management Biodiversity Act (NEMBA 10 of 2004) listed species;
- National Forests Act, 1998 (Act No. 84 of 1998) (NFA) Protected Trees; and
- Limpopo Protected Plants (Limpopo Environmental Management Act, 2003).

An initial list of SSC expected to be found within the study area comprises of Possible Species of Special Concern (PSSC). If any of these (and any additional species on the above lists) are recorded on site, they are ascribed the status Confirmed Species of Special Concern (CSSC).

The South African Red Data list uses the same criteria as that defined by the International Union for the Conservation of Nature (IUCN). According to the IUCN all species are classified in nine groups, set through criteria such as rate of decline, population size, area of geographic distribution, and degree of population and distribution fragmentation (IUCN, 2010). The categories are described in Table 2-1 below.

**Table 5-3: Red Data**

<b>Categories</b>		<b>Description</b>
Extinct	(EX)	No known individuals remaining
Extinct in the wild	(EW)	Known only to survive in captivity
Critically Endangered	(CR)	Extremely high risk of extinction in the wild.
Endangered	(EN)	High risk of extinction in the wild
Vulnerable	(VU)	High risk of endangerment in the wild.
Near Threatened	(NT)	Likely to become endangered in the near future.
Least Concern	(LC)	Lowest risk. Does not qualify for a more at risk category. Widespread and abundant taxa are included in this category.
Data Deficient	(DD).	Not enough data to make an assessment of its risk of extinction.
Not Evaluated	(NE)	Has not yet been evaluated against the criteria.

The online IUCN database was referenced in order to identify Red Data species and their various threat status categorisations.

During a Site walkthrough during September 2021, none of the above listed species were identified on the proposed prospecting area.

- **Fauna**

Desktop study, was also conducted in relation to Faunal assessment, followed by single site walkthrough. The majority of vegetation adjacent to the proposed prospecting area as consists of completely transformed bushveld habitat with limited habitat diversity. The adjacent areas are utilised mainly for livestock grazing activities and suffers from extensive overgrazing, mostly from goats and cattle. Their grazing and trampling can encourage thicket growth by *Dichrostachys cinerea* by reducing grass cover. However, the opportunistic feeding patterns of goats can have a severe impact on both the composition and productivity of this ecoregion. In addition, goats are known to be more destructive than cattle at higher stocking densities (Skead 1988). High livestock densities also pose considerable threat to wildlife, since high numbers of domesticated animals generally cause a displacement of game, as there is less suitable habitat available. Furthermore, wild predators and scavengers such as the Black-backed Jackal, Caracal, Leopard and the Cape vulture have been eradicated by livestock farmers who see these animals as a threat to their livelihoods. Poisoned carcasses are often used for this purpose; this method is indiscriminate and therefore poses considerable threat to all predators and scavengers; especially the threatened Cape Vulture.

Poaching and illegal hunting (dogs) are further reducing the remnant faunal populations. Given the disturbed nature of the area, it is unlikely that the current project sites will host a great variety of animal species or viable populations. The proposed prospecting area is situated between the agricultural and rural residential areas in transformed habitats and it is therefore unlikely that the area will support viable wildlife populations. Some Red Data species may occur in the area, but none were actually recorded (direct or indirect) within the proposed prospecting sites and during the site visit. The bird species observed during the survey reflect common species of the area associated with human settlements. An adult Secretarybird was observed foraging on grasshoppers approximately 2km to the north west of the proposed project area. As a result of the proximity of human settlements and habitat transformation and degradation of the environment, it is unlikely that animal distributions in the area reflect the original state.

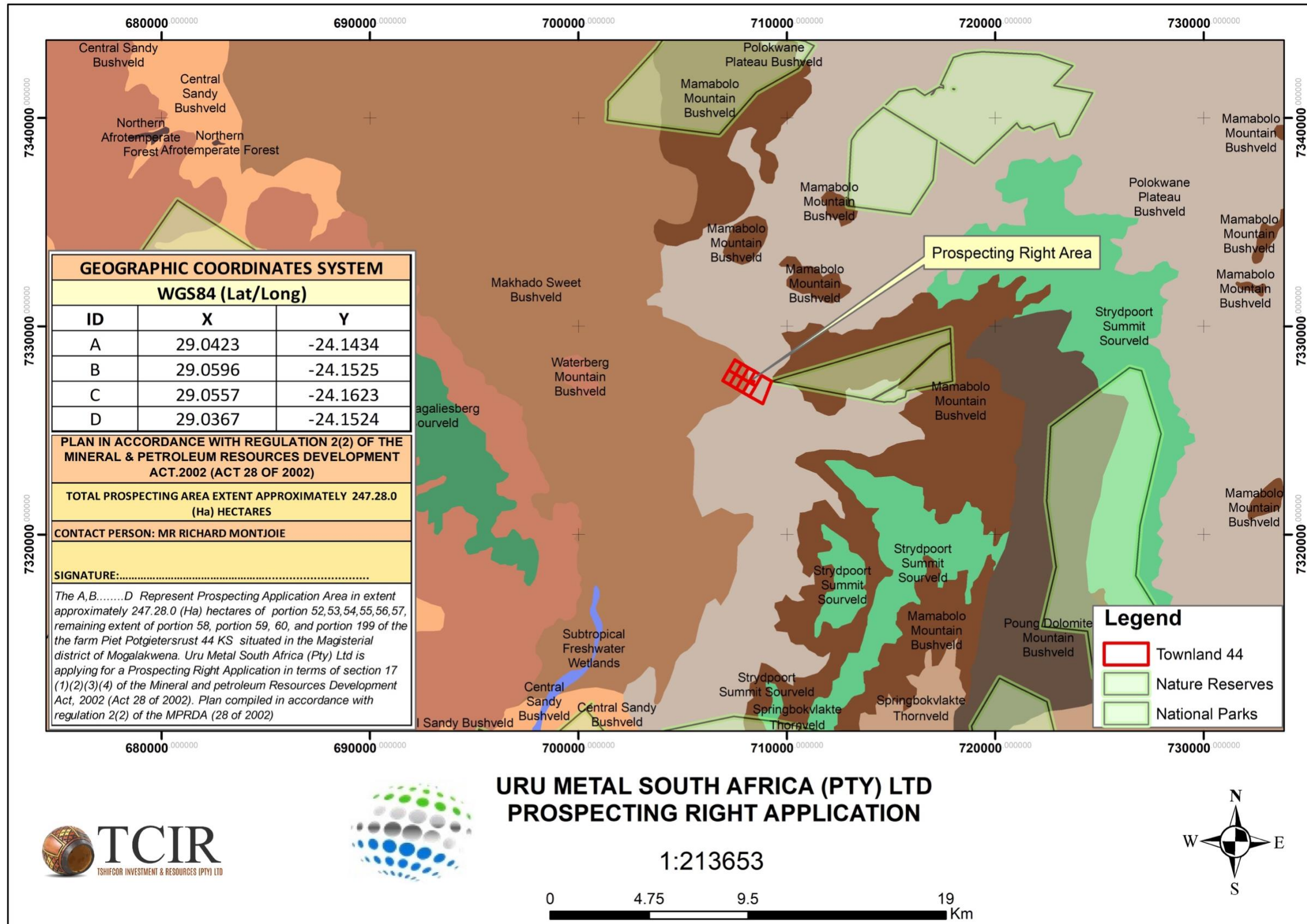


Figure 5-8: Vegetation type associated with the proposed project area



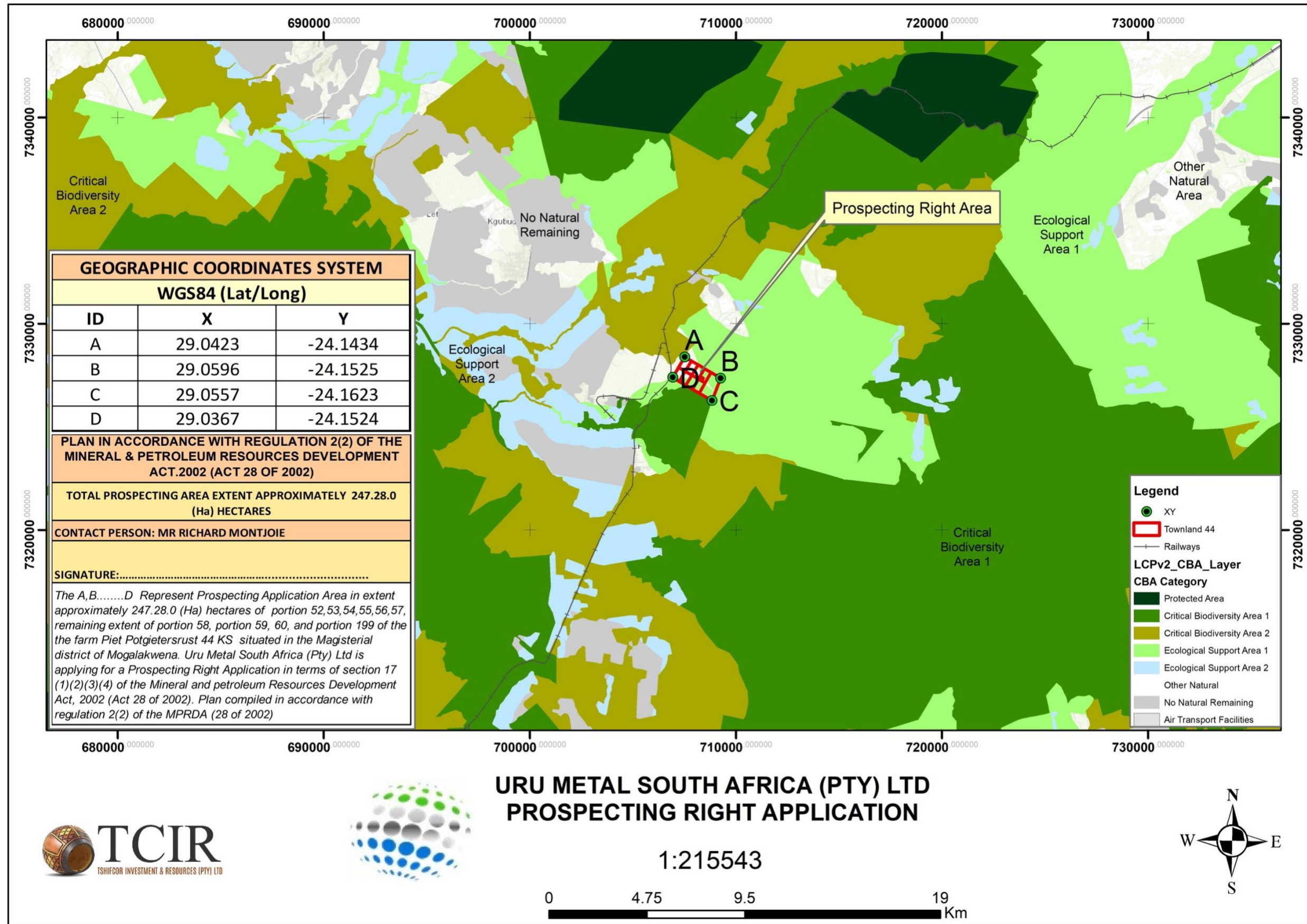


Figure 5-9: Biodiversity map of the applied area

### 5.3.1.7 Water

#### 5.3.1.7.1 Surface Water

The study area is located in the Limpopo Water Management Area (WMA), and is located mainly in Quaternary Catchment Area (QCA) A61F. The study area is drained by means of surface run-off (sheetflow) with stormwater collecting along roads and footpaths cutting through the area, to drain into the non-perennial channels and subsequently into the Rooisloot and its tributaries. The Rooisloot tributary (a NFEPA River) traverses the proposed prospecting right area (Figure 5-11). The two drainage channels that cut through the prospecting area are classified as drainage channels with riparian woodland. Riparian Habitat are described by the National Water Act (1998) Section 1.1 (xxi) as follows: "riparian habitat includes the physical structure and associated vegetation of the areas associated with a watercourse which are commonly characterised by alluvial soils, and which are inundated or flooded to an extent and with a frequency sufficient to support vegetation of species with a composition and physical structure distinct from those of adjacent land areas".

The non-perennial channel in the western section of the site often forms a flatter area round the drainage channel and can be classified as a riparian flat drainage channel. In the case of the study area, the area has some areas with patchy riparian woodland dominated by the woody species *Vachellia karroo* and *Searsia lancea*, as well as the alien species *Melia azedarach*. The channels in the south eastern section of the site can still be considered as pristine with little impact from surrounding areas. These drainage channels are classified as Class B: Largely Natural with few Modifications. The riparian flat channel in the western section of the site is still considered functional and has a PES of Class C (Moderately modified). The state of degradation from its original state was caused by impacts such as alien invasion, sedimentation, erosion and flow impediment caused by roads. The EIS of the drainage channels is 'Moderate' and considered to be ecologically important and sensitive at least on a local scale. The biodiversity of these watercourses is not usually sensitive to flow and habitat modifications and may play a small role in moderating the quantity and quality of water entering downstream areas (*Zebediela Nickel Mine: Scoping Report*).

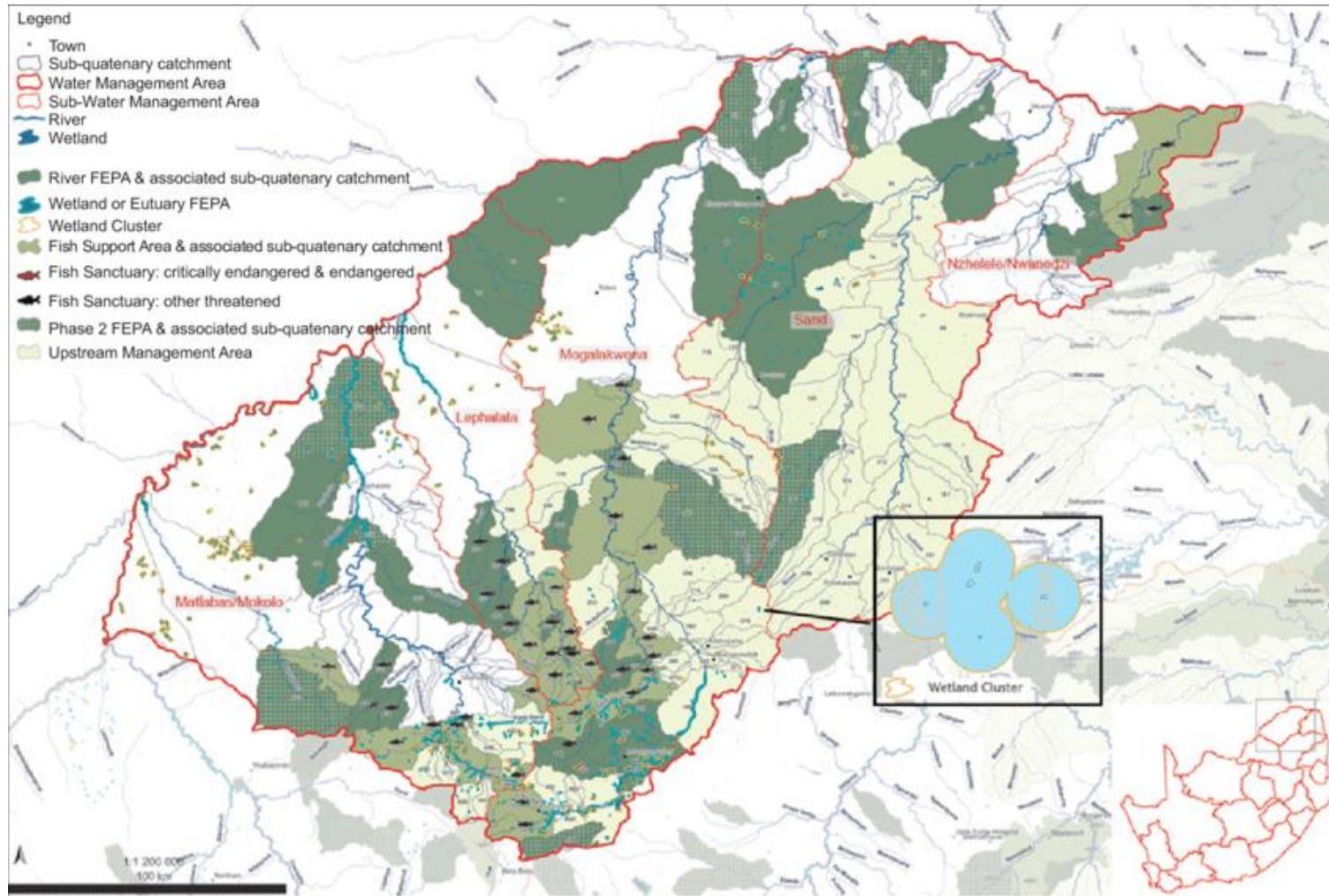


Figure 5-10: Freshwater ecosystems priority areas within the Limpopo Water Management area

### 5.3.1.7.2 Geohydrology

The study area falls within the Mogalakwena river catchment. The area is dominated by deeply weathered and fractured mafic rocks where the groundwater yield potential can be regarded as low with 81% of boreholes recording yields < 2 l/s (DWAF, 2000). Boreholes within the dolomitic rocks are expected to have a higher yield as evident by the municipal water supply boreholes drilled in this unit. The Rooisloot River around the proposed project area may also contribute to the groundwater environment. The study area is underlain by fractured norite and pyroxenite and covered by a thin (1 – 35 m thick) black silt clay cover which is weathered from the bedrock.

Areas where the unsaturated and saturated zones may occur, are found beneath the weathered zones that consists of slightly weathered and fractured hard rocks (SRK, 2019). There are southwest-northeast trending faults to the northwest and southeast of the proposed project area which offset the dolomitic zone located to the east of the proposed project area. The dolomitic formation dips to the west may be intersected at depth during drilling activities. Springs are not prevalent in the area surrounding the proposed prospecting site. The semi-confined weathered aquifer is located above the weathered pyroxenite which extends to a depth of approximately 20 m (SRK, 2019).

The presence of open fractures within the main portion of the weathered zone indicates that this zone is more permeable than the upper zone. Deep weathering, appears to create unconfined zones as the dolerite dykes cannot confine the system containing major fault blocks which are hydraulically connected. Fresh fractured norites and pyroxenites have similar hydrogeological characteristics with a low primary porosity and permeability and permits groundwater to mainly flow through fractures and joints. Major shear zones, that have a higher storage component, would provide higher yields with some groundwater seepage contribution from the overlying weathered zone (SRK, 2019)..

### 5.3.1.8 Sensitive Landscapes

Sensitive landscapes in terms of the above definition are illustrated in Figure 5-11 below. Sensitive landscapes includes;

- **Heritage features:**

Heritage features of low to moderate archaeological significance as well as graves and potential burial sites occur in the area.

- **Ecologically Sensitive areas:**

- \* Most of the habitat types in the study area can be considered as having a Medium Botanical Sensitivity.

- \* Rocky outcrops and ridges occur in the study area and are often habitats for red data and endemic species of an area, while also supporting a unique floral and faunal species composition. This vegetation unit occurs in two areas of the project area namely a small outcrop in the south-eastern section and a ridge in the northern section of the proposed project area. The rocky outcrops and ridges provide suitable habitat to protected plants,



small mammals and reptiles and are therefore of High Ecological Function and of High Conservational Value for the biodiversity that they support.

\* All of the drainage channels on the project site area are non-perennial. The narrow band of trees that occurs along the channel can be classified as riparian vegetation. The vegetation is largely still considered natural habitat, with all areas in the floodline classified as a high sensitivity area with a high conservation priority.

\* The Rooisloot (a NFEPA River) traverses the proposed project area

\* No red data species were documented during the ecological survey and no listed protected plant species occur on the proposed development sites.

The prospecting project study area is located in the ESA 1 and Other Natural Areas as specified in the Limpopo Conservation Plan.

- **Areas with Agricultural Potential**

\* Soils in the study area have low to moderate or no agricultural potential.

- **Unstable physical environments**

\* Dolomitic bedrock occurs throughout large parts of the study area as well as geological faults.

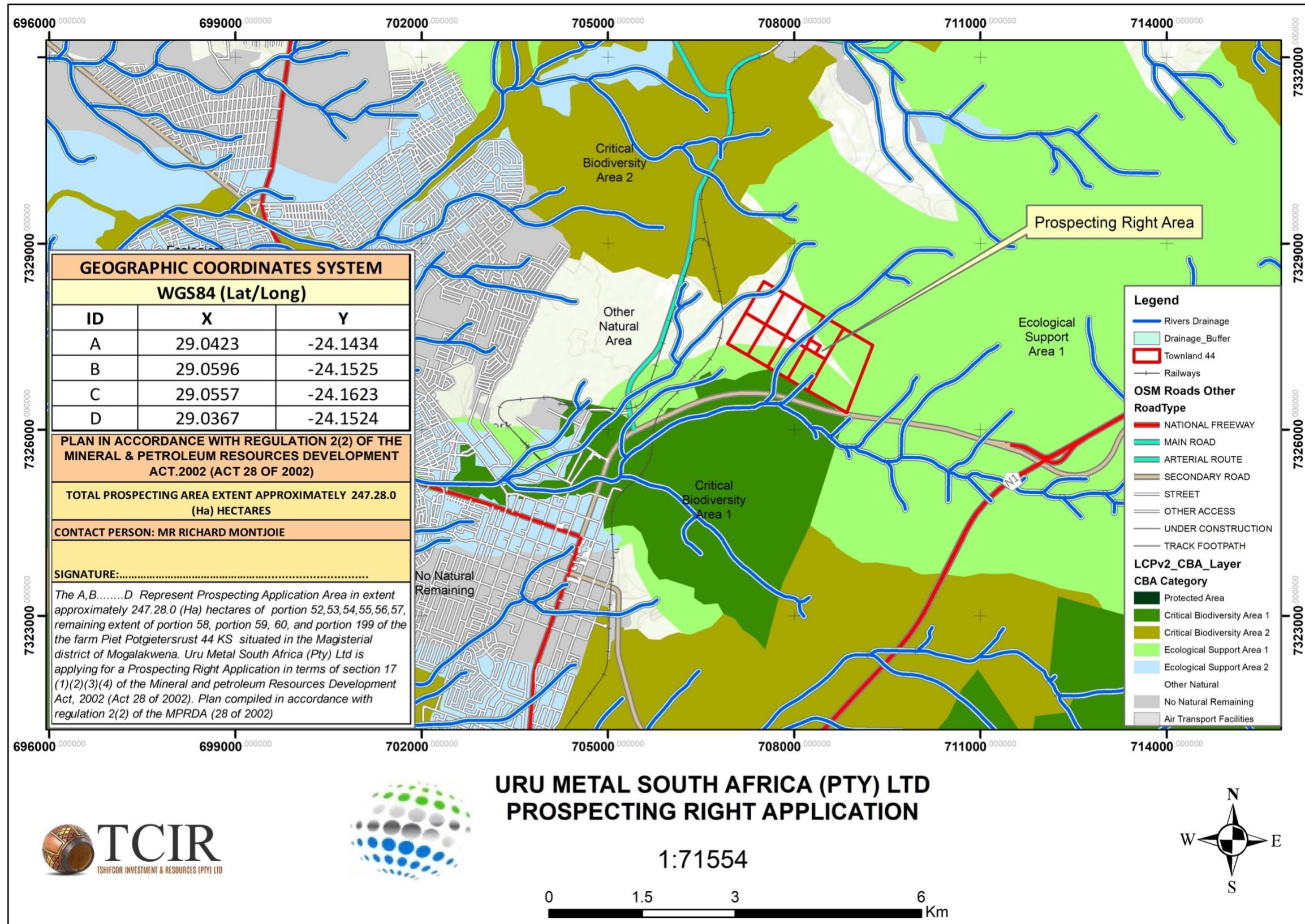


Figure 5-11: Sensitive landscapes map

### 5.3.1.9 Air Quality

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

The South African Air Quality Information System (SAAQIS) aims to make information available to stakeholders, provide a common system for managing air quality in South Africa (SA) and provide uniformity in the way data; information and reporting are managed in SA. Providing near-real time ambient air quality data is one of the objectives of SAAQIS. This system was consulted for recent ambient air quality measurements in the project area. The nearest air quality monitoring station is in Mokopane managed by the Department of Environmental Affairs (DEA). The data from this station was accessed for 2017 and 2018, as an indication of the air quality of the study area. No exceedances of the NAAQS were recorded for Nitrogen Dioxide (NO<sub>2</sub>) or Sulfur Dioxide (SO<sub>2</sub>) for all applicable averaging periods. Daily PM<sub>2.5</sub> exceeded the allowable frequency of exceedance of the daily limit concentration in 2017, however compliance with the NAAQS is noted in 2018. PM<sub>10</sub> concentrations were in non-compliance with the NAAQS over both years.

The sources of SO<sub>2</sub> and oxides of nitrogen (NO<sub>x</sub>) that occur in the region include veld burning, vehicle exhaust emissions and household fuel burning. Various local and far-a-field sources are expected to contribute to the suspended fine particulate concentrations (which would include PM<sub>10</sub> and PM<sub>2.5</sub>) in the region. Local sources include wind erosion from exposed areas, fugitive dust from agricultural operations, vehicle entrainment from roadways and veld burning. Long-range transport of particulates, emitted from remote tall stacks and from large-scale biomass burning in countries to the north of South Africa, has been found to contribute significantly to background fine particulate concentrations over the interior (Andreae, et al., 1996) (Garstang, et al., 1996) (Piketh, et al., 1996).

### 5.3.1.10 Noise

The current ambient noise levels in the area are already significantly impacted on. The existing noise sources in the vicinity of the project area includes mining activities noise; Traffic noise along the feeder roads to the Mogalakwena Mine complex and abutting noise sensitive areas; Distant traffic noise from the abutting feeder roads; Traffic noise from the N11 road; Subsistence farming activities noise; Insects; Birds; and Wind noise.

### 5.3.1.11 Socio-Economic Status

The proposed project site is located in the Mogalakwena Local Municipality (LM) which is one of five (5) LM's of the larger Waterberg District Municipality (DM) in the Limpopo Province of South Africa (Waterberg District Municipality, 2017). The seat of the Mogalakwena LM is Mokopane, which is located approximately 60 km south-west of Polokwane, the capital of the province and 200 km north-east of Pretoria. The province shares international borders with Zimbabwe, Botswana and Mozambique. The proposed project site is located in Ward 12 of the Mogalakwena LM.

The Waterberg DM is a Category C municipality, which denotes that the municipality has a municipal executive and legislative authority in an area that includes more than one municipality. The DM is one of five district municipalities in Limpopo and is the biggest district in the province. It is comprised of five local municipalities, namely Bela-Bela, Lephalale, Modimolle-Mookgophong, Mogalakwena and Thabazimbi (Mogalakwena Local Municipality, 2019). The Mogalakwena LM was established on the 5th of December 2000 through the merging of various municipalities and councils that had previously served Potgietersrus and surrounding areas. These local authorities included Greater Potgietersrus, Bakenberg and Koedoesrand/Rebone. The Mogalakwena LM is a Category B municipality, which means it shares a municipal executive and legislative authority with a Category C municipality within whose area it falls (Mlilo, 2019).

This project will be situated near Mokopane, previously called Potgietersrus after a voortrekker leader Piet Potgieter. The town is now named in honour of the Ndebele chief of the Tlou tribe, chief Mgombane Gegana, whose Northern Sotho translation is Mokopane (Mogalakwena LM, 2018). Close to the project site is the township, Mahwelereng-B, which is approximately 2km from Mokopane and is bordered by Sekgakgapeng, Ga Michele, Moshate and Madiba townships. From Mokopane, the project site may be accessed via the R101 as well as the Uitkyk Road. The Mogalakwena LM is largely situated in a bushveld environment and in a multicultural community (Mogalakwena LM, 2018). The area is rich in minerals – primarily platinum, diamonds and granite, and together with the rich agricultural produce of wheat, tobacco, cotton, beef, maize, peanuts and citrus, these sectors drive the local economy. Notably is the Zebediela Citrus estate which is one of the largest citrus farms in the southern hemisphere (Mogalakwena LM, 2018).

### 5.3.1.12 Population size, Culture and Composition

- **Population Size**

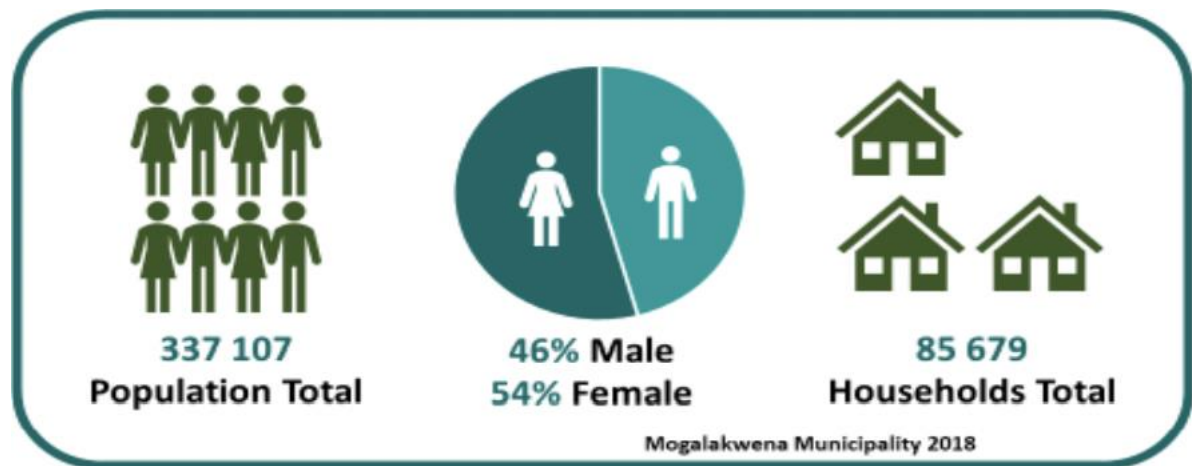
The population of any geographical area is the cornerstone of the development process, as it affects the economic growth through the provision of labour and entrepreneurial skills and determines the demand for the production output. Examining population dynamics is essential in gaining an accurate perspective of those who are likely to be affected by any prospective development or project. The Mogalakwena LM has a population of approximately 337 107 people, with a total of 85 679 households (Quantec,

2019) (Table 5-4). The Mogalakwena LM constitutes approximately 44% of the Waterberg DM population, thus having the highest population in the Waterberg DM. Furthermore, approximately 42% of the total households in the Waterberg DM are located in the Mogalakwena LM. The average household size of the Mogalakwena LM is 3.9 as shown in the table below which also displays similar trends on a district, provincial and national level.

**Table 5-4: Demographic profile, 2018 (Quantec, 2019)**

Location	Area (Km <sup>2</sup> )	Population	Household Total	Average Household size	Household Density per Km <sup>2</sup>
Mogalakwena LM	6 166,1	337 107,4	85 679	3,9	13,9
Waterberg DM	4 4913,4	758 798,5	202 066	3,8	4,5
Limpopo	125 753,9	5 797 275	1 500 027	3,9	11,9
South Africa	1 220 813	57 725 606	16 092 377	3,6 1	13,2

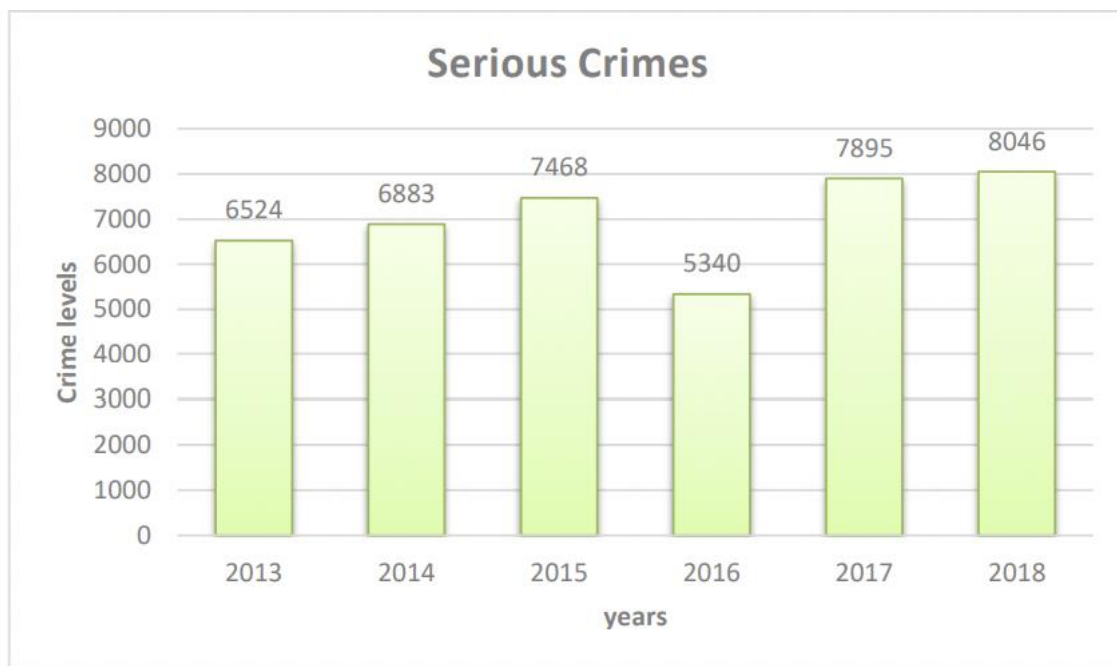
The Mogalakwena municipal area recorded an annual population growth rate of 0.9% per annum between 2013 and 2018, which was on par with the district's population growth rate (Quantec, 2019).



**Figure 5-12: Population Demographics in the Mogalakwena LM (Quantec, 2019)**

A greater proportion of the population is comprised of females who make up 54% of the total population as shown in the figure above Figure 5-12. Furthermore, the majority (57.3%) of the population are aged between 15 and 64 followed by those below 15 years with just over 35%, and the minority of the population are aged over 65 years making up approximately 7% of the total population (Quantec, 2019). This denotes that the working age group dominates and that the majority of the population is productive. Approximately 7% of the population of the Mogalakwena are infected with HIV and of this group 60.9% of the infected people are females, while the males account for 39.1% of the infected

population. The number of people infected has been increasing for the past five years (Mogalakwena Local Municipality, 2019). Statistics related to crime in the Mogalakwena LM revealed that while serious crime levels had increased between 2013 and 2015, it significantly decreased in 2016 as shown in Figure 5-13 below. Nevertheless, the municipality experienced a sharp increase in crime in 2017, which was higher than ever before. A further increase in crime incidents was witnessed in 2018. Crime detected as a result of police action increased between 2017 and 2018. According to the Mogalakwena LM IDP, the crime categories with the highest crime level include community reported serious crime, assault, theft, drug-related crimes and burglaries (Mogalakwena Local Municipality, 2019).



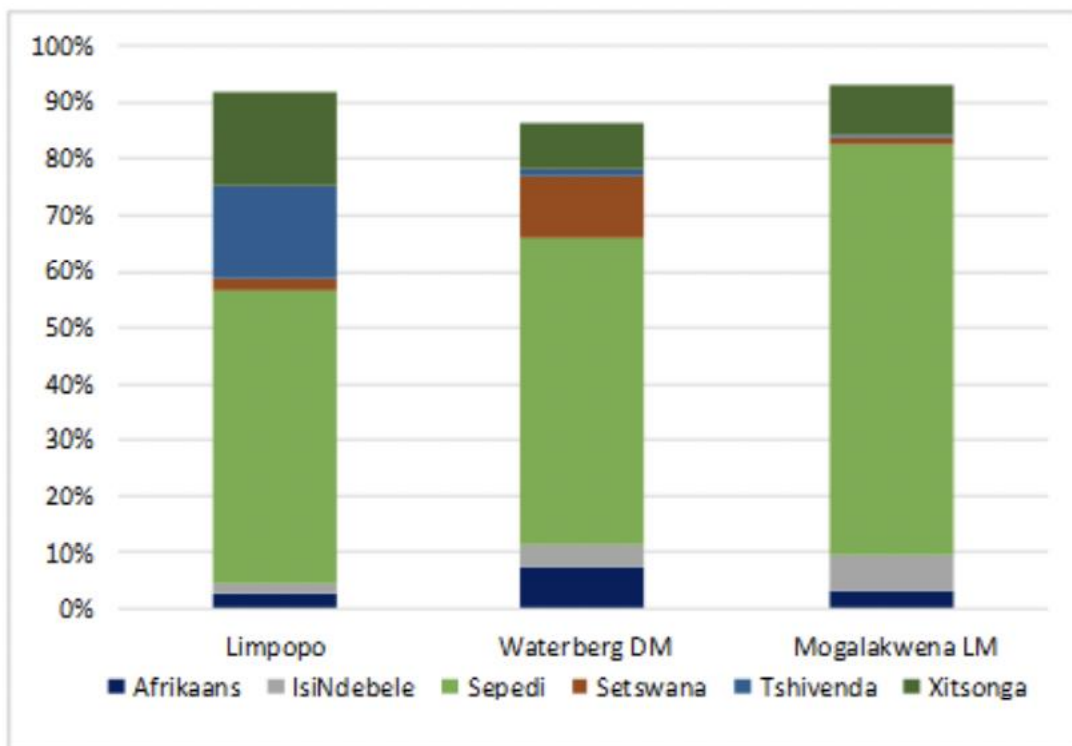
**Figure 5-13: Mogalakwena LM: Serious crime levels (Quantec,2019)**

- **Culture and Composition**

Mokopane, as with Lephalale and Thabazimbi, is the result of mining activities around the minerals found in these areas. The area also boasts various tourism sites such as the Makapan’s valley which is located 15 km north of Mokopane town (Mogalakwena LM, 2018). In the caves of Makapan’s valley, notable sediments, fossils, bones and artefacts were found and are persevered as a unique record of hominid habitation and evolution which dates back to 3.3 million years (Mogalakwena LM, 2018). Additionally, a museum and various game and nature reserves are observed as tourist sites in the area offering outdoor activities ranging from hiking, fishing, water sports, game viewing, camping and birdwatching.

The most widely spoken language in the Mogalakwena LM is Sepedi (73%), followed by Xitsonga (9%) and IsiNdebele (7%). In the district, a similar pattern is observed as the majority (55%) of the population speaks Sepedi however, the second predominant language is Setswana (11%), followed by Xitsonga (8%) and Afrikaans (7%). At provincial

level, Sepedi is the most widely spoken language (52%), followed by Xitsonga (17%) and Tshivenda (17%) (Refer to Figure 5-14).



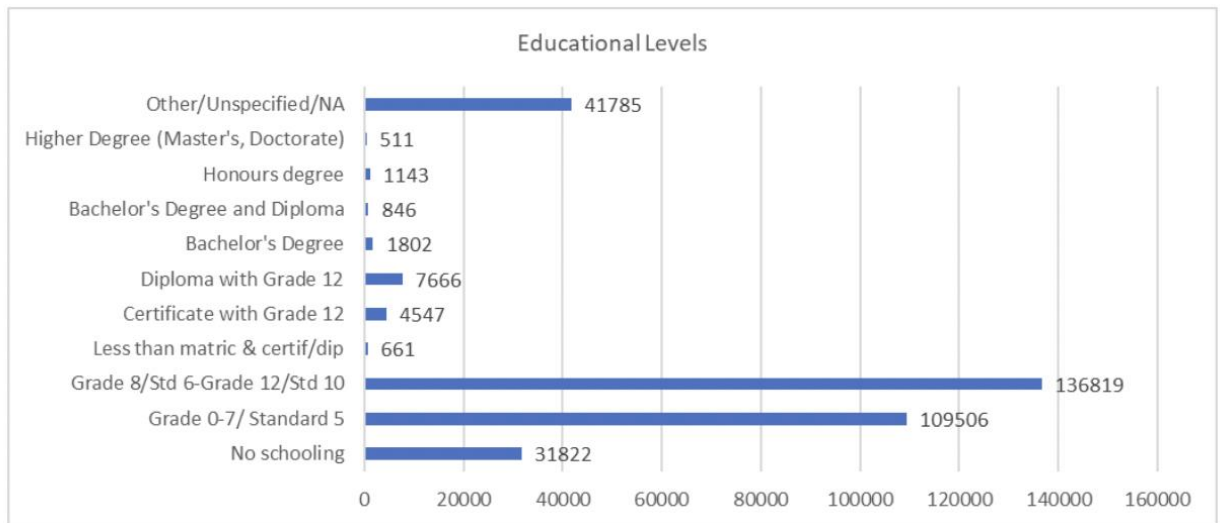
**Figure 5-14: Graph showing most spoken languages in the area (Stats, 2012)**

### 5.3.1.13 Education and Income Levels

- **Education**

In terms of educational levels, the graph below depicts that the highest education level attained by many people is Grade 12. However, the minority group are those who have obtained higher degrees (Master’s, Doctorate) constituting 511 people while 41 785 people make up for the other or unspecified educational level (Quantec, 2019).

Educational level trends of those aged above 20, show that those with functional literacy account for 69% and functional illiteracy account for 30% while the remaining 1% is unspecified. The biggest group are those who reached grade 7 level, making up 21% of the entire adult group.



**Figure 5-15: Education Levels in Mogalakwena LM (Quantec, 2019)**

- Income**

The average income of an economy is used to measure its standard of living and it also speaks to an economy's development status. Income distribution is one of the most important indicators of social welfare, as income is a primary means by which people are able to satisfy their basic needs such as food, clothing, shelter, health, services, etc. Changes in income inflict changes in the standard of living, more specifically: a positive change in income can assist individuals, households, communities and countries to improve living standards. The table below shows the various statistics for the Mogalakwena LM. The table demonstrates that just over 15% of the population did not earn an income. Based on the table, 38.9% of the population are in the low-income category, while 43.1% are in the middle-income category and the minority are in the upper-income category.

**Table 5-5: Income levels of Mogalakwena LM (2011), (Statistics SA,2012)**

Annual household income	Percentage
No income	15,40%
R1 - R4,800	5,20%
R4,801 - R9,600	10,60%
R9,601 - R19,600	23,10%
R19,601 - R38,200	22,10%
R38,201 - R76,4000	10,20%
R76,401 - R153,800	6,40%
R153,801 - R307,600	4,40%
R307,601 +	2,50%



### 5.3.1.14 Economy

The structure of the economy and the composition of its employment provide valuable insight into the dependency of an area on specific sectors and its sensitivity to fluctuations of global and regional markets. Knowledge of the structure and the size of each sector are also important for the economic impact results' interpretation, as it allows the assessment of the extent to which the proposed activity would change the economy, its structure, and trends of specific sectors.

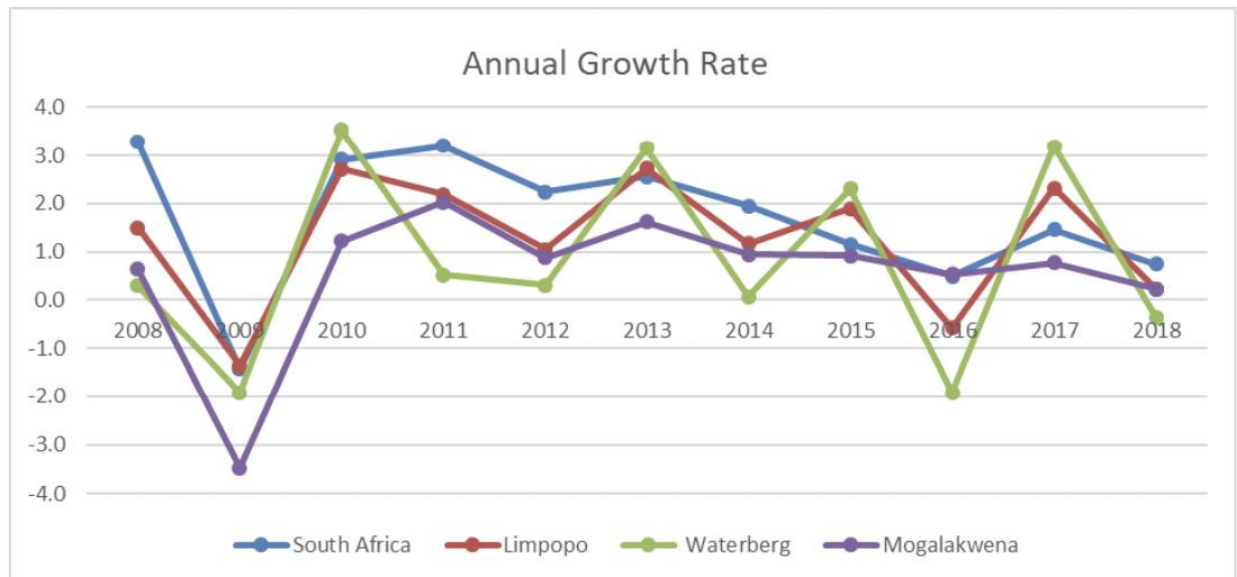
Mogalakwena is the biggest commercial centre of the district. The Gross Value Added (GVA) of the Mogalakwena LM was valued at R14 169 million in current prices for 2018. This constitutes approximately 4.5% of the GVA of Limpopo and 16.3% of the GVA of the Waterberg DM, making it the third highest contributor to the DM following Thabazimbi and Lephalale consecutively as shown in the table below. Additionally, it is important to note that between 2013 and 2018, the Mogalakwena LM's economy grew at an average rate of 7% per year, similar to the Limpopo province. In the same period, the Waterberg DM and the nation as a whole, grew at an average rate of 6% per annum. The below Figure 5-16 illustrates these trends.

**Table 5-6: Municipality Contributions to Waterberg DM and Limpopo Province (Urban-Econ Calculations based on Quantec, 2019)**

	GVA	GVA (Contributions)	
	R (Millions)	Waterberg DM	Limpopo
Limpopo	316792	-	100%
Waterberg District	86959	100%	27,45%
Thabazimbi LM	39034	44,89%	12,32%
Lephalale LM	21661	24,91%	6,84%
Mookgopong LM	2236	2,57%	0,71%
Modimolle LM	5033	5,79%	1,59%
Bela-Bela LM	4826	5,55%	1,52%
Mogalakwena LM	14169	16,29%	4,47%

The figure below (Figure 5-16) illustrates that, from 2008 to 2009, all areas witnessed a sharp decline into negative growth rates and similar trends were experienced between 2015 and 2016 in Limpopo and Waterberg DM. Mogalakwena LM and South Africa on the other hand experienced declines in their growth rates but remained slightly above 0.5%. Although, all study areas observed increases in their growth rates in 2017, they experienced declines in 2018, while Waterberg experienced negative growth. Table 5-7 shows that the tertiary sector is the highest contributor to the LM. The highest contributing sectors of the municipal area include transport, storage and communication; finance and business services; government services; and agriculture. While mining now contributes less to the LM's GVA, it was previously considered a major sector in the economy, with most of its activities taking place in "rural landscapes where biodiversity corridors occur" (Mogalakwena Local Municipality, 2019). Nonetheless, according to Municipalities of South Africa, mining and agriculture remain key economic sectors of the

municipality. Furthermore, the IDP suggests that Mogalakwena is one of the main production areas of platinum in the province and platinum mining in Mokopane serves as an engine to the LM economic development, employment creation and community skills development and prosperity. The majority of Mogalakwena households are dependent on agriculture for their livelihoods, especially livestock farming.



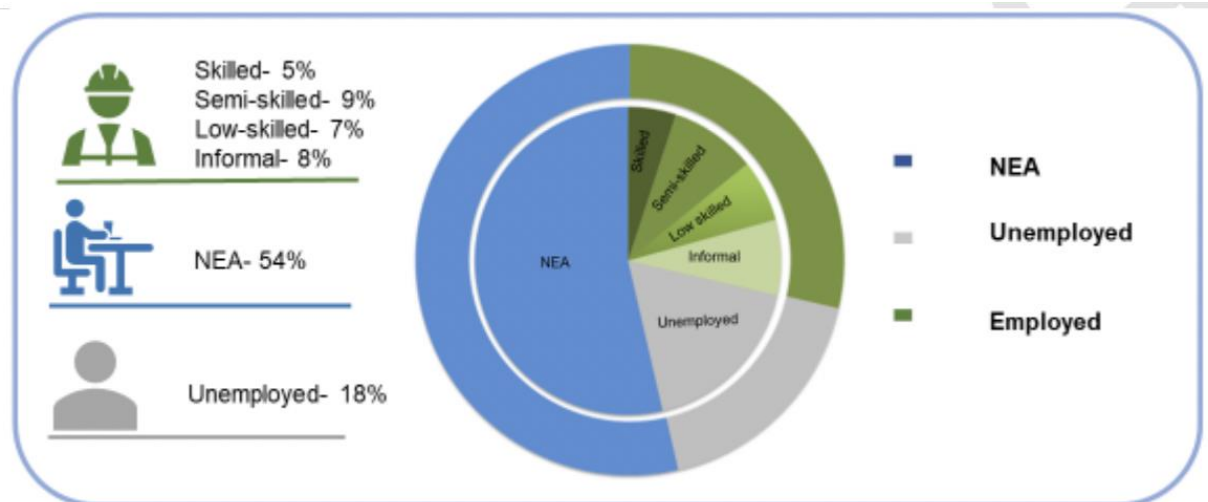
**Figure 5-16: GVA Growth trends for proposed area**

**Table 5-7: Sector contributions to the Mogalakwena Economy (Urban-econ calculations based on Quantec, 2019)**

<b>Mogalakwena LM RGVA</b>	<b>GVA</b>	<b>Contributions</b>
	<b>R millions</b>	<b>%</b>
<b>Primary Sector</b>	<b>1789</b>	<b>12,63%</b>
Mining and Quarrying	232	1,64%
Agriculture, forestry and fishing	1557	10,99%
<b>Secondary Sector</b>	<b>1457</b>	<b>10,28%</b>
Manufacturing	604	4,26%
Electricity, gas and water	408	2,88%
Construction	445	3,14%
<b>Tertiary Sector</b>	<b>10923</b>	<b>77,09%</b>
Finance, insurance, real estate and business services	3067	21,65%
Wholesale and retail trade, catering and accommodation	913	6,45%
General government	2650	18,70%
Transport, storage and communication	3495	24,67%
Community, social and personal services	798	5,63%

### 5.3.1.15 Employment Status

Employment is the primary means by which individuals who are of working age may earn an income that will enable them to provide for their basic needs and improve their standard of living. As such, employment and unemployment rates are important indicators of socio-economic well-being. As at 2017, the Working Age Population (WAP) constituted 56.7% of the Mogalakwena LM population, which translates into 189 372 people (Quantec, 2019). The Figure 5-17 below further illustrates the labour force profile in which over half of the WAP is not economically active (NEA) while just under a third of the WAP is employed. The rest of the WAP is unemployed and this accounts for 33 619 people. Majority of the employed population has formal employment and almost a third of this population are semi-skilled. Furthermore, the Mogalakwena LM employs approximately 7% of the Waterberg district. The Mogalakwena Labour force participation rate is 46.4% and the unemployment rate is 38.3%. Over the past 10 years, the number of unemployed persons has been increasing relative to the WAP, while the employment trends have varied over the years. According to the Mogalakwena IDP, women, and especially rural women, constitute the greatest number affected by the lack of job opportunities as well as other social problems (Mogalakwena Local Municipality, 2019).



**Figure 5-17: Employment rate for Mogalakwena Local Municipality**

While the figure above (Figure 5-17) indicates the total employment figures for all economic sectors in the Mogalakwena LM, the table below (**Table 5-8**) indicates employment per economic sector. The tertiary sector is the highest employer in the Mogalakwena area, constituting almost 78% of the employed population with the wholesale and retail trade, catering and accommodation industries employing 13 935 people (approx. 25% of the LM's employed population). Mining on the other hand is the second smallest employer in the area, accounting for 1% of total employment. The table below also highlights that there has been an increase in employment figures for most of the sectors except mining and general government between 2013 and 2018.

**Table 5-8: Indicates Employment status per economic sector (Quantec, 2019)**

<b>Mogalakwena LM Employment</b>	<b>2013</b>	<b>2018</b>	<b>Changes</b>
<b>Primary Sector</b>	<b>3813</b>	<b>4060</b>	↑
Agriculture, forestry and fishing	3208	3471	↑
Mining and Quarrying	605	589	↓
<b>Secondary Sector</b>	<b>7002</b>	<b>7809</b>	↑
Manufacturing	3909	4208	↑
Electricity, gas and water	187	196	↑
Construction	2906	3405	↑
<b>Tertiary Sector</b>	<b>39869</b>	<b>42948</b>	↑
Wholesale and retail trade, catering and accommodation	12690	13935	↑
Transport, storage and communication	1890	1897	↑
Finance, insurance, real estate and business services	6208	6956	↑
General government	8434	8428	↓
Community, social and personal services	10647	11732	↑
<b>Total</b>	<b>50684</b>	<b>54817</b>	↑

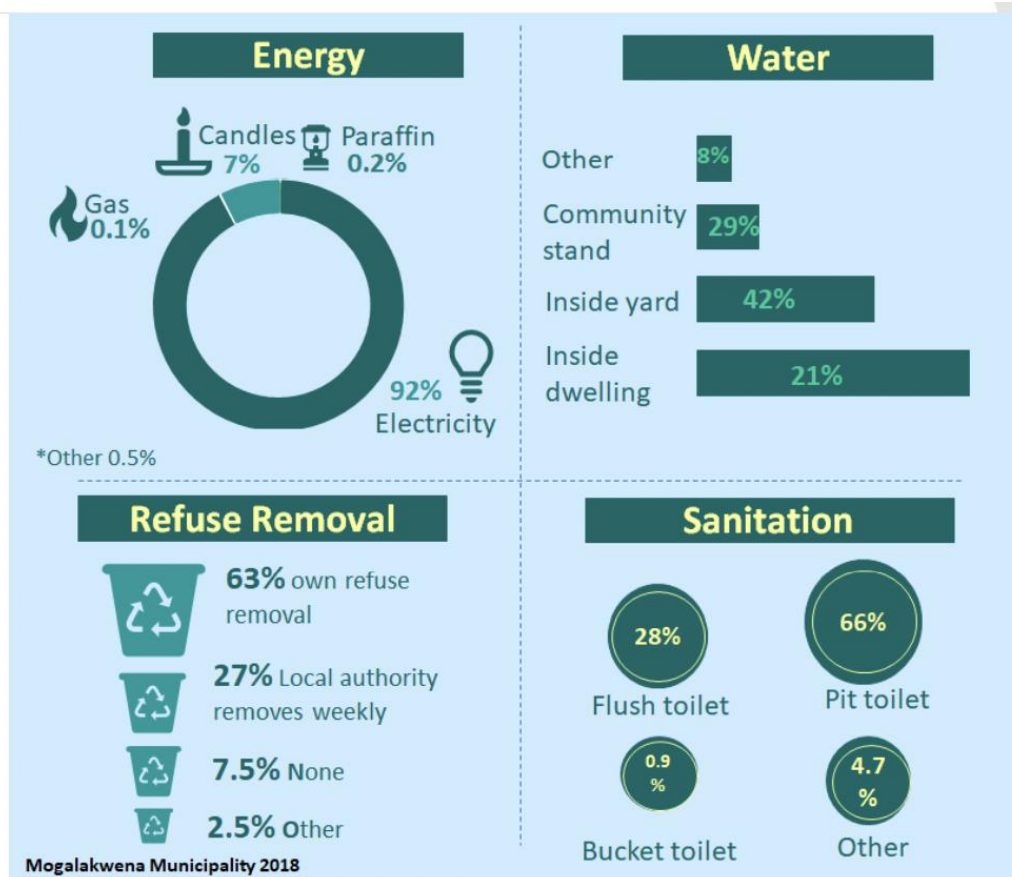
### 5.3.1.16 Housing and Basic Services

As of 2018, 91.4% of the Mogalakwena LM houses are brick structured dwellings on separate yards; 5.1% are informal dwellings; 1,1% are traditional dwellings, almost 2% are flats, complexes and backyard dwellings and the remaining 0.4% are unspecified (Quantec, 2019). This shows that over 90% of the households are formal dwellings. Nonetheless, the LM experiences challenges in the provision of adequate housing. Among these challenges are insufficient land for development; the LM is not accredited to perform housing delivery; and lack of an Integrated Human Settlement Plan or Housing Plan for future planning. The majority of the households in Mogalakwena LM have access to electricity and comprise of just over 92% of the households while approximately 7% of the households use candles and a relatively small percentage - 1% - uses alternative energy sources such as solar, gas, paraffin and other unspecified sources. The LM is serviced by both Eskom and the Municipality, with the majority of the rural area being serviced by Eskom while the municipality services the areas in town and farming areas surrounding town. The municipality services a total area of 2800 km<sup>2</sup> which is approximately 45% of the area of the LM. Amongst its key challenges is insufficient funding to maintain and service infrastructure. Approximately 21% of the LM households have piped water within their

dwellings; 42% have piped water within yards; 29% has access to piped water on community stands; almost 8% rely on other sources such as water carriers/tankers, borehole, rain-water tanks, dams, and springs amongst others. Mogalakwena is a Water Service Authority (WSA) and also a Water Service Provider (WSP) meaning that the LM has an obligation to progressively ensure efficient, affordable, economical and sustainable access to water services (Mogalakwena Local Municipality, 2019).

Among the challenges experienced by the LM in providing water are: water quality and reliability, especially in rural areas; operation and maintenance costs are economically unsustainable; and inadequacy to address the growing demand due to un-planned settlements.

With regards to sanitation over half (66%) of the households use pit latrines; 28% of the houses have access to flush toilets or chemical toilets; almost 1% use bucket latrines; and approximately 5% of the households use unspecified toilet systems (Quantec, 2019). While sanitation services have improved over the years, there remains a need “to adopt service levels in respect of basic services and ultimately the development of a comprehensive sanitation plan in order to meet the national target” (Mogalakwena Local Municipality, 2019).



**Figure 5-18: Access to services in the Mogalakwena LM (Stats SA, 2012)**

Approximately 63% of households have their own refuse dumps; 27.6% have their waste removed by local authorities, of which just over 27% is removed at least once a week and 0.4% is removed less often (Quantec, 2019). About 1.3% households use communal refuse dumps, while approximately 7.5% of the households have no rubbish disposal or use unspecified means of waste removal. The municipality experiences challenges in providing this service due to obsolete machinery and equipment. The Mogalakwena local municipality is responsible for the provision of all the above services and does so with the necessary infrastructure. The municipality has backlogs in the provision of the basic services which they believe is linked to the increasing number of households. The LM further seeks to advance services even where they are adequately provided. The figure above (Figure 5-18) is a summary of access to basic services within the Mogalakwena LM.



SECTION SIX  
**ENVIRONMENTAL IMPACT ASSESSMENT**

## 6. ENVIRONMENTAL IMPACT ASSESSMENT

### 6.1 ENVIRONMENTAL IMPACT ASSESSMENT PROCESS FOLLOWED

#### 6.1.1 Approach to Environmental Impact Assessment

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

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

#### 6.1.2 Environmental Impact Assessment Process Followed

Under Section 24 of the National Environmental Management Act (NEMA), the Minister promulgated the regulations pertaining to environmental impact assessments (EIA Regulations, 2014) under Government Notice R982 in Government Gazette 38282 of 4 December 2014. These EIA regulations repealed the 2010 EIA regulations and therefore any process relating to environmental authorisations must be undertaken under the EIA Regulations, 2014 as amended in 2017.

Chapter 4 of the EIA Regulations, 2014 as amended deals with the provisions for application for environmental authorisation. In view of the above, URU Metals SA (Pty) Ltd is obliged to comply with provisions of Chapter 4 for the intended environmental authorisation application for the activities (listed activities) related to the proposed project. Part 2 of chapter 4 of the EIA Regulations, 2014 as amended, contemplate process to be undertaken for the application for environmental authorisation for the proposed project, which is the BAR process in this case. The process to be followed is describe below.

##### 6.1.2.1 Pre-application consultation with the Competent Authority

In terms of section 24D (1) of the National Environmental Management Act, 1998 (Act 107 of 1998), the Minister responsible for mineral resources is the competent authority for environmental matters relating to mining and associated activities. In view of the above, the application for the environmental authorisation for the proposed project was submitted to the Department of Mineral Resources and Energy (DMRE), Limpopo Regional Office for their consideration and decision making. The application for the environmental authorisation was acknowledged by the competent authority on the 22 April 2021.

#### 6.1.3 Public Participation Process

Public participation is the cornerstone of the EIA process. The principles of the NEMA govern many aspects of EIA's, including public participation. These include provision of sufficient and transparent information on an ongoing basis to stakeholders to allow them to state their views. Comments received from the public participation process will be included in the impact assessment and measures will be determined on how the comments will be addressed during the life of the proposed project.



The following steps will be conducted during the public participation process:

- An opportunity for the potential interested and affected parties to register,
- Report will be compiled and subjected to the public for review,
- Further to the above, interested and affected parties and the public will be informed of the decision taken by the responsible authorities on the submitted application.

The above process ensured that the BAR and EMPr is subjected to a public participation process, which ensures that the proposed project is brought to the attention of interested and affected parties, the public and relevant organs of state including the competent authority.

### **6.1.3.1 BAR Phase**

In compliance with Regulation 19 of the EIA Regulations of 2014 as amended, the BAR and EMPr will be submitted to the competent authority within 90 days from the day of Application Acceptance. As part of the public participation, the DBAR and EMPr is being made available to the competent authority, potential and registered interested and affected parties for their comment for a period of 30 days during the EIA phase.

### **6.1.3.2 Information Gathering**

Environmental baseline data has been obtained, pertaining to surface water, geohydrological data, topographical analyses, soil surveys, vegetation surveys, wetland surveys and geological conditions. Weather data was acquired from the South African Weather Service. Historic land use was determined through available data. The data accumulated and analysed is sufficient to gain a baseline indication of the present state of the environment.

### **6.1.3.3 Decision on the BAR application**

In compliance with Regulation 20 of the EIA Regulations, 2014 as amended, the competent authority will within 107 days of receipt of the FBAR and EMPr grant or refuse the environmental authorisation.

## **6.2 ENVIRONMENTAL IMPACT ASSESSMENT METHODOLOGY**

The following prediction and evaluation of impacts is based on the proposed prospecting project and associated activities. The evaluation distinguishes between significantly adverse and beneficial impacts and allocates significance against national regulations, standards and quality objectives governing:

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

Irreversible impacts are also identified.

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

- |               |   |   |
|---------------|---|---|
| Probability   | : | likelihood of the impact occurring                    |
| Area (Extent) | : | the extent over which the impact will be experienced. |

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

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

**Table 6-1 : Environmental impact criteria expressed for each impact in tabular form according to each definition.**

Probability	Definition
Low	There is a slight possibility (0 – 30%) that the impact will occur.
Medium	There is a 30 –70% possibility that the impact will occur.
High	The impact is definitely expected to occur (70% +) or is already occurring.
Area (Extent)	Definition
Small	0 – 40 ha
Medium	40 – 200 ha
Large	200 + ha
Duration	Definition
Short	0 – 5 years
Medium	5 – 50 years
Long	51 – 200 years
Permanent	200 + years
Intensity	Definition
Low	Does not contravene any laws. Is within environmental standards or objectives. Will not constitute a precedent for future actions. Is reversible. Will have a slight impact on the health and welfare of humans or the environment.
Medium	Does not contravene any laws. Is not within environmental standards or objectives. Will not constitute a precedent for future actions. Is not reversible. Will have a moderate impact on the health and welfare of humans or the environment.
High	Contravene laws. Is not within environmental standards or objectives. May constitute a precedent for future actions. Is irreversible. Will have significant impact on the health and welfare of humans or the environment.
Significance and Risk category	Definition
Negligible	The impact/risk is insubstantial and does not require management
Low	The impact/risk is of little importance, but requires management
Medium	The impact/risk is important; management is required to reduce negative impacts to acceptable levels
High	The impact/risk is of great importance, negative impacts could render options or the entire project unacceptable if they cannot be reduced or counteracted by significantly positive impacts positive impacts, and management of the impacts is essential
Positive (No Risk identified)	The impact, although having no significant negative impacts, may in fact contribute to environmental or economical Health

## 6.3 RESULTS OF THE ENVIRONMENTAL IMPACT ASSESSMENT

### 6.3.1 Assessment of the prospecting Application Area impacts/risks

#### 6.3.1.1 Construction Phase

NATURE OF THE IMPACT	ENVIRONMENTAL ASPECT	IMPACT ASSESSMENT					MITIGATION MEASURES
		E	P	D	I	S	
<b>CONSTRUCTION PHASES</b>							
<b>Table 6-2: Site Establishment: Establishment of the access (tracks) to the prospecting site, Establishment of the mobile office site, Site physical surveying and pegging of borehole sites</b>							
The establishment of access and the surveying with the pegging of the prospecting sites may result in the stripping of soils if the site establishment is not properly conducted. This may result in the loss of soils and erosion that may render the area unusable. During site establishment, machinery and vehicles used for the prospecting operation may result in hydrocarbon leakages, which may result in the contamination of the soils within the access tracks, mobile office-site and prospecting sites.	Soil/Land capability	Without mitigation					Establishment of the site will be undertaken according to the prospecting method statement. No soil stripping will be allowed during site establishment. Ensure none disturbance of soil when conducting surveys. Any area that may result into the disturbance of the soils will be rehabilitated immediately on discovery. Machinery to be used for the operation will be of good working conditions. Any hydrocarbon spills from the site establishment will be remediated immediately.
		L	M	S	L	M	
		With mitigation					
		S	L	S	L	L	
NATURE OF THE IMPACT	ENVIRONMENTAL ASPECT	IMPACT ASSESSMENT					MITIGATION MEASURES
		E	P	D	I	S	

CONSTRUCTION PHASES							
Current land use over the area to be used for site establishment will cease completely for a period of prospecting. This may have an impact on the landowners' livelihood should they not be able to use the land.	Land capability	Without mitigation					Use sites that are not mostly used and that are in the degraded state for the proposed development. This will be done in agreement with the landowner. The setting-up of the prospecting area will be conducted to ensure that rocky ridges, sensitive grass lands, indigenous trees and shrubs, site of farmlands actively used for farming are avoided.
		L	M	S	L	M	
		With mitigation					
		S	L	S	L	L	
The establishment of the site (access, mobile office-site and camp sites) may result in the removal of vegetation cover if the establishment is not done correctly. This may render the land unusable to the landowners after completion of the project.	Natural vegetation	Without mitigation					Use sites with most disturbed vegetation cover for the development. No strip of topsoil and vegetation will be allowed during site establishment. Ensure minimal disturbance of vegetation when erecting mobile office space and surveys. Any area that may result into the disturbance of the vegetation cover must be rehabilitated immediately on discovery.
		L	H	S	H	M	
		With mitigation					
		S	L	S	L	L	
Animal burrows and habitats remaining within the proposed development site may be destroyed during construction. This may result in the migration of remaining animal life away from the affected areas. Poaching of wild animals and livestock by the laborers will result in the loss of wild live and loss of livestock to the landowner.	Animal Life	Without mitigation					Establishment of the site will be undertaken according to the prospecting method statement. No soil stripping will be allowed during site establishment. Any area that may result into the disturbance of the soils must be rehabilitated immediately on discovery. Use sites with most degraded environment for the site development. Poaching will be prohibited at the prospecting site.
		L	M	S	H	M	
		With mitigation					
		S	L	S	L	L	
NATURE OF THE IMPACT	ENVIRONMENTAL ASPECT	IMPACT ASSESSMENT					MITIGATION MEASURES
		E	P	D	I	S	
CONSTRUCTION PHASES							
Exposure of soils during construction by the stripping of vegetation and soils may cause erosion, which may lead to increased silt loads in surface water runoff. This may result	Surface and Ground Water	Without mitigation					The proposed prospecting site (boreholes) are not within any sensitive landscapes. Avoid stripping of areas within the construction sites. Rehabilitate areas that may have been mistakenly stripped. Storm water upslope of the
		L	M	S	M	H	
		With mitigation					

in the contamination of the clean water environment. Waste generated from the site may result in the contamination of surface and ground water should not management of such waste be undertaken.		M   S   S   M   M	prospecting sites should be diverted around these areas. Proper waste management facilities will be put in place at the camp site and prospecting site. Any hydrocarbon spill from the site establishment will be remediated as soon as possible.																				
Construction activities during the establishment of the site will include material off-loading. These activities will result in the mobilization of particulates that will migrate away from the site to the nearby local sites. This will be a nuisance to the communities and will result in aesthetic impacts associated with fugitive dust emissions. On-site dust fall may have health and nuisance implications to employees who are handling the construction processes.	Air Quality	<table border="1"> <thead> <tr> <th colspan="5">Without mitigation</th> </tr> </thead> <tbody> <tr> <td>L</td> <td>M</td> <td>S</td> <td>M</td> <td>M</td> </tr> <tr> <th colspan="5">With mitigation</th> </tr> <tr> <td>M</td> <td>L</td> <td>S</td> <td>L</td> <td>L</td> </tr> </tbody> </table>	Without mitigation					L	M	S	M	M	With mitigation					M	L	S	L	L	Ensure that specific management measures for prospecting area are complied with. During delivery of construction materials the wet surface management is to be Implemented to ensure that dust is controlled.
Without mitigation																							
L	M	S	M	M																			
With mitigation																							
M	L	S	L	L																			
NATURE OF THE IMPACT	ENVIRONMENTAL ASPECT	IMPACT ASSESSMENT			MITIGATION MEASURES																		
		E	P	D	I	S																	
CONSTRUCTION PHASES																							
The noise level generated from the construction activities may exceed the SANS 10103 Levels for urban areas and may exceed the maximum rating levels for ambient noise indoors. This may have an impact in the surrounding residents and employees using/delivering the machinery.	Noise	<table border="1"> <thead> <tr> <th colspan="5">Without mitigation</th> </tr> </thead> <tbody> <tr> <td>S</td> <td>M</td> <td>S</td> <td>M</td> <td>M</td> </tr> <tr> <th colspan="5">With mitigation</th> </tr> <tr> <td>S</td> <td>M</td> <td>S</td> <td>L</td> <td>L</td> </tr> </tbody> </table>	Without mitigation					S	M	S	M	M	With mitigation					S	M	S	L	L	Ensure that proper management measures as well as technical changes are undertaken into consideration to reduce the impacts on surrounding plots and employees. This include ensuring that less noisy equipment are used, that equipment are kept in good working order and that the equipment must be fitted with correct and appropriate noise abatement measures and where possible use white-noise generators instead of tonal reverse alarms on heavy vehicles operating on sites.
Without mitigation																							
S	M	S	M	M																			
With mitigation																							
S	M	S	L	L																			
The activities undertaken during the	Visual Aspects	Without mitigation	Inform the landowner on the type of machinery and																				

<p>construction phase will be visible from the nearby roads and properties. However, due to the undulating steep topography, visibility for the most part will most probably be restricted to short distances.</p>		<table border="1"> <tr> <td>M</td> <td>L</td> <td>S</td> <td>L</td> <td>L</td> </tr> </table>	M	L	S	L	L	<p>equipment to be used at the prospecting site. Ensure that lighting is conducted in manner that will reduce the impacts on visual aspects at night times.</p>	
M	L	S	L	L					
		<b>With mitigation</b>							
		<table border="1"> <tr> <td>S</td> <td>L</td> <td>S</td> <td>L</td> <td>N</td> </tr> </table>	S	L	S	L	N		
S	L	S	L	N					
<b>NATURE OF THE IMPACT</b>	<b>ENVIRONMENTAL ASPECT</b>	<b>IMPACT ASSESSMENT</b>			<b>MITIGATION MEASURES</b>				
		<b>E</b>	<b>P</b>	<b>D</b>	<b>I</b>	<b>S</b>			
<b>CONSTRUCTION PHASES</b>									
<p>The site may be located in close proximity to a heritage site and may result in the destruction of the identified heritage site.</p>	<p>Sites of Archaeological and Cultural Importance</p>	<b>Without mitigation</b>			<p>There is no archeological site identified on site therefore establishment of the prospecting area will be away from any heritage sites. A management plan will be drafted for the sustainable preservation of the graveyards if any be identified on site. Also, the provincial heritage agency will be notified if any heritage artefacts are mistakenly drilled or excavated during prospecting activities.</p>				
		<table border="1"> <tr> <td>L</td> <td>M</td> <td>S</td> <td>H</td> <td>H</td> </tr> </table>	L	M		S	H	H	
L	M	S	H	H					
		<b>With mitigation</b>							
		<table border="1"> <tr> <td>S</td> <td>L</td> <td>S</td> <td>L</td> <td>L</td> </tr> </table>	S	L	S	L	L		
S	L	S	L	L					
<p>The establishment of drilling equipment for the proposed project may result in an influx of 'outsiders' seeking jobs, which may be caused by increase in local unemployment levels. This may result in the potential increase in crime. It must however be noted that prospecting activities would unlikely attract job seeker due to its small nature of scale.</p>	<p>Socio economic aspects</p>	<b>Without mitigation</b>			<p>Recruitment will not be undertaken on site. Employment of farm laborers will be undertaken with the advice from the farm owners and community CLA. Locals residing on adjacent of the farm will also be prioritized for employment should the required skills be identified in the area.</p>				
		<table border="1"> <tr> <td>M</td> <td>M</td> <td>S</td> <td>M</td> <td>M</td> </tr> </table>	M	M		S	M	M	
M	M	S	M	M					
		<b>With mitigation</b>							
		<table border="1"> <tr> <td>S</td> <td>L</td> <td>S</td> <td>L</td> <td>P</td> </tr> </table>	S	L	S	L	P		
S	L	S	L	P					

### 6.3.1.2 Operational Phase

NATURE OF THE IMPACT	ENVIRONMENTAL ASPECT	IMPACT ASSESSMENT					MITIGATION MEASURES
		E	P	D	I	S	
<b>OPERATIONAL PHASES</b>							
<b>Table 6-3 : Drilling and rehabilitation of the exploration boreholes</b>							
Topsoil removal, storage and replacement during the excavation of the sumps will result. This will result in the disruption of the soils profile.	Soils	Without mitigation					Ensure that topsoil is properly stored, away from the streams and drainage areas. The soils must be used for the backfilling and rehabilitation of the sumps. The rehabilitated sump must be seeded with recommended seed mix.
		S	M	S	L	M	
		With mitigation					
		S	L	S	L	L	
The use of vehicles during the setting up, pegging and drilling of the exploration boreholes may result in the spillages of hydrocarbon liquids from the vehicles and machinery. This will result in the contamination of the vegetation cover and soils. The material removed from the drilling exercises will contain carbonaceous material, which has a potential for pollution should it be allowed stay for a prolonged period at the drilling site. The above material, if not properly managed, may result in the contamination of the surrounding soils vegetation cover, which may render the land not usable after the backfilling operation.	Natural Vegetation and Soils	Without mitigation					Ensure that the drilling of the exploration boreholes is done in such a manner that the environment is protected from probable spillages and contamination by carbonaceous material. All boreholes and sumps will be rehabilitated to pre-drilling conditions. Tarpaulins will be placed on the ground to prevent oil, grease, hydraulic fluid and diesel spills during emergency repairs. All oil spills will be remedied using approved methodologies. The contaminated soils will be removed and disposed of at a licensed waste disposal facility. All waste generated from the drilling sites and the campsite will be collected in proper receptacles and removed to registered disposal facilities e.g., sewage treatment plant, solid waste disposal site or hydrocarbon recycling or treatment facilities.
		S	M	S	M	M	
		With mitigation					
		S	L	S	L	L	
<b>NATURE OF THE IMPACT</b>	<b>ENVIRONMENT</b>	<b>IMPACT ASSESSMENT</b>					<b>MITIGATION MEASURES</b>

		<b>AL ASPECT</b>	<b>E</b>	<b>P</b>	<b>D</b>	<b>I</b>	<b>S</b>		
<b>OPERATIONAL PHASES</b>									
Animal burrows and habitats will be destroyed by the preparation of the backfilling sites. This will further result in the migration of animals away from these areas of disturbance. It must however be noted that no significant amount of animal life exists due to the agricultural activities currently undertaken at the proposed prospecting sites.	Animal Life	Without mitigation					The rehabilitation of the disturbed areas must be conducted such that the rehabilitated areas will encourage the migration of animals back into the rehabilitated areas. Poaching of wild animals and livestock will be prohibited.		
		S	L	S	L	L			
		With mitigation							
		S	L	S	L	N			
The drilling operation may result in the generation of surface water runoff contaminated with drilling muds and cuttings should spillages occur. The sedimentation and possible contamination with carbonaceous material will have negative impacts on the surrounding clean water environment. These will cause an increase in the turbidity and will decrease acidity of the water in the streams, which will affect the aquatic habitat of the wetland, hence important habitats may be lost.	Surface Water	Without mitigation					No prospecting operations will be undertaken within 500 meters from the nearby streams and 500 meters from the nearby wetland areas. The sumps will be excavated for the collection mud and excess water from the drilling sites. The sump will be sized such that it will be able to contain the water and mud that will be generated during the prospecting operation. Storm water generated around the drilling site will be diverted away from the clean water environment. No concrete mixing and vehicle maintenance will be allowed on site. All hydrocarbons will be stored on protected storage areas away from the streams.		
		S	H	S	M	M			
		With mitigation							
		S	M	S	L	L			
<b>NATURE OF THE IMPACT</b>	<b>ENVIRONMENTAL ASPECT</b>	<b>IMPACT ASSESSMENT</b>					<b>MITIGATION MEASURES</b>		
		<b>E</b>	<b>P</b>	<b>D</b>	<b>I</b>	<b>S</b>			
<b>OPERATIONAL PHASES</b>									
The prospecting operations will require the drilling of boreholes. The boreholes may result in the drawdown,	Groundwater	Without mitigation					Ensure that the land owners' borehole yield are tested prior to drilling exploration holes and observed during the drilling operation. Should		
		M	H	S	H	H			
		With mitigation							



<p>which may affect the yield to the surrounding groundwater users. Material used for backfilling may leach pollutants that will result in the pollution of the surrounding groundwater regime. This may even spread beyond the backfilling site via plume migration.</p>		S	M	S	L	L	<p>it be proven that the operation is indeed affecting the quantity and quality of groundwater available to users and surrounding water resources, the affected parties must be compensated according to agreements.</p>
<p>The prospecting operations will require vehicular movement. This will result in the generation of dust by movement of vehicles and due to blowing winds. Vehicles and machinery will also generate diesel or petrol fumes. Generated dust will migrate towards the predominant wind direction and may settle on surrounding properties including vegetation.</p>	Air Quality	Without mitigation					<p>Dust suppression must be conducted during the operational phase of the project. Correct speed will be maintained at the proposed project site. Vehicle maintenance must be conducted regularly to avoid excessive diesel fumes.</p>
		S	M	S	M	M	
		With mitigation					
		S	L	S	L	L	
NATURE OF THE IMPACT	ENVIRONMENTAL ASPECT	IMPACT ASSESSMENT					MITIGATION MEASURES
		E	P	D	I	S	
OPERATIONAL PHASES							
<p>The noise level generated from the drilling activities may exceed the SANS 10103 Levels for urban areas and may exceed the maximum rating levels for ambient noise indoors. This may have an impact in the surrounding residents and employees using the machinery.</p>	Noise	Without mitigation					<p>Ensure that proper management measures as well as technical changes are undertaken into consideration to reduce the impacts on surrounding plots and employees. This include ensuring that less noisy equipment are used, that equipment are kept in good working order and that the equipment must be fitted with correct and appropriate noise abatement measures and where possible use white-noise generators instead of tonal reverse alarms on heavy vehicles operating on sites. Provided employees with ear</p>
		M	M	S	M	M	
		With mitigation					
		S	M	S	L	L	

						plugs and employees must be instructed to use the ear plugs	
The drilling equipment during the operational phase will be visible from the nearby roads and properties. However, due to the undulating steep topography, visibility for the most part will most probably be restricted to short distances.	Visual Aspects	Without mitigation					Inform the landowner on the type of machinery and equipment to be used at the prospecting site. Ensure that lighting is conducted in manner that will reduce the impacts on visual aspects at night times.
		S	M	S	L	L	
		With mitigation					
		S	L	S	L	N	
<b>NATURE OF THE IMPACT</b>		<b>IMPACT ASSESSMENT</b>					<b>MITIGATION MEASURES</b>
	<b>ENVIRONMENTAL ASPECT</b>	<b>E</b>	<b>P</b>	<b>D</b>	<b>I</b>	<b>S</b>	
<b>CONSTRUCTION PHASES</b>							
The site may be located in close proximity to a heritage site and may result in the destruction of the identified heritage site.	Sites of Archaeological and Cultural Importance	Without mitigation					There is no archeological site identified on site therefore drilling of boreholes will be away from any heritage sites. A management plan will be drafted for the sustainable preservation of the graveyards if any be identified on site. Also, the provincial heritage agency will be notified if any heritage artefacts are mistakenly drilled or excavated during prospecting activities.
		S	M	S	H	H	
		With mitigation					
		S	L	S	L	L	
The drilling activities may result in an influx of 'outsiders' seeking jobs, which may be caused by increase in local unemployment levels. This may result in the potential increase in crime. It must however be noted that prospecting activities would unlikely attract job seeker due to its small nature of scale.	Socio economic aspects	Without mitigation					Recruitment will not be undertaken on site. Employment of farm laborers will be undertaken with the advice from the farm owners and community CLA. Locals residing on adjacent of the farm will also be prioritized for employment should the required skills be identified in the area.
		S	M	S	M	M	
		With Mitigation					
		S	L	S	L	P	

### 6.3.1.3 Decommissioning and Closure Phases

NATURE OF THE IMPACT	ENVIRONMENTAL ASPECT	IMPACT ASSESSMENT					MITIGATION MEASURES
		E	P	D	I	S	
<b>DECOMMISSIONING AND CLOSURE PHASES</b>							
<b>Table 6-4: Decommissioning of prospecting site (Site Rehabilitation)</b>							
The removal of the mobile office, site equipment and the rehabilitation of the prospecting sites and associated access infrastructure will result in the affected soil and land use being restored. This will also result in the resumption of the use of the land since the infrastructure would have been removed.	Soils, Land Capability and Land Use	Positive impact					Ensure that rehabilitation is conducted in accordance with a rehabilitation method statement approved by the management. See description of the rehabilitation plan and management actions in the EMPr. Ensure that contamination of the rehabilitated area by carbonaceous material and hydrocarbon liquids are prevented.
Positive impacts will result due to the reduction in areas of disturbance and the return of land use of the affected areas and making available an area that was covered by the prospecting sites.	Land Use	Positive impact					
NATURE OF THE IMPACT	ENVIRONMENTAL ASPECT	IMPACT ASSESSMENT					MITIGATION MEASURES
		E	P	D	I	S	
<b>DECOMMISSIONING AND CLOSURE PHASES</b>							

The use of vehicles/machinery during the rehabilitation of the exploration sites may result in compaction of soils and the spillages of hydrocarbon liquids from the vehicles and machinery. This will result in the contamination of and destruction of the vegetation cover and soils.	Soils and Natural Vegetation	Without mitigation					Ensure that the rehabilitation work is done in such a manner that the environment is protected from probable spillages and contamination by carbonaceous material. Tarpaulins will be placed on the ground to prevent oil, grease, hydraulic fluid and diesel spills during emergency repairs. All oil spills will be remedied using approved methodologies. The contaminated soils will be removed and disposed of at a licensed waste disposal facility. All waste generated from the prospecting sites will be collected in proper receptacles and removed to a registered disposal facilities e.g., sewage treatment plant, solid waste disposal site or hydrocarbon recycling or treatment facilities.
		S	M	S	M	M	
		With mitigation					
		S	L	S	L	L	
During the decommissioning and closure phases equipment will be removed, stockpiled soils will be used for rehabilitation, the open pit will be refilled, levelled, top soiled and the area re-seeded. During the process of rehabilitation surface water runoff from the rehabilitation site may have elevated silt load, which may cause pollution of the nearby water environment.	Surface Water	Without mitigation					Ensure that water leaving the site do not have elevated silt load. Ensure that the rehabilitated areas are free draining and that water from these areas is clean.
		S	L	S	M	M	
		With mitigation					
		S	L	S	L	L	
<b>NATURE OF THE IMPACT</b>	<b>ENVIRONMENTAL ASPECT</b>	<b>IMPACT ASSESSMENT</b>					<b>MITIGATION MEASURES</b>
		<b>E</b>	<b>P</b>	<b>D</b>	<b>I</b>	<b>S</b>	
<b>DECOMMISSIONING AND CLOSURE PHASES</b>							
Rehabilitation and removal of the prospecting sites and equipment will require vehicular movement. This will result in the vehicles and due to blowing winds. Vehicles and machinery will also generate diesel or petrol fumes. Generated dust will migrate towards the predominant wind direction and may settle on surrounding properties including nearby vegetation.	Air Quality	Without mitigation					Dust suppression must be conducted during the decommissioning phase of the project whenever excessive dust is generated. Correct speed will be maintained at the proposed project rehabilitation sites. Vehicle maintenance must be conducted regularly to avoid excessive diesel fumes.
		S	L	S	L	L	
		With mitigation					
		S	L	S	L	N	
Noise will be generated during the removal of equipment and rehabilitation of the sites. This noise is not expected to exceed occupational noise limits and will be short lived.	Noise	Without mitigation					Where necessary, provided employees with ear plugs and employees must be instructed to use the ear plugs. Ensure that equipment is well maintained and fitted with the correct and appropriate noise abatement measures.
		S	L	S	L	L	
		With mitigation					
		S	L	S	L	N	

## **6.4 SUMMARY OF SPECIALIST REPORTS**

Based on the desktop information and site assessment taking into consideration the screening report in relation to the proposed project, no specialist studies has been deemed necessary to be conducted for the proposed project.

## **6.5 ENVIRONMENTAL IMPACT STATEMENT**

URU Metals SA (Pty) Ltd has applied for a prospecting right over the Townlands project area. The prospecting operation will involve the drilling of approximately 30 holes in exploration of Platinum Group Metals (PGM), Cobalt (Co), Nickel Ore (Ni), Chrome Ore (Cr), Copper Ore (Cu), Iron Ore (Fe) and Gold within proposed project area.

### **6.5.1 Description of affected environment**

The proposed project is situated within the Northern Limb of Bushveld Complex. This project is characterised by the area that is of flat to undulating slope. The surrounding of the proposed project area, elevations rise to a maximum of 1 988 meters above mean sea level (mamsl) and within the valley elevations drop to as low as 950 mamsl. Land use in the general area is characterized by roads (national, secondary and farm roads), urban build-ups, agricultural activities, grazing, railway and Residential. Due to the above land uses significant change has occurred on the natural vegetation.

### **6.5.2 Summary of key findings of the environmental impact assessment**

During the proposed prospecting operation impacts may only occur on soils, natural vegetation, surface water, groundwater, sensitive landscapes, air quality, noise, visual aspects and sites of archaeological and cultural importance should the prospecting method statement not be adhered to. Alternatives considered for the prospecting sites has shown that the selected locations would be the most favourable.

URU Metals SA (Pty) Ltd will undertake measures to ensure that the identified impacts are minimised. Assessment of the impacts with the proposed mitigation measures has shown the significance of the impacts on all affected environmental aspects to be reduced to low and negligible significance. Land use will not change permanently, but it will only be disturbed for a period of few years +/-5 years. The landowners and land occupiers within the proposed project area may be affected although on a temporary basis due to the need to access the sites and establishment during prospecting activities.. Measures such as safety along the roads and dust suppression will be undertaken to ensure that the impacts on the landowners and land occupiers are minimised.

Desktop assessment of the vegetation within the footprint of the development area has shown limited presence of natural vegetation. Storm water runoff from the dirty water areas of the prospecting sites, its associated surface infrastructure may have a detrimental impact on the surrounding water environment should this water be released to the environment. In order to prevent the occurrence of the above-mentioned impacts, therefore, sediments will be created from the site during the construction, operational and decommissioning phase, which may impact negatively on the surrounding water environment.

The drilling team will be housed in the campsite to be established on site, the campsite will also be utilised as offices and workshop area. The employees will be given strict instruction not to undertake activities that will affect the environment and that may have an impact on the surrounding landowner. Waste generated from the site will be collected in proper receptacle and disposed of in registered waste disposal sites.

### 6.5.3 Final Master Layout Plan

The final maps showing the layouts of the proposed project plan are included in this report and same will be submitted to DMRE for approval (**Error! Reference source not found.**). The map has been developed to superimpose the proposed prospecting project together and associated infrastructure with the environmental sensitivities within the proposed project site.

## 6.6 ASPECTS FOR INCLUSION AS CONDITIONS OF THE ENVIRONMENTAL AUTHORISATION

- The construction and operation of the proposed project should be implemented according to the conclusions of this report and the specifications of the EMPr to adequately mitigate and manage potential impacts associated with construction activities.
- The prospecting activities and relevant rehabilitation of disturbed areas should be monitored against the approved EMPr, the Environmental Authorisation (once issued) and all other relevant environmental legislation. Relevant conditions to be adhered to include:
  - \* A prospecting location map as shown in **Figure 1-2** and **Error! Reference source not found.** detailing the prospecting area should be submitted to the relevant landowners and the DMRE once again prior to the commencement of these activities to confirm that there is no any changes on the prospecting locations;
  - \* The prospecting activities should be restricted to daytime and where possible no activities should take place during rainy days.
  - \* All wastes generated must be disposed of at an appropriate registered landfill and disposal certificate be kept on site,
  - \* All relevant practical and reasonable mitigation measures detailed within this report and within the EMPr must be implemented,
  - \* The implementation of this EMPr for all life cycle phases of the proposed project is considered key in achieving the appropriate environmental management standards as detailed in this report,
  - \* An independent Environmental Control Officer (ECO) should be appointed to monitor compliance with the specifications of the EMPr for the duration of the construction period,
  - \* No Creation of new access roads will be conducted for the proposed project,
  - \* URU Metals SA (Pty) Ltd will not undertake any new activity that was not part of this environmental impact assessment and that will trigger a need for an environmental authorisation without proper authorisation,
  - \* URU Metals SA (Pty) Ltd must, where necessary, undertake specialist's studies, management procedures and method statement should the need arise,
  - \* The EMPr must be implemented fully at all stages of the proposed project.

## **6.7 DESCRIPTION OF ASSUMPTIONS, UNCERTAINTIES AND GAPS IN KNOWLEDGE**

The 2014 EIA Regulations, as amended in 2017, outline specific requirements that a description of any assumptions, uncertainties and gaps in knowledge which relate to the assessment and mitigation measures must be provided in the BAR. The assessments undertaken are based on conservative methodologies and these methods attempts to determine potential negative impacts that could occur on the affected environmental aspects. These impacts may however be of smaller magnitude than predicted, while benefits could be of a larger extent than predicted.

This section outlines various limitations to the specialist studies that have been undertaken and indicates, where appropriate, the adequacy of predictive methods used for the assessment. This has been done to provide the authorities and interested and affected parties with an understanding of how much confidence can be placed in this impact assessment.

The EIA has investigated the potential impact on key environmental media relating to the specific environmental setting for the site. A number of desktop and site assessment were undertaken and result thereof and are presented in this report. The information provided in this FBAR and EMPr is therefore considered sufficient for decision-making purposes.

## **6.8 REASONED OPINION AS TO WHETHER THE PROPOSED PROJECT SHOULD OR SHOULD NOT CONTINUE**

### **6.8.1 Reason why the activity should be authorised or not**

According to the impact assessment undertaken for the proposed project, the key impacts of the project are on soils, natural vegetation and landowners/occupiers. The project will also have positive impacts due to the employment to be created, though it will be for a short period and of limited scale.

The public are being provided an opportunity to review the DBAR and EMPr and provide their input/comments and concerns. All comments that will be received during Public Participation Process will be included in the Final BAR and EMPr. All comments will be addressed accordingly as far as possible to the satisfaction of the interested and affected parties.

The management of the impacts identified in the impact assessment for all phases of the proposed project will be undertaken through a range of programmes and plans contained in the EMPr. In consideration of the programmes and plans contained within the EMPr, layouts and method statements compiled for the project, which is assumed will be effectively implemented, there will be significant reduction in the significance of potential impacts. Based on the above, it is therefore the opinion of the EAP that the activity should be authorised.

## **6.9 PERIOD FOR WHICH THE ENVIRONMENTAL AUTHORISATION**

The environmental authorisation is required for a period of five (5) years.

### **6.10 UNDERTAKING**

The signed undertaking is presented at the end of the current document.

### **6.11 FINANCIAL PROVISION**

According to Appendix 3 of the EIA Regulations, 2014 as amended, where applicable, details of any financial provisions for the rehabilitation, closure, and ongoing post decommissioning management of negative environmental impacts must be provided in the BAR and EMPr. In order to avoid duplication, the financial provision for the proposed project has only been provided under the relevant section of the EMPr.

### **6.12 OTHER INFORMATION REQUIRED BY THE COMPETENT AUTHORITY**

Aside from the BAR and EMPr, the competent authority also requires the proof of consultation, technical ability and financial ability.

### **6.13 OTHER MATTERS REQUIRED IN TERMS OF SECTION 24 (4)(A) AND (B) OF THE ACT**

Any matter required in terms of the above section of the Act will be complied with by URU Metals SA (Pty) Ltd.





**PART B (SECTION ONE)**  
**ENVIRONMENTAL MANAGEMENT PROGRAMME**

## 7. ENVIRONMENTAL MANAGEMENT PROGRAMME

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### 7.1 DETAILS OF THE EAP

The details of the EAP are provided in Table 1-1 of part A of this document.

### 7.2 DESCRIPTION OF THE ASPECTS OF THE ACTIVITY

The requirements to describe the aspects of the activity are covered by the environmental management programme and are included in PART A of the document under section 1. The reader is therefore referred to section 1 of PART A of this document.

### 7.3 COMPOSITE MAP

The map superimposing the proposed project, its associated structures and infrastructure on the environmental sensitivities of the preferred site will be attached on the FBAR to be submitted to DMRE. Note that all areas that must be avoided due to their environmental sensitivity will be indicated in the map.

### 7.4 DESCRIPTION OF THE MANAGEMENT OBJECTIVES INCLUDING MANAGEMENT STATEMENTS

#### 7.4.1 GENERAL CLOSURE PRINCIPLES AND OBJECTIVES

The following are the closure objectives, general principles and objectives guiding closure of the Prospecting area closure planning:

- Rehabilitation of areas disturbed as a consequence of prospecting activities to a land capability that will support and sustain a predetermined post-closure land uses;
- Removal of all infrastructure/equipment that cannot be beneficially re-used, as per agreements established, and returning the associated disturbed land to the planned final land use;
- Removal of existing contaminated material from affected areas;
- Establishment of final landforms that are stable and safe in the long run;
- Establishment and implementation of measures that meet specific closure related performance objectives;
- Monitoring and maintenance of rehabilitated areas forming part of site closure to ensure the long-term effectiveness and sustainability of measures implemented.

#### 7.4.2 MANAGEMENT OF ENVIRONMENTAL DAMAGE, ENVIRONMENTAL POLLUTION AND ECOLOGICAL DEGRADATION CAUSED BY THE PROJECT ACTIVITIES

The following actions will be undertaken by URU Metals SA (Pty) Ltd to ensure that the closure objectives are attained.

##### 7.4.2.1 Infrastructure Areas

- All infrastructure and equipment used during the prospecting operation will be removed from the site.

- All rehabilitated areas will be maintained for a period of 2 years, where after the frequency will be reassessed. Where necessary, vegetation cover will be maintained by annual application of fertiliser.
- Maintenance with respect to erosion will be conducted on a minimum three-monthly basis if and where required.

#### **7.4.2.1.1 Buildings (Office, Workshops and Stores)**

Mobile structures will be used during prospecting activities and such structures will be removed from the sites during decommissioning of the site.

#### **7.4.3 POTENTIAL RISK OF ACID MINE DRAINAGE**

The proposed prospecting does not have potential risk of acid mine drainage.

#### **7.4.4 STEPS TAKEN TO INVESTIGATE, ASSESS AND EVALUATE THE IMPACTS OF THE ACID MINE DRAINAGE**

Since there is no risk of acid mine drainage, there will be no need for steps to be taken to investigate, assess and evaluate the impacts of acid mine drainage.

#### **7.4.5 ENGINEERING AND DESIGNS SOLUTIONS TO BE IMPLEMENTED TO AVOID OR REMEDY ACID MINE DRAINAGE**

Since there is no risk of acid mine drainage, there will be no need for engineering and designs solutions to be implemented to avoid or remedy acid mine drainage.

#### **7.4.6 MEASURES TO REMEDY RESIDUAL OR CUMULATIVE IMPACTS FROM ACID MINE DRAINAGE**

Since there is no risk of acid mine drainage, there will be no need for measures to remedy residual or cumulative impacts from acid mine drainage.

#### **7.4.7 VOLUMES AND RATES OF WATER USE REQUIRED FOR THE PROPOSED PROJECT**

Minimum water will be required during prospecting and this will only amount to 1000 /day Litters and the required amount does not trigger water use licence. Water to be used will be accessed from the nearby farm owners.

#### **7.4.8 WATER USE LICENCE APPLICATION**

No water use activities will be undertaken during the proposed operation; hence no water use licence will be applied for.

## 7.5 ENVIRONMENTAL MANAGEMENT PROGRAMME

Impact Activity Reference	Environmental Attribute	Impact Management Objectives	Targets (Impact Management Outcomes)	Management Actions and Interventions	Responsibility for Actions/Intervention	Monitoring Action	Responsibility and Frequency for Monitoring	Time period for Management Action
<b>1. CONSTRUCTION PHASE</b>								
<b>Table 7-1: Establishment of access to prospecting sites</b>								
Loss of soils, erosion of the soils and impacts on owner's livelihood.	Soils, Land Use and Land capability	To ensure that the activities in the development of the prospecting sites and associated infrastructure do not have detrimental impacts on the soils, land use and land capability	Ensure that the establishment of the prospecting sites is undertaken in accordance with the approved EMPr	Establishment of the site will be undertaken according to the prospecting method statement	Appointed contractor and site manager	Visual monitoring through inspections.	Environmental Control Officer (ECO) during construction.	During construction phase
				No soil stripping will be allowed during site establishment	Appointed contractor.	Visual monitoring and inspections.	ECO monthly	During construction phase
				Should it be necessary to conduct surveys, ensure no disturbance of soil.	Appointed contractor	Visual monitoring and inspections.	ECO monthly	During construction phase

		Any area that may result into the disturbance of the soils must be rehabilitated immediately on discovery	Appointed contractor and the applicant site manager	Visual monitoring and inspections.	ECO monthly	During construction phase
		Machinery to be used for the operation will be of good working conditions. Any hydrocarbon spill from the site establishment will be remediated as soon as possible	Appointed contractor	Visual monitoring and inspections.	ECO monthly	During construction phase
		Use sites that are unused and that are in the degraded state for the proposed development. This must be done in agreement with the landowner. The setting up of the prospecting area must be conducted such that it ensure that rocky ridges, sensitive grass lands, indigenous	Appointed contractor & site Manager	Undertake regular inspections	ECO monthly	During construction phase

Impact Activity Reference	Environmental Attribute	Impact Management Objectives	Targets (Impact Management Outcomes)	Management Actions and Interventions	Responsibility for Actions/Intervention	Monitoring Action	Responsibility and Frequency for Monitoring	Time period for Management Action
				trees and shrubs, sites of farmlands actively used for farming are avoided.				
Loss of natural vegetation in the affected areas	Flora	To ensure that the establishment of the prospecting site and associated infrastructure/equipment do not have detrimental impact on the area's flora.	The management of the impact will comply with the company's biodiversity management plan.	Use sites with most disturbed vegetation cover for the development.	Appointed contractor and site manager.	Visual monitoring and inspections.	ECO monthly	During construction phase
				No strip of topsoil and vegetation will be allowed during site establishment.	Appointed contractor and site manager.	Visual monitoring and inspections.	ECO monthly	During construction phase
				Ensure minimal disturbance of vegetation when conducting surveys	Appointed contractor and site manager.	Visual monitoring and inspections.	ECO monthly	During construction phase

				Any area that may result into the disturbance of the vegetation cover must be rehabilitated immediately on discovery	Appointed contractor and site manager.	Visual monitoring and inspections.	ECO monthly	During construction phase
Migration of animal life due to disturbance caused by proposed project	Animal Life	Ensure that the animal life within the project area is not affected by the proposed project	Maintenance of the current status on animal life within the project area	Establishment of the site will be undertaken according to the prospecting method statement	Appointed contractor and site manager.	Visual monitoring and inspections.	ECO monthly	During construction phase
				No soil stripping will be allowed during site establishment. Any area that may result into the disturbance of the soils must be rehabilitated immediately on discovery	Appointed contractor and site manager.	Visual monitoring and inspections.	ECO monthly	During construction phase
				Use sites with most degraded environment for the site development	Appointed contractor and site manager.	Visual monitoring and inspections.	ECO monthly	During construction phase
				Poaching will be prohibited at the prospecting site	Appointed contractor and site manager.	Visual monitoring and inspections.	ECO monthly	During construction and operation phase

Deterioration of water quality in the nearby streams and within the groundwater regime.	Surface and Ground Water	Ensure that the establishment of the project and its associated infrastructure does not have detrimental impact on nearby stream and the groundwater regime.	The quality of streams and groundwater within the site will comply with the target for DWS targeted water quality objectives. Construction will be in compliance with the regulations under the GN704.	Site establishment will not be undertaken within sensitive landscapes.	Appointed contractor and site manager.	Regular inspections	ECO monthly	During construction phase
				Avoid stripping of areas within the construction sites.	Appointed contractor and site manager.	Regular inspections	ECO monthly	During construction phase
				Rehabilitate areas that may have been mistakenly stripped	Appointed contractor and site manager.	Regular inspections	ECO monthly	During construction phase
				Storm water upslope of the prospecting sites should be diverted around these areas	Appointed contractor and site manager.	Regular inspections	ECO monthly	During construction phase



				Proper waste management facilities will put in place at the prospecting site. Any hydrocarbon spill from the site establishment will be remediated as soon as possible.	Appointed contractor and site manager.	Regular inspections	ECO monthly	During construction and operation phase
<b>Impact Activity Reference</b>	<b>Environmental Attribute</b>	<b>Impact Management Objectives</b>	<b>Targets (Impact Management Outcomes)</b>	<b>Management Actions and Interventions</b>	<b>Responsibility for Actions/Intervention</b>	<b>Monitoring Action</b>	<b>Responsibility and Frequency for Monitoring</b>	<b>Time period for Management Action</b>
Wetland destruction and loss of habitat.	Sensitive Landscapes	Ensure that the prospecting activities do not have detrimental impacts on the sensitive landscapes	Maintain the current state of the sensitive landscapes within the project area (farm dams and seepage zone).	Prospecting activities will be limited to be more than five hundred meters away from the site sensitive areas.	Appointed contractor and site manager.	Inspection to ensure compliance with the action plan will be conducted at the prospecting site.	Eco will conduct the inspections monthly	Whenever prospecting is undertaken near the sensitive landscapes.
Air pollution through air pollutants emissions, from the construction	Air quality	Ensure that the operations during the prospecting phase do not result in detrimental air	The prospecting will be undertaken such that the ambient air	Wet suppression using water will be conducted at areas with excessive dust emissions.	Appointed contractor and site manager.	Visual inspection of areas with possible dust emissions.	ECO monthly	Throughout prospecting/drilling activities.

n site.		quality impacts.	quality does not exceed the National Air Quality Standards					
				Traffic will be restricted to demarcated areas and traffic volumes and speeds within the construction site will be controlled	Appointed contractor and site manager.	Regular inspections	ECO monthly	Throughout the construction and prospecting phase.
Increased noise levels.	Noise aspects	Ensure that the noise levels emanating from the construction sites will not have detrimental effects on the employees and surrounding communities/and owners.	The noise levels from the construction sites will be managed and measures will be taken to ensure that noise levels are below the National Noise Control Regulations	Limit the maximum speed to 40 km/h or less, subject to risk assessment. Less noisy equipment will be used, the equipment will be kept in good working order and the equipment will be fitted with correct and appropriate noise abatement measures	Appointed contractor and site manager.	Undertake site checks on speeds used.	Site manager	Throughout the construction and prospecting phase.

			SANS10103:2008 guidelines.					
				Ensure that the employees are issued with earplugs and that they are instructed to use them.	Site manager	Speed checking will be conducted.	Site manager checking as regularly as possible	Throughout the duration of the prospecting phase.
				Educate employees on the dangers of hearing loss due to machinery noise	Site manager	Use of earplugs will be checked and reported	Site manager will check the use of the earplugs as regularly as possible	Throughout the duration of the prospecting phase
Visual impacts on the surrounding communities and road users from the project area	Visual aspects	Ensure that the operations during the construction phase do not result in detrimental visual impacts on surrounding properties communities and road users.	Measures will be undertaken by the project owners to ensure that visual aspects from the site are complying with the relevant visual standards objectives	The landowner will be informed on the type of machinery and equipment to be used at the prospecting site.	Applicant and site manager	The site perimeter berms will be inspected for compliance.	Surveyor on a monthly basis.	Throughout the prospecting phase.

				Lighting will be conducted in manner that will reduce the impacts on visual aspects at night times.	Appointed Contractor	Nighttime inspection of the site will be undertaken	The site manager	During construction and prospecting phase
<b>Impact Activity Reference</b>	<b>Environmental Attribute</b>	<b>Impact Management Objectives</b>	<b>Targets (Impact Management Outcomes)</b>		<b>Management Actions and Interventions</b>	<b>Responsibility for Actions/Intervention</b>	<b>Monitoring Action</b>	<b>Responsibility and Frequency for Monitoring</b>
Damage or destruction of sites with archaeological cultural significance .	Sites of archaeological and cultural importance	Ensure that the construction activities do not have detrimental impacts on the heritage sites.	The construction will be undertaken in compliance with the requirements of the National Heritage Resources Act, 1999 (Act 25 of 1999) and recommendations from the EAP.		The establishment of the sites will be away from any identified grave site or heritage sites. A buffer of five hundred meters will be created between the sites and the proposed camp and prospecting sites.	Applicant and site manager	The site will be monitored for any damages on a regular basis.	ECO monthly

Impact from the influx of job seekers and employment of farm laborer	Socio-economic aspects	Ensure that measures are taken to discourage influx of job seekers and employment of farm laborer	Measures taken will be in line with the company's recruitment policies		Recruitment will not be undertaken on site. Farm laborer will not be employed unless agreed to with the farms owners	Appointed contractor and site manager	Visual monitoring	Site manager
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## **7.6 FINANCIAL PROVISION**

Section 24 P of NEMA requires an applicant applying for an environmental authorisation related to mining to comply with the prescribed financial provision for the rehabilitation, closure and ongoing post decommissioning management of negative environmental impacts before the Minister responsible for mineral resources issues the environmental authorisation. The above-mentioned financial provision may be in the form of an insurance, bank guarantee, trust fund or cash.

Regulations pertaining to the financial provision for mining, exploration, mining or production operations (GNR 1147) were promulgated on the 20th of November 2015. URU Metals SA (Pty) Ltd has undertaken the financial provision determination in line with the requirements of section 11 of the Regulations pertaining to the Financial Provision for Mining, Exploration, Mining or Production Operations (GNR 1147). The financial provision determination for the proposed project is part of this report and will be submitted to the Department of Mineral Resources and Energy for their consideration.

### **7.6.1 DESCRIPTION OF CLOSURE OBJECTIVES AND EXTENT TO WHICH THEY HAVE BEEN ALIGNED TO THE DESCRIBED BASELINE ENVIRONMENT**

The closure objectives for the proposed project as detailed under section 7.4.1 of the EMPr, were determined in consideration of physical (infrastructure), biophysical (environmental) and socioeconomic measures as well as alignment to the closure components provided by the Department of Mineral Resources and Energy (DMRE). See section 7.4.1 for the closure objectives.

### **7.6.2 CONFIRMATION THAT THE ENVIRONMENTAL OBJECTIVES IN RELATION TO CLOSURE HAVE BEEN CONSULTED WITH LANDOWNERS AND INTERESTED AND AFFECTED PARTIES**

The DBAR and EMPr is being made available to the interested and affected parties during the public participation process for the proposed project. Note that the consultation of interested and affected parties included the owners of the properties directly affected by the proposed project and owners of land immediately adjacent the proposed project area. The above confirms that the landowners and interested and affected parties will be consulted regarding the environmental objectives in relation to the closure of the proposed project.

### **7.6.3 REHABILITATION PLAN FOR THE PROPOSED PROJECT**

In terms of Regulation 23 of NEMA EIA Regulations, 2014 as amended, an EMPr must address the requirements as determined in the regulations, pertaining to the financial provision for the rehabilitation, closure and post closure of the proposed operations. In view of the above, a rehabilitation plan for the proposed project has been compiled and detailed below:

In order to obtain a self-sustainable and stable closure plan, the following will be done where natural grassland had been disturbed during the prospecting process.

### **a. Rehabilitation and Closure**

The clearing of soil surface areas would be restricted to what is really necessary for prospecting purposes. During the closure of these sites, or where vegetation is lacking or compacted, the areas would be ripped or ploughed and levelled in order to re-establish a growth medium and if necessary appropriately fertilised to ensure the regrowth of vegetation and the soil ameliorated based on a fertilizer recommendation (soil sample analysed).

As the project progresses there will be an increase in the topsoil surface area disturbed initially but also at the same time concurrent rehabilitation will take place which involves the replacement of topsoil on backfilled prospecting area.

### **i. Rehabilitation of access roads**

- Whenever a license is suspended, cancelled or abandoned or if it lapses and the holder does not wish to renew the right, any access road or portions thereof, constructed by the holder and which will no longer be required by the landowner/tenant, shall be removed and/or rehabilitated to the satisfaction of the Regional Manager.
- Any gate or fence erected by the holder which is not required by the landowner / tenant, shall be removed and the situation restored to the pre-project situation.
- If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the operation, be corrected and the area be seeded with a seed mix to the Regional Manager's specification.

### **ii. Rehabilitation of the surface prospecting site**

On completion of operations, all buildings, structures or objects on the office site/camp site shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), which states:

1. When a prospecting right, mining right, retention permit or mining permit lapses, is cancelled or is abandoned or when any prospecting or mining operation comes to an end, the holder of any such right or permit may not demolish or remove any building, structure, object -

- A & b. which may not be demolished in terms of any other law;
  - c. which has been identified in writing by the Minister for purposes of this section; or
  - d. which is to be retained in terms of an agreement between the holder and the owner or occupier of the land, which agreement has been approved by the Minister in writing.
2. The provision of subsection (1) does not apply to bona fide mining/prospecting equipment which may be removed after all the foreign matter has been removed from the sites, the excavations shall be backfilled with subsoil, compacted and levelled with previously stored topsoil. No foreign matter such as cement or other rubble shall be introduced into such backfilling.

All rescued plants should be bagged and kept on a designated on-site nursery and should be returned to site once operation is completed and rehabilitation of disturbed areas is required. Replanting should only occur in springs or early summer (September to November), once the first rains have fallen, in order to facilitate establishment.

Seed should be collected from plants earmarked for removal prior to disturbance, in order to reduce the impact on plants. If seeds are collected from nearby seedbanks, it may indirectly affect the availability of seed as a source of food for a variety of animals and birds.

On completion of the operation, the above areas shall be cleared of any contaminated soil. The surface shall then be ripped or ploughed to a depth of at least 300mm and the topsoil previously stored adjacent the site, shall be spread evenly to its original depth over the whole area. The area shall then be fertilised if necessary (based on a soil analysis). The site shall be seeded with a vegetation seed mix adapted to reflect the local indigenous flora. Where the site has been rendered devoid of vegetation/grass or where soils have been compacted owing to traffic, the surface shall be scarified or ripped.

Photographs of the office/camp sites and prospecting sites, before and during the operation and after rehabilitation and closure, shall be taken at selected fixed points and kept on record for the information of the Regional Manager.



Photographs of the demarcation site, before and during the prospecting activities, after rehabilitation and closure, shall be taken at selected fixed points and kept on record for the regional manager's information and annual reporting.

Rehabilitation of the new topographical landscape in such a way that it would blend in with the surrounding landscape and allow normal (controlled) surface drainage to continue.

Implement water control systems in order to prevent erosion.

Visual impact would be addressed by means of:

- Re-vegetation (grasses);
- Removal of any building, scrap, domestic waste, etc. that would otherwise contribute to a negative visual impact.

### **iii. Fertilising of Areas to be rehabilitated**

If a reasonable assessment indicates that the re-establishment of vegetation is unacceptably slow, the Regional Manager may require that the soil be analysed and any deleterious effects on the soil arising from the prospecting operation be corrected and the area be seeded with a seed mix to his or her specification.

### **iv. Seeding of Grass Seed Mixture and planting of Woody Species**

The eventual seed mixture takes into account the availability of seed, different soil situations and the prevailing climatic conditions of the area.

### **b. Demolition of infrastructure/buildings**

On completion of operations, all structures on the proposed project terrain shall be dealt with in accordance with section 44 of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002).

### **c. Invasive and alien control programme**

Develop and implement an invasive and alien control programme to control the spread of weeds and other invasive species. Eradicate exotic weeds and invader species if it invades the terrain. All illegal invader plants and weeds shall be eradicated as required in terms of

Regulation 15 & 16 of the Act on Conservation of Agricultural Resources, 1983 (Act no. 43 of 1983) which list the plants.

#### **d. Final Land use after rehabilitation**

The Townlands land use within the proposed project area will have to be rehabilitated to the landowner's satisfaction. The land was earmarked for development and this plan might need to be on hold until the prospecting activities are completed and the results therefore have been produced. Only the grazing and farming land use can proceed as soon as the prospecting activities are complete. However, for the first 2 years the area will need to be monitored every six months and more of agriculture activities will need to be conducted to bring the land to its original state.

#### **7.6.4 COMPATIBILITY OF THE REHABILITATION PLAN WITH THE CLOSURE OBJECTIVES**

The rehabilitation plan has been drafted to be compatible with the closure objectives.

#### **7.6.5 DETERMINATION OF THE QUANTUM OF THE FINANCIAL PROVISION REQUIRED TO MANAGE AND REHABILITATE THE ENVIRONMENT**

The proposed project is in respect to prospecting of Platinum Group Metals (PGM), Cobalt (Co), Nickel Ore (Ni), Chrome Ore (Cr), Copper Ore (Cu), Iron Ore (Fe) and Gold minerals within the Portions 52, 53, 54, 55, 56, 57, RE/58, 59, 60 and 199 of the farm Piet Potgietersrus and Townlands 44 KS. Approximately, 30 boreholes of about 100m deep will be drilled within the applied area. The closure components have been determined based on the proposed activities to be conducted in the area and the impact assessment conducted. Areas and distances were determined with the aid of visual observations and the proposed surface layout plans. The latest Master rates for the different components were obtained from the DMRE. Weighting factors were applied based on the nature of the terrain (undulating) and the proximity to urban areas (remote). The determination of the financial provision for the proposed project is expanded in Table below. Based on the calculations indicated in (Table 7-2), the quantum of pecuniary provision required for the proposed project is **R 59 211.00** (Fifty-nine thousand, two hundred and eleven rand).

#### **7.6.6 METHOD OF PROVIDING FOR THE FINANCIAL PROVISION**

According to Regulation 8 pertaining to the financial provision for mining, exploration, mining or production operations (GNR 1147), an applicant or holder of a right or permit must make financial provision by one or a combination of the following:

- Financial guarantee from a bank registered in terms of the Banks Act, 1990 (Act No. 94 of 1990) or from a financial institution registered by the Financial Services Board as an insurer or underwriter.
- deposit into an account administered by the Minister responsible for mineral resources; or;
- contribution to a trust fund established in terms of applicable legislation.

URU Metals SA (Pty) Ltd has opted to use a financial guarantee to provide for the determined quantum for financial provision.

**Table 7-2: Assessment of the quantum for financial provision for prospecting project, 2021**

Description	Unit	A	B	C	D	E=A*B*C*D
		Quantity	Master Rate	Multiplication factor	Weighting factor 1	Amount (Rands)
Dismantling of processing plant and related structures (including overland conveyors and powerlines)	m3	0	17,4	1	1	0
Demolition of steel buildings and structures	m2	6	238,71	1	1	1432,26
Demolition of reinforced concrete buildings and structures	m2	0	351,79	1	1	0
Rehabilitation of access roads	m2	15	42,72	1	1	640,8
Demolition and rehabilitation of electrified railway lines	M	0	414,61	1	1	0
Demolition and rehabilitation of non-electrified railway lines	M	0	226,15	1	1	0
Demolition of housing and/or administration facilities	m2	0	477,42	1	1	0
Opencast rehabilitation including final voids and ramps	Ha	0,3	242984,15	1	1	72895,245
Sealing of shafts adits and inclines	m3	0	128,15	1	1	0
Rehabilitation of overburden and spoils	Ha	0,3	166847,44	1	1	50054,232
Rehabilitation of processing waste deposits and evaporation ponds (non-polluting potential)	Ha	0	207805,47	1	1	0
Rehabilitation of processing waste deposits and evaporation ponds (polluting potential)	Ha	0	603565,59	1	1	0
Rehabilitation of subsided areas	Ha	0	139709,6	1	1	0
General surface rehabilitation	Ha	2	132171,31	1	1	264342,62
River diversions	Ha	0	132171,31	1	1	0
Fencing	M	100	150,77	1	1	15077
Water management	Ha	0	50255,25	1	1	0
2 to 3 years of maintenance and aftercare	Ha	1	17589,34	1	1	17589,34
Specialist study	Sum	0	0	1	1	0
Specialist study	Sum	0	0	1	1	0
					Sub Total 1	422031,497
Preliminary and General	50643,77964		weighting factor 2		1	50643,77964
Contingencies		42203,1497			42203,1497	
					Subtotal 2	514878,43
					VAT (15%)	77231,76
					<b>Grand Total</b>	<b>592110</b>

## **7.7 MECHANISM FOR MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT AGAINST THE ENVIRONMENTAL MANAGEMENT PROGRAMME AND REPORTING THEREOF**

### **7.7.1 INSPECTIONS AND MONITORING**

During the impact assessment, potential impacts on the environment were identified. Mitigation measures were also specified for prevention and management of the impact so as to minimise their effect on the environment. This section will describe how URU Metals SA (Pty) Ltd, intends to ensure that the mitigation measures are being undertaken and that their effectiveness is proven.

A monitoring programme has been developed for the identified impacts and their mitigation measures. This monitoring programme will be undertaken and results thereof used to determine the effectiveness of the mitigation measures. The ECO will have an overall responsibility for ensuring that all monitoring is conducted according to the approved EMPr.

### **7.7.2 MONITORING COMPLIANCE WITH AND PERFORMANCE ASSESSMENT AGAINST THE ENVIRONMENTAL MANAGEMENT PROGRAMME AND REPORTING THEREOF**

As part of the general terms and conditions for an environmental authorisation and in order to ensure compliance with the EMPr and to assess the continued appropriateness and adequacy of the EMPr, URU Metals SA (Pty) Ltd will:

- Conduct monitoring on a continuous basis (see EMPr).
- Conduct performance assessments of the environmental management programme annually.
- Compile and submit a performance assessment report to the minister in which compliance with the approved Environmental Management Programme is demonstrated.

The performance assessment report will as a minimum contain the following:

- Information regarding the period applicable to the performance assessment
- The scope of the assessment.
- The procedure used for the assessment.
- The interpreted information gained from monitoring the approved environmental management programme.
- The evaluation criteria used during the assessment.
- The results of the assessment.
- Recommendations on how and when non-compliance and deficiencies will be rectified.

### **7.7.3 ENVIRONMENTAL AWARENESS PLAN**

An Environmental Awareness and Risk Assessment Schedule have been developed and is outlined below. The purpose of this schedule is to ensure that employees are not only trained but that the principles are continuously re-enforced.

#### **Table 7-3: Environmental Awareness and Risk Assessment**

Frequency	Time Allocation	Objective
Induction (all staff and workers)	1 hour training on environmental awareness training as part of site induction	<ul style="list-style-type: none"> <li>Develop an understanding of what is meant by the natural environmental and social environment and establish a common language as it relates to environmental, health, safety and community aspects.</li> <li>Establish a basic knowledge of the environmental legal framework and consequences of non-compliance.</li> <li>Clarify the content and required actions for the implementation of the Environmental Management Plan.</li> <li>Confirm the spatial extent of areas regarded as sensitive and clarify restrictions.</li> <li>Provide a detailed understanding of the definition, the method for identification and required response to emergency incidents.</li> </ul>
Monthly Awareness Talks (all staff and workers)	30-minute awareness talks	Based on actual identified risks and incidents (if occurred) reinforce legal requirements, appropriate responses, and measures for the adaptation of mitigation and/or management practices.
Risk Assessments (supervisor and workers involved in task)	Daily task-based risk Assessment	Establish an understanding of the risks associated with a specific task and the required mitigation and management measures on a daily basis as part of daily toolbox talks.

### 7.7.3.1 Manner in which risks will be dealt with in order to avoid pollution or the degradation of the environment

As prescribed in above table, Task/Issue Based Risk Assessments must be undertaken with all worker involved in the specific task in order to establish an understanding of the risks associated with a specific task and the required mitigation and management measures.

### 7.7.3.2 Environmental Awareness Training Content – Induction Training

The following environmental awareness training will be provided to all staff and workers who will be involved in prospecting activities.

- Description of the approved prospecting activities and content of the prospecting right;
- An overview of the applicable legislation and regulations as it relates to environmental, health, safety and community including (but not limited to):
  - General Environmental Legal Principles and Requirements
  - Air Quality Management
  - Water and Wastewater Management
  - Hazardous Substances

- Non-Mining-Related Waste Management
- The Appropriate Remediation Strategies & Deteriorated Water Resources
- Biodiversity
- Weeds and Invader Plants
- Rehabilitation
- Contractors and Tenants
- Energy & Conservation
- Heritage Resources
- General Health and Safety Matters
- Basic Conditions of Employment
- Compensation for Occupational Injuries and Diseases
- General Mine Health and Safety Matters
- Smoking in the Workplace
- Noise & Hearing Conservation
- Handling, Storage and use of Hazardous Substances
- Weapons and Firearms
- Content and implementation of the approved Environmental Management Plan
- All located responsibilities and functions
- Management and Mitigation Measures
- Identification of risks and requirements adaptation
- Sensitive environments and features
- Description of environmentally sensitive areas and features
- Prohibitions as it relates to activities in or in proximity to such areas
- Emergency Situations and Remediation
- Methodology to the identified areas where accidents and emergency situations may occur, communities and individuals that may be impacted
- An overview of the response procedures,
- Equipment and resources
- Designate of responsibilities
- Communication, including communication with potentially Affected Communities
- Training schedule to ensure effective response.

### **7.7.3.3 Development of procedures and checklists**

The following procedures will be developed, and all staff and workers will be adequately trained on the content and implementation thereof.

### **7.7.3.4 Emergency Preparedness and Response**

The procedure will be developed to specifically include risk identification, preparedness, response measures and reporting. The procedure will specifically include spill and fire risk, preparedness, and response measures. The appropriate emergency control centers (fire department, hospitals) will be identified, and the contact numbers obtained will be made available on site. The procedure must be developed in consultation with all potentially affected landowners.

In the event that risks are identified which may affected adjacent landowners (or other persons), the procedure will include the appropriate communication strategy to inform such persons and provide response measures to minimize the impact.

#### **7.7.3.5 Incident Reporting Procedure**

Incident reporting will be undertaken in accordance with an established incident reporting procedure to (including but not limited to):

- Provide details of the responsible person including any person who:
  - (i) is responsible for the incident;
  - (ii) owns any hazardous substance involved in the incident; or
  - (iii) was in control when the incident occurred;
  
- Provide details of the incident (time, date, location);
- The details of the cause of the incident;
- Identify the aspects of the environment impacted;
- The details corrective action taken, and
- The identification of any potential residual or secondary risks that must be monitored and corrected or managed.

#### **7.7.3.6 Environmental and Social Audit Checklist**

An environmental audit checklist will be established to include the environmental and social mitigation and management measures as developed and approved as part of the Environmental Management Plan. Non-conformances will be identified and corrective action taken where required.

## 8. UNDERTAKING

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The EAP herewith confirms

- a. the correctness of the information provided in the reports
- b. the inclusion of comments and inputs from stakeholders and I&APs;
- c. the inclusion of inputs and recommendations from the specialist reports where relevant; and
- d. that the information provided by the EAP to interested and affected parties and any responses by the EAP to comments or inputs made by interested and affected parties are correctly reflected herein.



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Signature of the environmental assessment practitioner:

**TSHIFCOR INVESTMENT AND RESOURCES (PTY) LTD**

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Name of company:

20 September 2021

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Date:

**END-**