

## 16. Appendices

### 16.1. Appendix 1: EAPs curriculum vitae and qualifications

**Family name:** Gildenhuis  
**First names:** Hermanus Daniël (Herman)  
**Date of birth:** 1978-12-12  
**Nationality:** South African

**Education:**

Institution	Diploma's/ qualifications obtained
University of Pretoria	M.Sc. Environmental Ecology
University of Pretoria	B.Sc. Hons. Wildlife Management
University of Stellenbosch	B.Sc. Agric

**Language skills:** (Scale of 1 to 5: 1-Excellent, 5-Basic)

Language	Reading	Speaking	Writing
English	1	2	2
Afrikaans	1	1	1

**Membership of professional bodies:**

- Registered Professional Scientist (Environmental and Ecological Science) with the South African Council for Natural Scientific Professions (SACNASP) (400179/13).
- Registered Environmental Assessment Practitioner with the Environmental Assessment Practitioners Association of South Africa (EAPASA) (2019/1290).
- Member of the International Association for Impact Assessment (IAIASa) (6443).

**Professional skills:**

- **Computer literacy:**
  - Microsoft Office Word, Excel, PowerPoint, Outlook, ArcGIS
- **Technical skills:**
  - Environmental Authorisation, Water Use Licence, Waste Management Licence and Atmospheric Emission Licence Applications
  - Environmental Feasibility Assessments (Fatal Flaw, Concept, PFS and DFS)
  - Environmental Reviews and Due Diligence Assessments
  - Competent Persons Reporting according to International Guidelines and Standards (part of a team)
  - Geographic Information Systems (GIS) - Database management, GIS Mapping, Map compilation, georeferencing of data.
  - Environmental Legal Compliance and Environmental Management Plan Performance Assessments and Water Use Licence Compliance Assessments
  - Experience and knowledge of public participation in environmental governance.
  - Management of all specialists within the field of Environmental Management
  - Compilation of project plans and tenders for environmental work

**Present position:**

- Senior Environmental Consultant

**Years within the firm:**

- Commenced full time employment with Ukwazi in 2021

**Key qualifications and experience:**

Herman is an environmental assessment practitioner with 15 years' experience. He has a MSc degree in Environmental Ecology (University of Pretoria), BSc Honours degree in Wildlife Management (University of Pretoria) and BSc.Agric degree (University of Stellenbosch). He is registered with the South African Council for Natural Scientific Professions and the Environmental Assessment Practitioners Association of South Africa (EAPASA).

Herman has extensive experience in environmental impact assessments, waste management & water use licence applications, due diligence assessments, feasibility studies and environmental legal compliance assessments. He also has completed numerous EMPR, water use licence and waste management licence compliance assessments (audits). He is furthermore experienced in project management and geographic information systems (GIS).

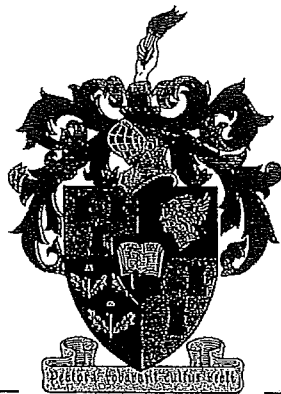
Herman started his career as environmental assessment practitioner with the Gauteng branch of Africa Geo-Environmental Services (AGES) in 2006. The AGES Gauteng rebranded in 2014 to Exigo Sustainability (Pty) Ltd (Exigo). Herman was appointed as Environmental Unit Manager in 2011 and was promoted to Interim Business

Unit Head of Exigo in 2020. He was employed by Ukwazi as Senior Environmental Consultant in the Sustainable Mining Unit in 2021.

Refer to the following **selected** projects:

- **Platinum and chrome**
  - Glencore Eastern Mines Mining Right and Mine Residue Facility Extension EMPR, Steelpoort, Limpopo
  - Glencore Kroondal & Waterval Mines Water Use Licence (WUL) Audits
  - Glencore Rustenburg and Wonderkop Smelter Waste Management Licence (WML) & WUL Audits, Rustenburg, North-West
  - Xstrata Magareng Greenfields Platinum Mine Waste Management Licence (WML), Environmental Impact Assessment (EIA) & Environmental Management Programme (EMPr), Steelpoort, Limpopo
- **Coal**
  - BECSA Middelburg Complex Coal Mine Consolidated EMPR, Middelburg, Mpumalanga
  - Environmental Legal Compliance Assessment (ELCA) for Anglo Coal New Denmark, New Vaal & Mafube Collieries
  - ELCA for Anglo Coal New Vaal & Mafube Collieries
  - ELCA & EMPR Performance Assessment Report (PAR) for Anglo Coal Greenside Coal Mine ELCA
  - EMPR Performance Assessment Report (PAR) for Anglo Coal Zibulo Colliery
  - South 32 Water Reclamation Plant WML & WUL Audits, Middelburg, Mpumalanga
  - South 32 Wolvekrans & Efaletu Coal Mines EMPR & WUL Audits, Middelburg, Mpumalanga
  - Tuli Block Coal Mine Preliminary Environmental Assessment, Mapungubwe, Limpopo
- **Iron Ore**
  - Environmental Due Diligence for Meletse Iron Ore Mine, Thabazimbi, Limpopo Province
  - Environmental Due Diligence for Phaphama Iron Ore Mine, Griekwastad, Northern Cape
  - Sishen Lylyveld Open Pit Mine EIA, Kathu, Northern Cape
- **Manganese**
  - United Manganese of Kalahari (UMK) Competent Person's Report, Hotazel, Northern Cape
- **Copper**
  - Nababeep Copper Mine Baseline/Concept Study, Nababeep, Northern Cape
- **Rare Earths**
  - Frontier Rare Earths Separation Plant EIA, Water Use Licence (WUL) & Atmospheric Emission Licence (AEL) Applications, Saldanha, Western Cape
- **Nickel**
  - Zebediela Nickel Mine EIA, Mokopane, Limpopo Province
- **Gold**
  - Environmental component as part of the Competent Persons Report for West Rand Tailings Retreatment Project for DRD GOLD Limited, Carletonville
- **Phosphates**
  - Zandheuveld Phosphate Mine EIA, Saldanha, Western Cape
- **Diamonds**
  - EMPR PAR for De Beers Voorspoed Diamond Mine
- **Non-Mining projects**
  - Bio-Ethanol Production Plant EIA & WULA, Cradock, Eastern Cape
  - Bushbuckridge Urban Renewal & R40 Ring Road EIAs, Bushbuckridge, Mpumalanga
  - LC de Villiers Sports Grounds Bridge Upgrade Basic Assessment, University of Pretoria, Gauteng
  - Marang CSP Solar Plant, Groblershoop, Northern Cape
  - Rietfontein Residential Development Basic Assessment, Hartebeespoort Dam, North-West
  - Section 24G Application for the Babelegi Steel Recycling Plant, Hammanskraal, Gauteng
  - Section 24G Applications for IDM Meyerton, Laudium and Isando Cement Blending and Slag Milling Plants, Gauteng
  - Sefhaku Sulphuric Acid, Hydrofluoric Acid and Aluminium Fluoride Production Facility EIA, WULA & AEL, Ekandustria, Gauteng
  - Sishen Charcoal Oven EIA, Dibeng, Northern Cape
  - Skukuza Safari Lodge Basic Assessment, Skukuza, Kruger National Park

0031407



## UNIVERSITY OF STELLENBOSCH

*This is to certify that whereas*

HERMANUS DANIEL GILDENHUYS

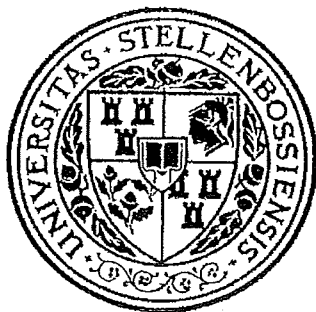
*had complied with all the conditions prescribed  
in the Act, Statute and Rules of the University,  
the four-year degree*

BACHELOR OF SCIENCE IN AGRICULTURE  
(BScAgric)  
(Animal Science)

*with all the rights and privileges pertaining thereto was conferred on  
him at a congregation of the University in December 2001.*

RECTOR AND VICE-CHANCELLOR

DEAN



REGISTRAR.

7 December 2001

This certificate was issued in both Afrikaans and English.  
In the unlikely event of an inconsistency in the wording,  
the Afrikaans text shall have precedence.



# Universiteit van Pretoria

Die Raad en die Senaat verklaar hiermee dat die graad

## Baccalaureus Scientiae Honores met spesialisering in Natuurlewebestuur

met al die regte en voorregte daaraan verbonde by geleentheid  
van 'n kongregasie van die Universiteit toegeken is aan

**HERMANUS DANIËL GILDENHUYS**

kragtens die Wet op Hoër Onderwys, 1997 en die Statuut van die Universiteit

Namens die Raad en die Senaat

Visekanselier en Rektor

Namens die Fakulteit  
Natuur- en Landbouwetenskappe

Dekaan



Registrateur

2003-04-07



# University of Pretoria

The Council and Senate hereby declare that  
at a congregation of the University the degree

## Master of Science

in

## Environmental Ecology

(with distinction)

with all the associated rights and privileges was conferred on

## Hermanus Daniël Gildenhuis

in terms of the Higher Education Act, 1997 and the  
Statute of the University

On behalf of the Council and Senate

Vice-Chancellor and Principal

Registrar



00038330





Registration No. 2019/1290

***Herewith certifies that***

**Herman Gildenhuys**

***is registered as an***

**Environmental Assessment Practitioner**

***Registered in accordance with the prescribed criteria of Regulation 15. (1)  
of the Section 24H Registration Authority Regulations  
(Regulation No. 849, Gazette No. 40154 of 22 July 2016, of the  
National Environmental Management Act (NEMA), Act No. 107 of 1998, as  
amended).***

Effective: 01 March 2022

Expires: 28 February 2023

Chairperson

Registrar





**herewith certifies that**  
**Hermanus Daniël Gildenhuys**  
Registration Number: 400179/13  
**is a registered scientist**

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

Environmental Science (Professional Natural Scientist)  
Ecological Science (Professional Natural Scientist)

Effective **31 July 2013**

Expires **31 March 2023**



A handwritten signature in black ink, appearing to read 'Botha', written over a horizontal line.

Chairperson

A handwritten signature in black ink, appearing to read 'M. ...', written over a horizontal line.

Chief Executive Officer





## 16.2. Appendix 2: Company profile



**Environmentally and socially**

**we are at the heart of mining**

**The mining industry is at an inflection point, which requires new approaches in environmental and social governance, towards managing complex country, market and operational risks.**

Health and safety, as well as sustainable development, have consistently ranked in the top 10 mining risks identified by most major mining companies.

However, Ukwazi's Sustainable Mining Practice recognises that compliance exists within a complex regulatory environment, and that environmental and social sustainability lies at the heart of the future of mining. Innovation, coupled with enhanced requirements associated with the social license to operate - as well as new corporate governance and triple bottom line reporting frameworks - makes finding bespoke and cutting-edge solutions in this field imperative.

**Value creation through  
integrated environmental  
approaches and concurrent  
mine rehabilitation**

**UKWAZI**  
sustainable mining



**WHO IS UKWAZI?**

# UKWAZI IS ONE OF **THE LARGEST** MINING SERVICES SPECIALISTS IN AFRICA

*We are mining solutions  
architects with a  
specialist capability  
in environmental  
management, mine closure  
planning and execution*

As an established black-owned mining services provider with a 16-year track record, we advise our clients every step of the way, across every touchpoint of the mining value chain; leveraging industry insight and expertise to drive commercial success and project development.

We offer independent advisory, technical systems integration and operational contract mining services to a range of clients, across multiple markets and geographies.

**WHY UKWAZI ?**



**PLANS EXECUTED**  
through our  
contracting business



**DIGITAL SYSTEMS**  
utilised for monitoring  
and reporting



**ENGINEERING**  
and mining infrastructure  
project developers



**PROJECT DELIVERY**  
based on EPCM or bespoke  
contractual services



**ENVIRONMENTAL**  
sustainable mining  
and social advisors



**CLOSURE LIABILITY**  
and mine waste  
management specialists

# AT UKWAZI WE DESIGN OPTIMISED **MINE CLOSURE SOLUTIONS**

WHAT WE OFFER



INTEGRATED

## WHAT VALUE DO WE BRING?

Partner with us now for a more integrated approach to environmental management services, mine rehabilitation and closure planning. Our aim is to fundamentally transform the closure design philosophy by shifting the focus to comprehensive, life-cycle liability management; lowering costs, reducing risk and strengthening balance sheets.

**Our industry insight, specialist teams and expertise, ideally position us to find the most innovative, sustainable solutions to environmental and closure liability management, with post-closure social governance plans – all based on sound value engineering and mine rehabilitation practices.**


We offer a fully integrated approach to environmental risk management. Utilising unique sector capabilities, our natural scientists and mining engineers are able to provide:

<p><b>TECHNICAL ASSISTANCE</b></p> <p>Specialist environmental studies</p>	<p><b>PROJECT MANAGEMENT</b></p> <p>Environmental activities &amp; compliance</p>	<p><b>MINE CLOSURE</b></p> <p>Execution of closure &amp; post-closure plans</p>	<p><b>LIABILITY MANAGEMENT</b></p> <p>Risk reduction &amp; management</p>
<p><b>EXPERT ADVICE</b></p> <p>Focused on international requirements</p>	<p><b>CLOSURE ESTIMATION</b></p> <p>Accurate financial modelling &amp; risk-based approach</p>	<p><b>EFFECTIVE MONITORING</b></p> <p>Environmental Management Information Systems (EMIS)</p>	<p><b>REHABILITATIVE MINING</b></p> <p>Reprocessing, water treatment &amp; waste management</p>

KEEN TO RETHINK  
**your mine closure planning and philosophy** ?

**Better closure today for a better tomorrow.**

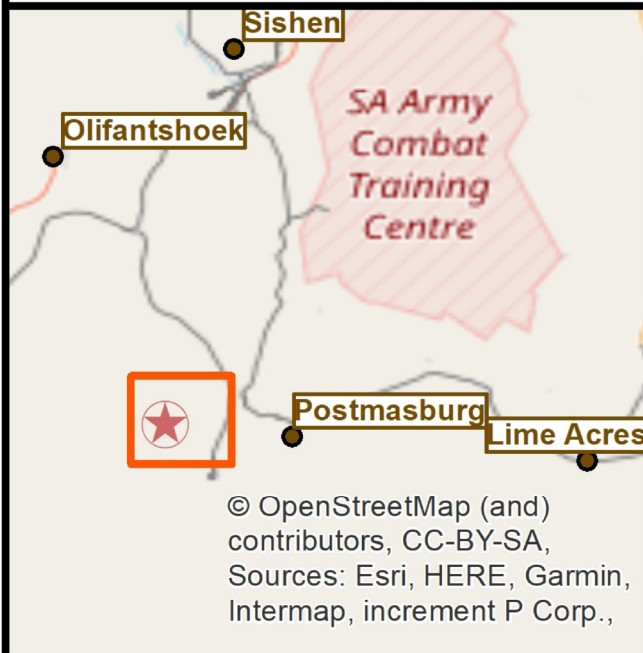
**GET IN TOUCH**

<p><a href="mailto:info@ukwazi.com">info@ukwazi.com</a></p>	<p><b>KATHU</b> - Northern Cape                  +27 (0)53 004 0381  <b>EMALAHLENI</b> - Mpumalanga                  +27 (0)13 658 3256  <b>CENTURION</b> - Gauteng                  +27 (0)12 665 2154</p>	 <p><b>UKWAZI</b>                  we do mining</p>
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MINE WASTE

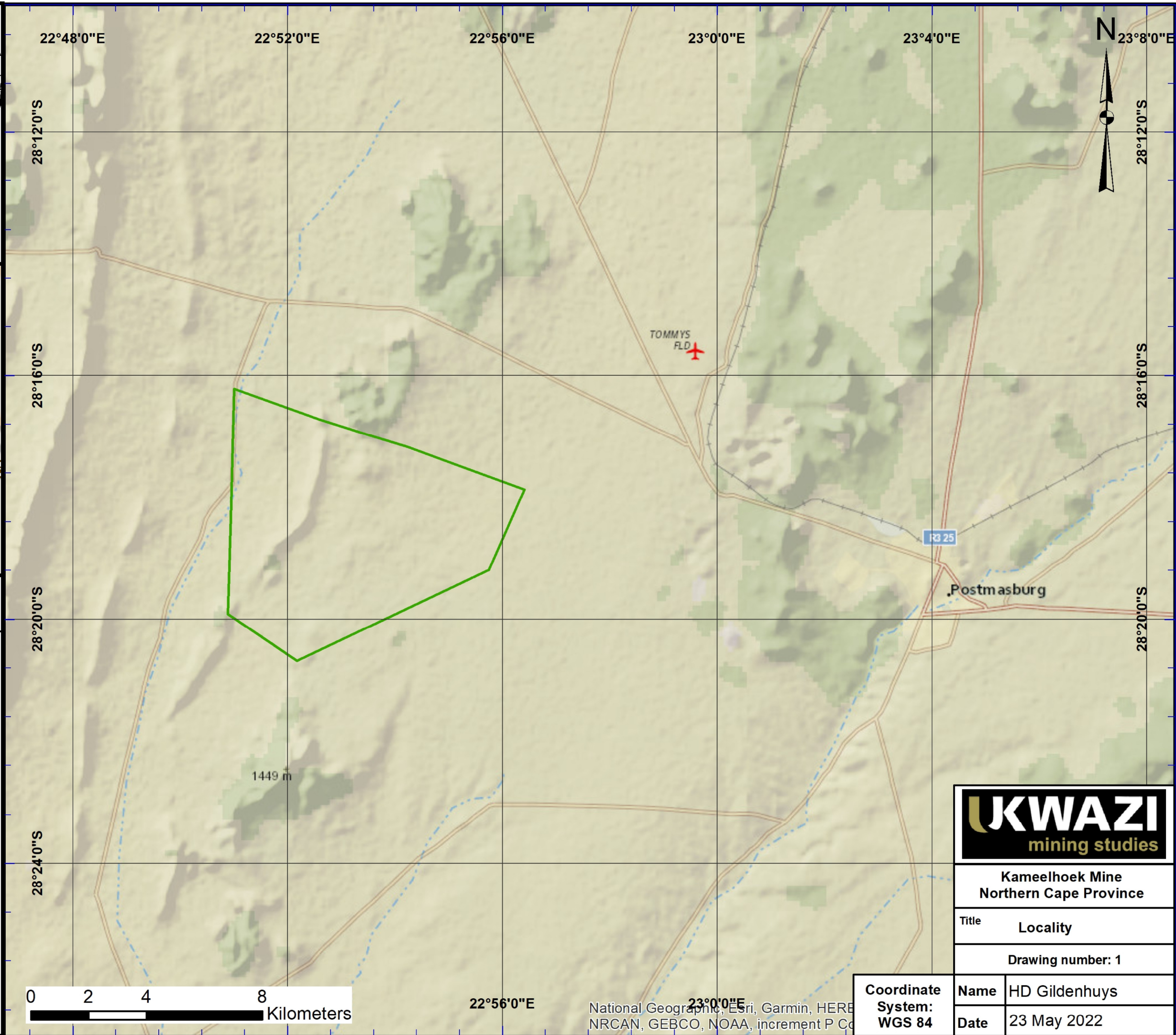
Let us tackle your mine waste and transform your active mine into a safe, stable and repurposed land use; equipped to support future economic activities.

### 16.3. Appendix 3: Locality map



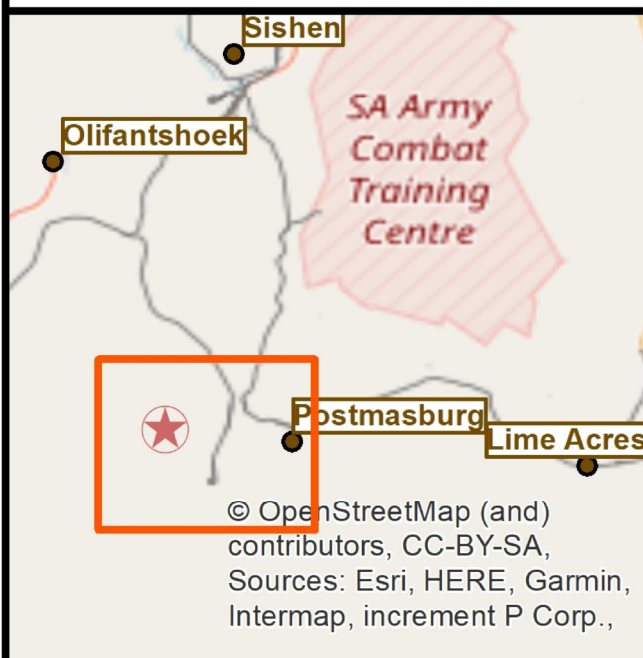
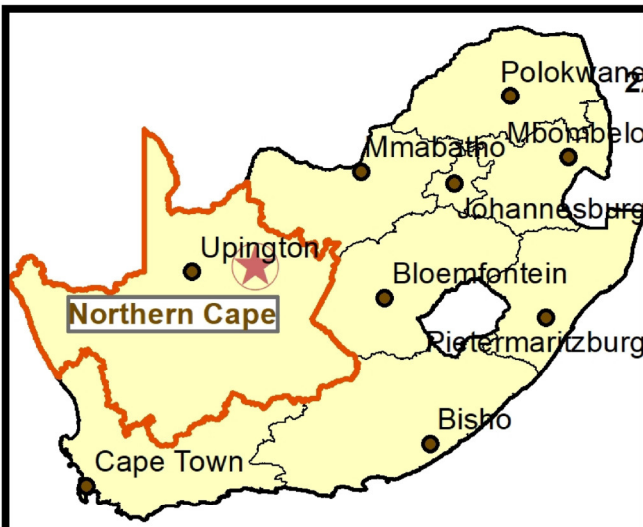
**Legend**

-  Kameelhoek mining rights boundary
-  Kameelhoek location



<b>Kameelhoek Mine</b>	
Northern Cape Province	
Title	Locality
Drawing number: 1	
Name	HD Gildenhuys
Date	23 May 2022

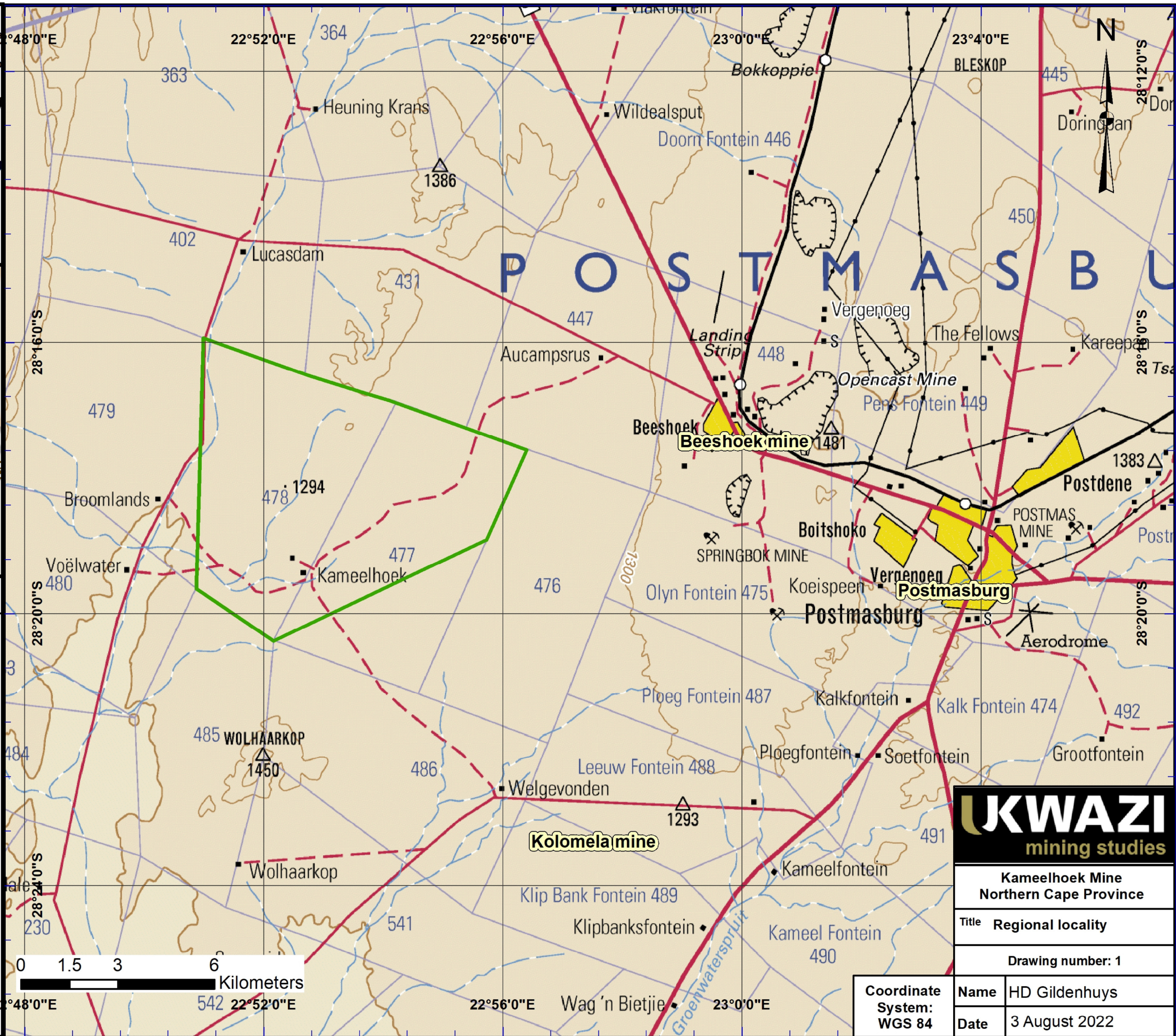
Coordinate System: WGS 84



© OpenStreetMap (and) contributors, CC-BY-SA, Sources: Esri, HERE, Garmin, Intermap, increment P Corp.,

**Legend**

-  Kameelhoek Mining Rights Area
-  Kameelhoek location

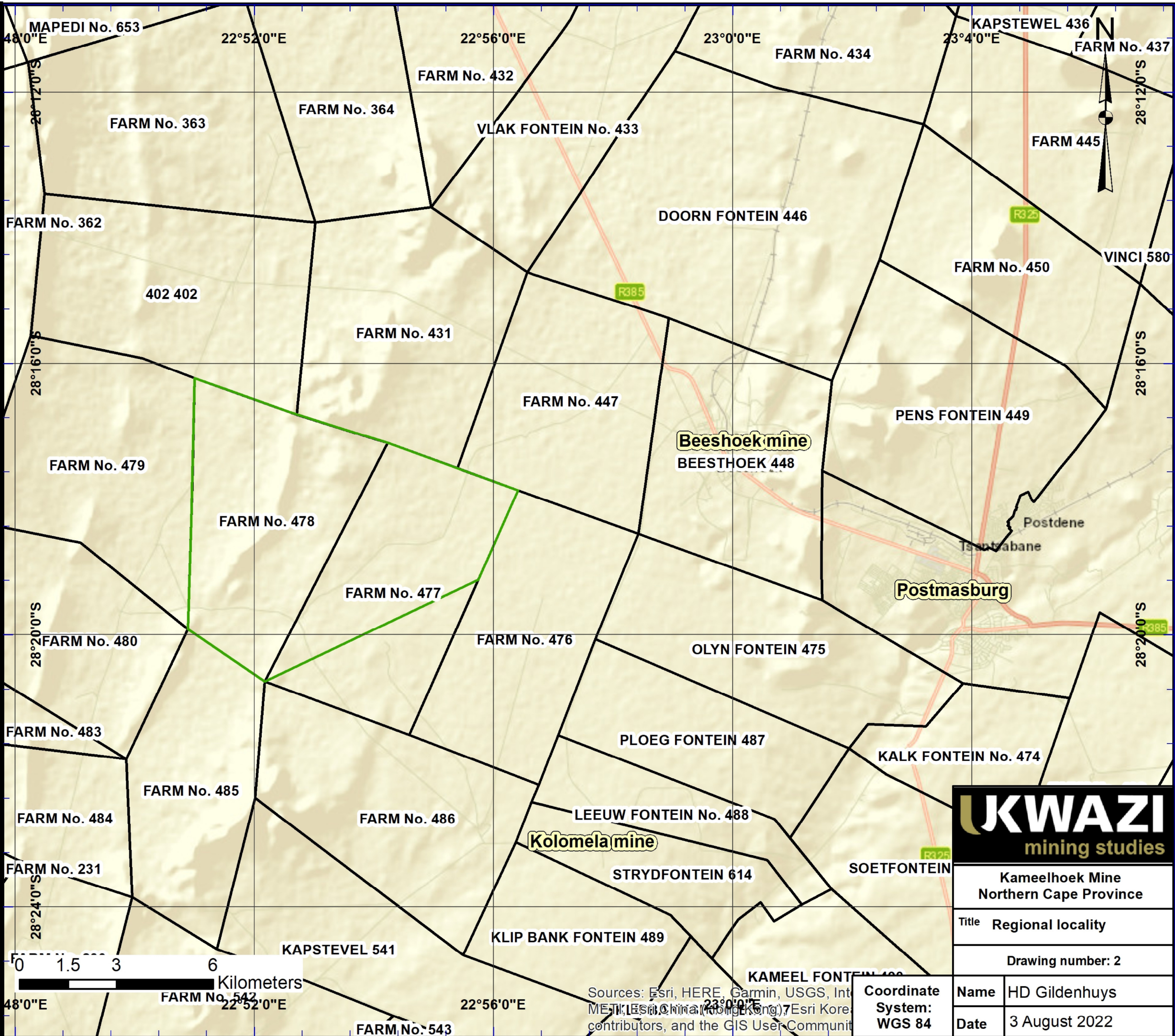
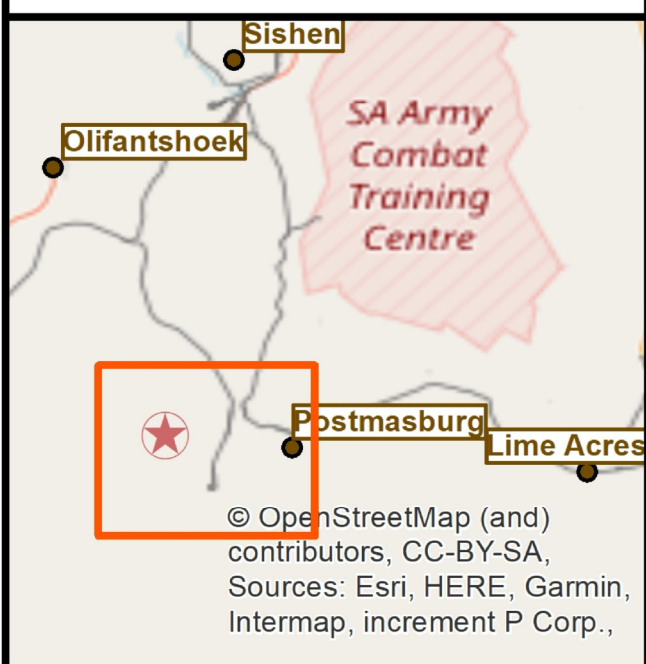
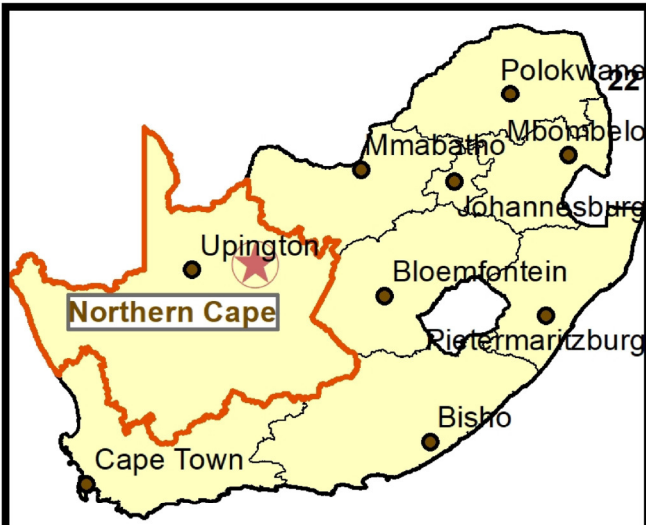


**KWAZI**  
mining studies

Kameelhoek Mine Northern Cape Province	
Title	Regional locality
Drawing number: 1	
Name	HD Gildenhuys
Date	3 August 2022

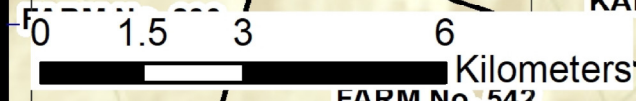
Coordinate System: WGS 84





**Legend**

- Kameelhoek mine mining rights area
- Parent Farm
- ★ Kameelhoek location

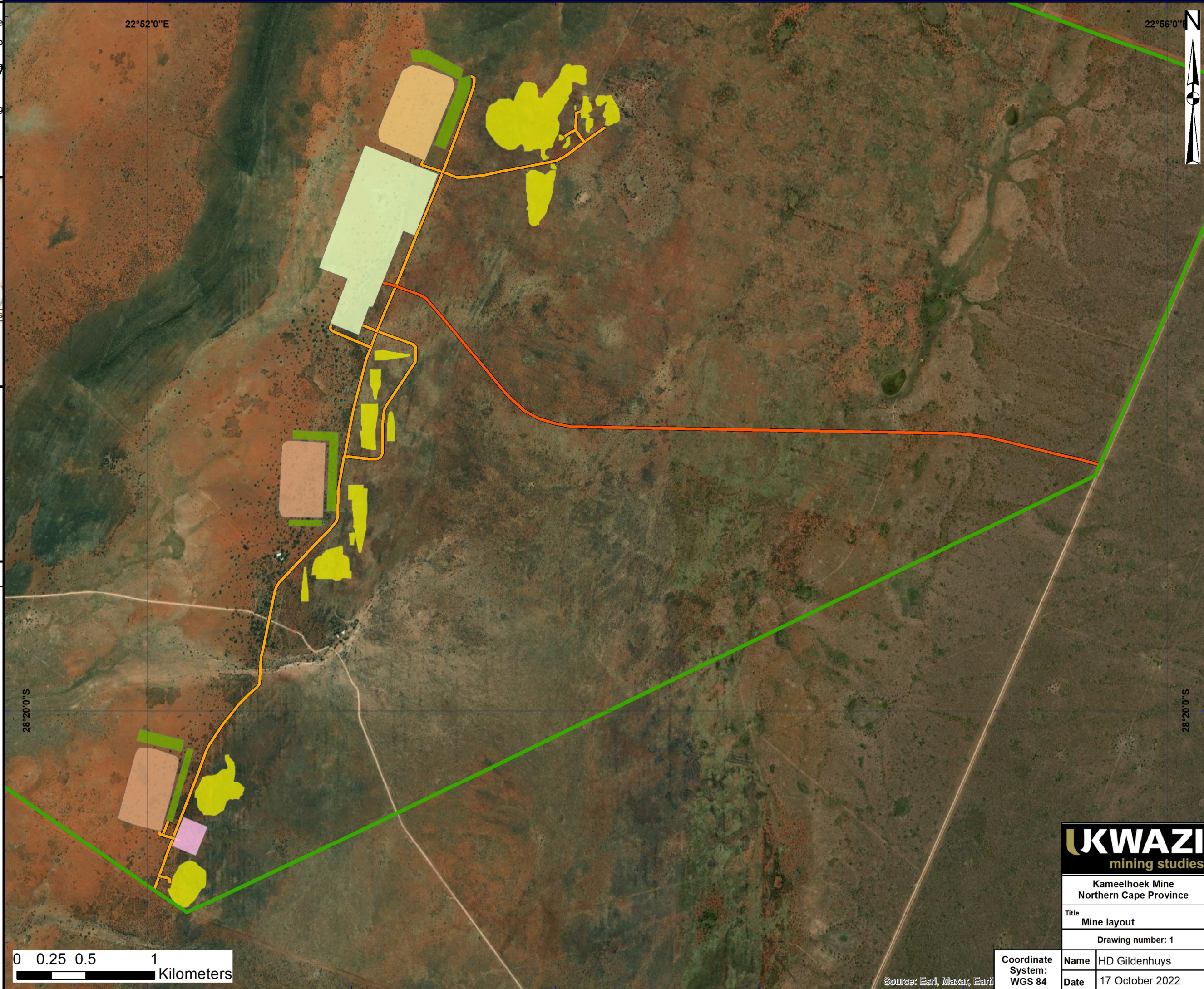
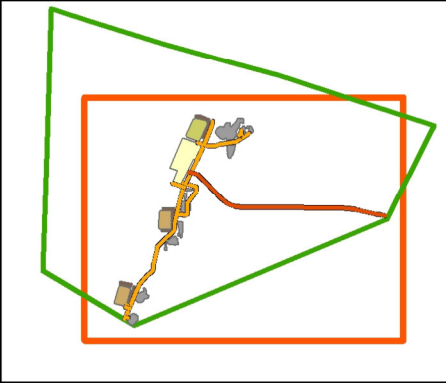


<b>Kameelhoek Mine</b> Northern Cape Province	
Title	Regional locality
Drawing number: 2	
Name	HD Gildenhuys
Date	3 August 2022

Coordinate System: WGS 84

Sources: Esri, HERE, Garmin, USGS, Intel, DELorme, China (Hong Kong), Esri Korea, contributors, and the GIS User Community

## 16.4. Appendix 4: Site plan

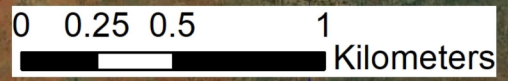


**Legend**

- Kameelhoek mining rights area

**Mine layout**

- Semi mobile crushing plant production loading
- Open pits
- Plant and offices
- Topsoil stockpiles
- Co-disposal facility
- Waste rock dumps
- Access road
- Haul road
- Kameelhoek location



**UKWAZI**  
mining studies

Kameelhoek Mine  
Northern Cape Province

Title  
Mine layout

Drawing number: 1

Coordinate System: WGS 84	Name	HD Gildenhuys
Date	17 October 2022	

Source: Esri, Maxar, Earth

## 16.5. Appendix 5: Public participation documentation

At the time of writing this report the public participation process had not yet commenced. The documentation mentioned here will be attached to the final SR.

### 16.5.1. Appendix 5.1: Proof of advertisement

### 16.5.2. Appendix 5.2: Proof of site notice

### 16.5.3. Appendix 5.3: Proof of I&AP notification

### 16.5.4. Appendix 5.4: Meeting minutes, presentations and attendance registers

### 16.5.5. Appendix 5.5: I&AP correspondence

### 16.5.6. Appendix 5.6: Comments and response table

## 17. Appendix 6: Policy and legislative context

Table 17-1: Project related legislation.

Applicable legislation and guidelines used to compile the report	Reference where applied
<p><b>The Constitution of the Republic of South Africa (Act No. 108 of 1996) (“The Constitution”)</b> The Constitution is the supreme law of the Republic of South Africa. Any law or conduct inconsistent with the Constitution is considered invalid and the obligations imposed by it must be fulfilled.</p> <p>Chapter 2 of the Constitution provides for the Bill of Rights, which sets out the fundamental rights of all South Africans. Amongst those, Section 24 of the Constitution sets out several environmental rights, thereby providing the foundation for environmental regulation and policy in South Africa. It is mentioned that everyone has the right:</p> <p>(a) <i>to an environment that is not harmful to their health or well-being; and</i>            (b) <i>to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that-</i>                (i) <i>prevent pollution and ecological degradation;</i>                (ii) <i>promote conservation; and</i>                (iii) <i>secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.</i></p> <p>Section 24 enforces the protection of the environment through reasonable legislative (and other measures) and such legislation is continuously in the process of being promulgated or amended. The Constitution assigns legislative competence to national, provincial and local government with respect to, amongst others, environment aspects and pollution control.</p> <p>Sustainable development is provided for in Section 24(b)(iii) of the Constitution in that the State needs to ensure that it executes its mandate by means of a balanced approach, taking environmental, social and economic considerations into account. Sustainability can only be achieved by considering ecological considerations, while at the same time addressing economic inequalities and social welfare concerns.</p> <p>Section 32 in turn provides for the right to access records and/or information held by the state and any information held by another person and that is required for the exercise or protection of any rights. The Promotion of Access to Information Act (PAIA) (Act No. 2 of 2000) gives effect to the provisions of this right.</p> <p>Section 33(1) concerns administrative justice, which includes the constitutional right to administrative action that is lawful, reasonable and procedurally fair. The Promotion of Administrative Justice Act (Act No. 3 of 2000) gives effect to the provisions of this right.</p>	<p>The SR was compiled by considering the rights of those affected by the mining development, including surrounding landowners and sensitive environments, as per the constitutional framework set by inter alia section 24 of the Constitution.</p>
<p><b>Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) (“MPRDA”)</b></p> <p>The MPRDA is the act that governs mining in South Africa. All mineral resources in the country are state owned and private companies and individuals obtain rights to mine via a mineral rights system. The Department of Mineral Resources and Energy (“DMRE”) is the competent authority (“CA”) that approves applications under the MPRDA.</p> <p>The preamble to the MPRDA inter alia affirms the State’s obligation to:</p> <ul style="list-style-type: none"> <li>▪ protect the environment for the benefit of present and future generations</li> <li>▪ ensure ecologically sustainable development of mineral and petroleum resources, and</li> <li>▪ promote economic and social development.</li> </ul> <p>The aforesaid preamble affirms the general right to an environment provided for in section 24 of the Constitution.</p>	<p>The legislation will need to be heeded throughout the mining operations and were considered in the compilation of the SR.</p> <p>The report includes a description of the potential environmental impacts of the development, management measures required to mitigate the identified impacts and the process that will be undertaken to compile the EIA &amp; EMP report.</p> <p>The mine currently holds a mining right that have been granted under Section 23 of the MPRDA.</p>

Applicable legislation and guidelines used to compile the report	Reference where applied
<p>According to the MPRDA any person who wishes to apply for a new Mining Right must conduct an Environmental Impact Assessment (“EIA”) and submit an Environmental Management Programme Report (“EMPr”) to the Minister. In terms of Section 102 of the MPRDA, amendments to an approved EMPr will need an EA process to be undertaken in terms of the NEMA.</p> <p>The EMPr has two main functions: (1) it describes the mitigation measures required to mitigate the impacts identified in the EIA and (2) it provides the financial provision for mine closure to ensure adequate rehabilitation and ongoing post-closure decommissioning management.</p> <p>Any significant changes to the mine’s operations will require an amendment to the EMPr in line with Section 102 of the MPRDA. This amendment must assess the environmental impacts of the proposed changes, update the management measures required to mitigate the identified impacts and revise the financial provision for closure to ensure that the mine has sufficient funds available.</p> <p>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 to ensure that exploitation of mineral resources serves present and future generations.</p> <p>Section 39 of the MPRDA furthermore outlines specific information requirements for an EMPr.</p> <p><b>Minerals and Petroleum Resources Development Regulations, Government Notice Regulation (“GNR”) 527 of 2004</b>            Although various sections of the MPRDA itself have been repealed, several sections remain in force. The Regulations make specific provision regarding matters such as:</p> <ul style="list-style-type: none"> <li>▪ Social and Labour Plans</li> <li>▪ Pollution Control, including Noise, Waste, Soil Conservation, Blasting, Vibration and Shock Management.</li> </ul> <p>The MPRDA Regulations must be read in conjunction with the NEMA and NEMWA.</p> <p><b>The National Environmental Management Act (“NEMA”) (Act No. 107 of 1998), Environmental Impact Assessment Regulations, 2014 (as amended)</b>            The NEMA provides the framework for environmental legislation in South Africa. The overarching principle of the NEMA is sustainable development, which is defined in NEMA as: “<i>the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations</i>”. Section 2(3) of the NEMA requires that a development should be socially, environmentally and economically sustainable.</p> <p>The NEMA introduced several guiding principles into South African environmental legislation, including the life-cycle approach to waste management, producer responsibility, the precautionary principle and the polluter pays principle. The precautionary principle requires the consideration of all relevant factors including that: a risk-averse and cautious approach” is applied, which considers the limits of current knowledge about the consequences of decisions and actions. A risk-based methodology is considered essential as precautionary measures are formulated to mitigate environmental damage.</p> <p>Further principles of NEMA include the protection of the natural environment, environmental justice, waste minimisation, public consultation, the right to an environment that is not harmful to one’s health or wellbeing, and a general duty of care.</p> <p>Section 24N of the NEMA states, amongst others, that the “<i>Minister responsible for mineral resources or an MEC may require the submission of an environmental management programme before considering an application for an environmental authorisation</i>”.</p> <p>According to Section 24N (7), the holder of the environmental authorisation:</p> <ul style="list-style-type: none"> <li>▪ <i>must consider, investigate, assess and communicate the impact of his or her prospecting or mining on the environment;</i></li> <li>▪ <i>must manage all environmental impacts-</i> <ul style="list-style-type: none"> <li>○ <i>in accordance with his or her approved environmental management programme, where appropriate; and</i></li> <li>○ <i>as an integral part of the prospecting or mining, exploration or production operation, unless the Minister responsible for mineral resources directs otherwise;</i></li> </ul> </li> </ul>	<p>A section 102 application process has been submitted to the DMRE together with an updated mine works programme to cater for the proposed changes to the mine layout etc.</p> <p>The mine has an approved Social and Labour Plan.</p> <p>The SR was compiled in line with the requirements of the NEMA. As part of the planning phase of the mine the social, economic and environmental factors are being considered. The precautionary principle is being considered with the identification and assessment of impacts and mitigation measures.</p> <p>An application for environmental authorisation in line with the provisions contained in GNR 982 (as amended) was submitted to the Northern Cape Department of Mineral Resources and Energy (“DMRE”), in terms of section 24 of the NEMA for consideration.</p>

Applicable legislation and guidelines used to compile the report	Reference where applied
<ul style="list-style-type: none"> <li>▪ <i>must monitor and audit compliance with the requirements of the environmental management programme;</i></li> <li>▪ <i>must as far as is reasonably practicable, rehabilitate the environment affected by the prospecting or mining operations to its natural or predetermined state or to a land use which conforms to the generally accepted principle of sustainable development; and</i></li> <li>▪ <i>is responsible for any environmental damage, pollution, pumping and treatment of polluted or extraneous water or ecological degradation as a result of his or her operations.</i></li> </ul> <p>Section 24S of the NEMA provides that residue stockpiles and residue deposits must be deposited and managed in accordance with the provisions of the National Environmental Management: Waste Act, 2008 (“NEMWA”) (Act No. 59 of 2008), on any site demarcated for that purpose in the environmental management plan or environmental management programme in question.</p> <p>The EIA regulations GNR.982, and notices containing listed activities (GNR.983, GNR.984 and GNR.985) were promulgated on 4 December 2014 in terms of Sections 24(2) and 24D of the NEMA. These regulations were amended on 7 April 2017 and again on 11 June 2021. GNR.982 defines the EIA processes that must be undertaken when applying for an Environmental Authorisation. GNR.983 lists those activities for which a basic assessment is required, while GNR.984 lists activities requiring a full Scoping and EIA process. Activities listed in GNR.985 are relevant to specifically identified geographical areas and requires a basic assessment process to be undertaken.</p> <p><b>National Water Act (Act No 36 of 1998) (“NWA”)</b>  The NWA provides the overarching legislation for the sustainable and equitable use, and protection of water resources in South Africa. In terms of the NWA, the national government, acting through the Minister of Water and Sanitation, is the public trustee of South Africa’s water resources, and must ensure that water is protected, used, development, conserved, managed, and controlled in a sustainable and equitable manner for the benefit of all persons (section 3(1)). Section 19 of the NWA places an obligation on landowners, persons in control of land, occupants of land and land users of land to take all reasonable measures to prevent pollution from occurring, continuing or recurring.</p> <p>The NWA specifies that a person may only use water without a license under certain specified circumstances. All other water uses require a water use license, provided that the use qualify as a use listed in section 21 of the Act. Water uses are permissible without a licence under the following circumstances:</p> <ul style="list-style-type: none"> <li>▪ If the water use is specified under Schedule 1 (generally domestic type use).</li> <li>▪ If it is an existing lawful water use, meaning that it was undertaken prior to the commencement of the NWA, and was undertaken in terms of the Water Act of 1956.</li> <li>▪ if the water use is permissible in terms of a general authorisation issued under section 39, subject to specified criteria and thresholds.</li> </ul> <p>Water uses requiring authorisation in terms of Section 21 of the NWA includes:</p> <ul style="list-style-type: none"> <li>▪ <i>taking water from a water resource (section 21(a));</i></li> <li>▪ <i>storing water (section 21(b));</i></li> <li>▪ <i>impeding or diverting the flow of water in a water course (section 21(c));</i></li> <li>▪ <i>engaging in a stream flow reduction activity (section 21(d));</i></li> <li>▪ <i>engaging in a controlled activity which has either been declared as such or is identified in section 37(1) (section 21(e));</i></li> <li>▪ <i>discharging waste or water containing waste into a water resource through a pipe, canal, sewer, sea outfall or other conduit (section 21(f));</i></li> <li>▪ <i>disposing of waste in a manner which may detrimentally impact on a water resource (section 21(g));</i></li> <li>▪ <i>disposing in any manner of water which contains waste from, or which has heated in, any industrial or power generation process (section 21 (h));</i></li> <li>▪ <i>altering the bed, banks, course or characteristics of a water course (section 21(i));</i></li> <li>▪ <i>removing, discharging or disposing of water found underground if it is necessary for the efficient continuation of an activity or for the safety of people (section 21(j)); and</i></li> <li>▪ <i>using water for recreational purposes (section 21(k)).</i></li> </ul> <p><b>Regulations on Use of Water for Mining and Related Activities aimed at the Protection of Water Resources (GNR. 704 of 1999)</b></p>	<p>A water use licence application (“WULA”) will be submitted to the Department of Water and Sanitation (“DWS”) to obtain authorisation for water uses triggered in terms of section 21 of the NWA upon finalisation of the EIA and mine residue facility designs.</p> <p>The water uses that will require authorisation in terms of Section 21 of the NWA are detailed in Section 4.2.3.</p> <p>A hydrological assessment is currently being undertaken that will identify clean and dirty water management structures to be designed in accordance with GN704.</p>

Applicable legislation and guidelines used to compile the report	Reference where applied
<p>GNR. 704 provides for amongst others; restrictions on the locality of a mine or mining infrastructure (regulation 3), restrictions on the use of certain material that could cause pollution of a water resource (regulation 4), capacity requirements of clean and dirty water systems (regulation 6), reasonable measures for the protection of water resources (regulation 7), security and additional measures (regulation 8) and temporary or permanent cessation of a mine or activity (regulation 9). Exemption from the requirements of the regulations is possible in terms of an application in line with Regulation 3 of GNR. 704.</p> <p><b>Regulations regarding the procedural requirements for Water Use Licence Application and Appeals, (GNR. 267 of 2017)</b>                      The Regulations serve to prescribe the procedure and requirements of water use licence applications as contemplated in Sections 41 of NWA, and appeals in terms of Section 41(6) of the NWA.</p>	
<p><b>National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) (“NEMAQA”)</b>                      The purpose of the NEMAQA is to regulate air quality in South Africa in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation. Section 3 of NEMAQA places a general duty on the state to protect and enhance the quality of air as part of its obligations under section 24 of the Constitution.</p> <p>Section 21 of the NEMAQA provides a list of activities that may cause atmospheric emissions, which have or may have a significant detrimental effect on the environment and the minimum emission standards (“MES”) for these activities as contemplated in section 21 of NEMAQA. These activities are specified in GNR 893 (as amended) and require an atmospheric emission licence (“AEL”). An applicant must apply for both an AEL under NEMAQA and an EA under NEMA.</p> <p>The purpose of the NEMAQA is to regulate air quality in South Africa in order to protect the environment by providing reasonable measures for the prevention of pollution and ecological degradation.</p> <p>The List of Activities and associated Minimum Emission Standards identified in terms of section 21 of the NEMAQA provides a list of activities that may cause atmospheric emissions, which have or may have a significant detrimental effect on the environment and the minimum emission standards (“MES”) for these activities as contemplated in section 21 of NEMAQA.</p> <p>The effect of the commencement of the NEMAQA and the listed activities, listed in GN 893 (as amended), is that an atmospheric emission licence (“AEL”) is required for conducting the listed activities.</p> <p>The National Dust Control Regulations (GNR 827 of 1 November 2013) were published on 1 November 2013 and prescribes general measures for the control of dust in all areas and the standard for acceptable dustfall rate for residential and non-residential areas.</p> <p>Furthermore, the National Ambient Air Quality Standards were published in GNR 1210 of 24 December 2009. In accordance with section 9 of the NEMAQA, the National Ambient Air Quality Standards identifies substances or mixtures of substances in ambient air which present or may present a threat to health, well-being, or the environment.</p> <p>Annexure I of the National Atmospheric Emission Reporting Regulations (GNR 283 of 2 April 2015) specifies that any person that holds a mining right or permit in terms of the MPRDA, must register and report on emissions in the format as required on the South African National Atmospheric Emissions Inventory System (“NAEIS”).</p>	<p>The proposed Kameelhoek mine will not require authorisation for activities listed in terms of Section 21 of the NEMAQA and will therefore not require an AEL.</p> <p>Recommended dust control and monitoring measures will be included in the EIA &amp; EMP report.</p> <p>An air quality impact assessment is currently being compiled as part of the EIA process.</p>
<p><b>National Environmental Management: Waste Act (Act No. 59 of 2008) (“NEMWA”)</b>                      The NEMWA deals with waste management and control. It aims to provide reasonable measures to:</p> <ul style="list-style-type: none"> <li>▪ minimise consumption of natural resources,</li> <li>▪ avoid and minimise the generation of waste,</li> <li>▪ reduce, re-use, recycle and recover waste</li> <li>▪ treatment and safe disposal of waste</li> <li>▪ prevent pollution and ecological degradation</li> <li>▪ secure ecologically sustainable development while promoting justifiable economic and social development</li> </ul>	<p>The waste management activities as listed in GNR 921 of 29 November 2013 (as amended) which are applicable to the proposed mining operations and for which a waste management license is required are stipulated in Section 1.1.1 above.</p>



Applicable legislation and guidelines used to compile the report	Reference where applied
<ul style="list-style-type: none"> <li>▪ promote and ensure the effective delivery of waste services</li> <li>▪ remediate land where contamination presents, or may present a significant risk of harm to health or the environment: and</li> <li>▪ achieve integrated waste management reporting and planning.</li> </ul> <p>The NEMWA emphasises the waste management hierarchy and provides a systematic and hierarchical approach to integrated waste management, by advocating waste avoidance, reduction, re-use, recycling, recovery, treatment, and safe disposal as a last resort.</p> <p>Section 19 of the NEMWA provides for listed waste management activities in terms of section 19(1), that have, or are likely to have a detrimental effect on the environment and for which a licence needs to be obtained beforehand. Such a list was published in GNR 921 of 29 November 2013 (as amended). Section 20 of the NEMWA states that no person may commence, undertake or conduct a waste management activity, except in accordance with the requirements or standards for that activity as determined by the Minister or in accordance with a waste management licence issued in respect of that activity, if a licence is required.</p> <p>Listed activities published in terms of the NEMWA for which a waste management licence is required before construction and operations can commence were published in GNR. 921 of 29 November 2013. These regulations have been amended a number of times and since 2015, new mine residue stockpiles and residue deposits (e.g. tailings storage facilities and waste rock dumps) now require a waste management licence in terms of the NEMWA. GNR 921 provides listed activities according Categories A, B and C. In order to obtain approval for the specific activity, Category A waste management activities require the undertaking of a basic assessment process and Category B waste management activities require a scoping and environmental impact assessment process. Activities listed in Category C do not require authorisation prior to commencement, however, need to comply with the National Norms and Standards for the Storage of Waste (GNR 926 of 29 November 2013) published in terms of the NEMWA.</p> <p>Since the publication of the National Environmental Management: Waste Amendment Act (Act 26 of 2014) (“NEMWAA:”) on 2 June 2014, and the National Environmental Laws Amendment Act (NEMLAA, Act 25 of 2014) on 2 September 2014, the NEMWA now finds application to mine residue stockpiles and residue deposits. Consequently the ‘One Environmental System’ was implemented as from 8 December 2014. Amendments to GNR 921 were promulgated in GNR 633 of 24 July 2015 to include the establishment and/or reclamation of residue stockpiles and residue deposits as Category A and B listed activities requiring a waste management licence.</p> <p>On 24 July 2015, the Regulations regarding the Planning and Management of Residue Stockpiles and Residue Deposits, 2015 (GNR 632) were published in terms of the NEMWA. The purpose of GNR 632 is to regulate the planning and management of residue stockpiles and residue deposits from, amongst others, a mining operation. It further provides for the characterisation and classification of residue stockpiles, the investigation and site selection and the design of residue stockpiles, impact management and monitoring and reporting systems for residue stockpiles. A risk analysis need to be undertaken based on the waste characteristics and classification, which must be used to determine appropriate mitigation and management measures.</p> <p>The Waste Classification and Management Regulations (GNR 634 of 23 August 2013) were published on 23 August 2013. These regulations contain the specifics as to how waste need to be classified and must be read together with the National Norms and Standards for the Assessment of Waste for Landfill Disposal (GNR 635 of 23 August 2013). The waste classification requires that a leach test and a total concentration analysis need to be conducted. The leach test requires the leaching of a solid sample of waste with reagent water and the subsequent analysis of the leachate for specific components. The total concentration analysis involves the analysis of the solid material for the total concentration of specific components that are present in the waste sample. The results of these two tests are compared to regulatory criteria and a classification is done based on the results of this comparison.</p> <p>Once waste has been classified, disposal methods must be decided on in accordance with GNR 636 (National norms and standard for disposal of waste to landfill). Residue stockpiles and residue deposits need to be managed in the prescribed manner on any site demarcated for that purpose in the EMPr for the mining operation (section 43A of the NEMWA).</p>	<p>A geochemical waste classification Assessment will be conducted for all residue stockpiles.</p> <p>GNR. 634 – 636 will be considered in the waste classification process and when recommending the mine residue containment barrier system.</p>

Applicable legislation and guidelines used to compile the report	Reference where applied
<p>Containment barriers need to comply with minimum engineering design requirements according to four different landfill classes (Class A to Class D), while each type of waste need to be disposed of at a specific landfill class according to the characteristics and the risk that the waste poses to the environment.</p> <p>All generators of hazardous waste must ensure that a safety data sheet for the hazardous waste is prepared in accordance with SANS 10234. If the Minister reasonably believes that a waste has not been classified correctly, he or she may require that the classification be peer reviewed to confirm the classification.</p> <p><b>National Environmental Management: Biodiversity Act (Act 10 of 2004) (“NEMBA”)</b>            The NEMBA aims to provide for the management and conservation of South Africa’s biodiversity, the protection of species and ecosystems that warrant national protection, the sustainable use of indigenous biological resources, the fair and equitable sharing of benefits arising from bio-prospecting involving indigenous biological resources, etc.</p> <p>According to the NEMBA, species and ecosystems lists may be published by the Minister and an MEC for Environmental Affairs in relation to which certain activities may not be undertaken without a permit. In terms of section 57 of the NEMBA, no person may carry out any restricted activity involving any species which has been identified by the Minister as “critically endangered species”, “endangered species”, “vulnerable species” or “protected species” without a permit. The NEMBA defines “restricted activity” in relation to such identified species so as to include, but not limited to, “hunting, catching, capturing, killing, gathering, collecting, plucking, picking parts of, cutting, chopping off, uprooting, damaging, destroying, having in possession, exercising physical control over, moving or translocating”.</p> <p>Regulations have been published in terms of section 97 of the NEMBA with reference to Threatened and Protected Species, including critically endangered, endangered, vulnerable and protected species in terms of section 56(1) of the NEMBA.</p> <p><b>Alien and Invasive Species Regulations (GNR. 590 of 2014) and the Alien and Invasive Species Lists (GNR. No 1003 of 2020)</b>            Section 73 of the NEMBA states that a person who is the owner of land on which a listed invasive species occurs must notify any relevant competent authority in writing of the listed invasive species occurring on that land. Organisations have a duty of care relating to listed invasive species. In this regard organisations are expected to:</p> <ul style="list-style-type: none"> <li>▪ take steps to control and eradicate the listed invasive species and to prevent it from spreading; and</li> <li>▪ take all the required steps to prevent or minimise harm to biodiversity.</li> </ul> <p>A list of these category species can be found under the Alien and Invasive Species List, 2020 published under GNR. 1003 of 2020.</p> <p>In terms of the regulations, any person in control of a Category 1a, Category 1b, Category 2 and Category 3 Listed Invasive Species must comply with the provisions under section 73 (a) - (c). Note where an Invasive Species Management Programme has been developed, combatting must take place in accordance with the programme.</p> <p><b>National Forests Act (Act No. 84 of 1998) (“NFA”)</b>            Several trees are protected in terms of the NFA as per a list published in the government gazette. This list is amended from time to time, with the latest list including 55 protected tree species as published in GNR 1935 of 25 March 2022.</p> <p>These trees may not be cut, disturbed, damaged, destroyed or removed (amongst others) without a valid licence. Should any of these actions need to occur, for instance by clearing vegetation for a mining development, a licence needs to be obtained from the Department of Forestry, Fisheries and the Environment (“DFFE”).</p> <p><b>National Environmental Management: Protected Areas Act (Act No. 57 of 2003) (“NEMPAA”)</b>            The NEMPAA provides for (amongst others) the protection and conservation of ecologically viable areas representative of South Africa’s biological diversity and its natural landscapes and seascapes, intergovernmental co-operation and public consultation in matters concerning protected areas, and the continued existence, governance and functions of South African National Parks.</p> <p><b>National Heritage Resources Act (Act No. 25 of 1999) (“NHRA”)</b>            The NHRA aims to provide for the identification, conservation, protection and promotion of South Africa’s heritage resources. The NHRA specifies that no person may destroy, damage, alter etc a heritage site or heritage protected area unless a permit is issued by the South African Heritage Resources</p>	<p>Boscia Ecological Consulting was appointed to conduct an ecological and wetland impact assessment.</p> <p>Three protected tree species were recorded on site namely <i>Vachellia erioloba</i>, <i>Vachellia haematoxylon</i> and <i>Boscia albitrunca</i>. Refer to Table 16 for a full list of plant species from the region that are of conservation concern.</p> <p>Permits should be obtained prior to destructing any protected trees or other plants.</p>
<p><b>National Environmental Management: Protected Areas Act (Act No. 57 of 2003) (“NEMPAA”)</b>            The NEMPAA provides for (amongst others) the protection and conservation of ecologically viable areas representative of South Africa’s biological diversity and its natural landscapes and seascapes, intergovernmental co-operation and public consultation in matters concerning protected areas, and the continued existence, governance and functions of South African National Parks.</p>	<p>No protected areas occur within close proximity to the mine.</p>
<p><b>National Heritage Resources Act (Act No. 25 of 1999) (“NHRA”)</b>            The NHRA aims to provide for the identification, conservation, protection and promotion of South Africa’s heritage resources. The NHRA specifies that no person may destroy, damage, alter etc a heritage site or heritage protected area unless a permit is issued by the South African Heritage Resources</p>	<p>A heritage assessment was undertaken for the mining right area by G&amp;A Heritage Management Consultants (Gaigher, 2022). A</p>

Applicable legislation and guidelines used to compile the report	Reference where applied
<p>Agency (“SAHRA”). The SAHRA is the statutory organisation tasked with the protection of South Africa’s cultural heritage resources. Immovable property older than 60 years, prehistoric rock art, archaeological sites, fossils and meteorites are protected by the NHRA, as are landscapes and features of cultural significance, graves and burial grounds.</p> <p>The NHRA states that any person who intends to undertake developments categorised in section 38 of the NHRA must at the very earliest stages of initiating such development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. The developments referred to in section 38 of the NHRA include:</p> <ul style="list-style-type: none"> <li>▪ the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300 metres in length;</li> <li>▪ the construction of a bridge or similar structure exceeding 50 metres in length;</li> <li>▪ any development or other activity which will change the character of a site – <ul style="list-style-type: none"> <li>○ exceeding 5000 m2 in extent; or</li> <li>○ involving three or more existing erven or subdivisions thereof; or</li> <li>○ involving three or more erven or divisions thereof which have been consolidated within the past five years; or</li> <li>○ the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;</li> </ul> </li> <li>▪ the re-zoning of a site exceeding 10 000 m2 in extent; or</li> <li>▪ any other category of development provided for in regulations by SAHRA or the provincial heritage resources authority.</li> </ul> <p>Developments that will impact on burials or graveyards need permission from the Human Tissue Act of 1983 and Ordinance on the Removal of Graves and Dead Bodies of 1925 in order to obtain approval for exhumation and reburial. For graves or burials older than 60 years permission needs to be obtained in terms of the NHRA, and the Human Tissues Act (Act 65 of 1983), Ordinance on Excavations (Ordinance no. 12 of 1980) and any local and regional provisions, laws and by-laws that may apply. Such burial places fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC and the relevant local authorities.</p>	<p>200 m buffer zone will be kept around the historical homestead and cemetery identified on site. Two sites with unique Late Stone Age (“LSA”) artifacts were found around two pans in the north-east of the MRA. These areas are not proposed to be impacted by mining activities. Refer to section 10.1.1.11.</p> <p>A palaeontological impact assessment was undertaken for the MRA in 2022 by Dr JF Durand (refer to section 10.1.1.10). The chert and dolomitic limestone of the Lime Acres Member of the Campbell Rand Subgroup of the Ghaap Group of the Transvaal Supergroup is considered to be highly sensitive from a palaeontological perspective.</p> <p>Should any subsurface palaeontological, archaeological or historical material, or burials be exposed during construction activities, all activities should be suspended and an archaeological specialist should be notified immediately.</p>
<p><b>World Heritage Convention Act (Act No 49 of 1999)</b></p> <p>In 1997 South Africa ratified the Convention concerning the Protection of the World Natural and Cultural Heritage (commonly known as the World Heritage Convention). In 1999 the World Heritage Convention Act was promulgated to take appropriate legal, scientific, technical, administrative and financial measures to protect South Africa’s heritage of outstanding universal value and to convert the World Heritage Convention into national law.</p> <p>The objectives of this Act are, amongst others, to:</p> <ul style="list-style-type: none"> <li>▪ provide for, the cultural and environmental protection and sustainable development of, and related activities within, World Heritage Sites; and giving effect to the values of the World Heritage Convention</li> <li>▪ ensure that effective and active measures are taken for the protection, conservation and presentation of the cultural and natural heritage of the Republic</li> <li>▪ promote the development of culturally, environmentally and, if applicable, economically sustainable projects in connection with World Heritage Sites.</li> </ul>	<p>There are no world heritage sites in the vicinity of Kameelhoek mine.</p>

## 18. Appendix 7: Visual assessment views, potential receptors and landscape character

The Landscape Character of the study area was described by Graham Young Landscape Architects (see Section 10.1.1.13 above). Photographic panoramas are presented in the figures below to illustrate the nature and character of the study area's landscape. Figure 62 illustrates the location of these viewing points.

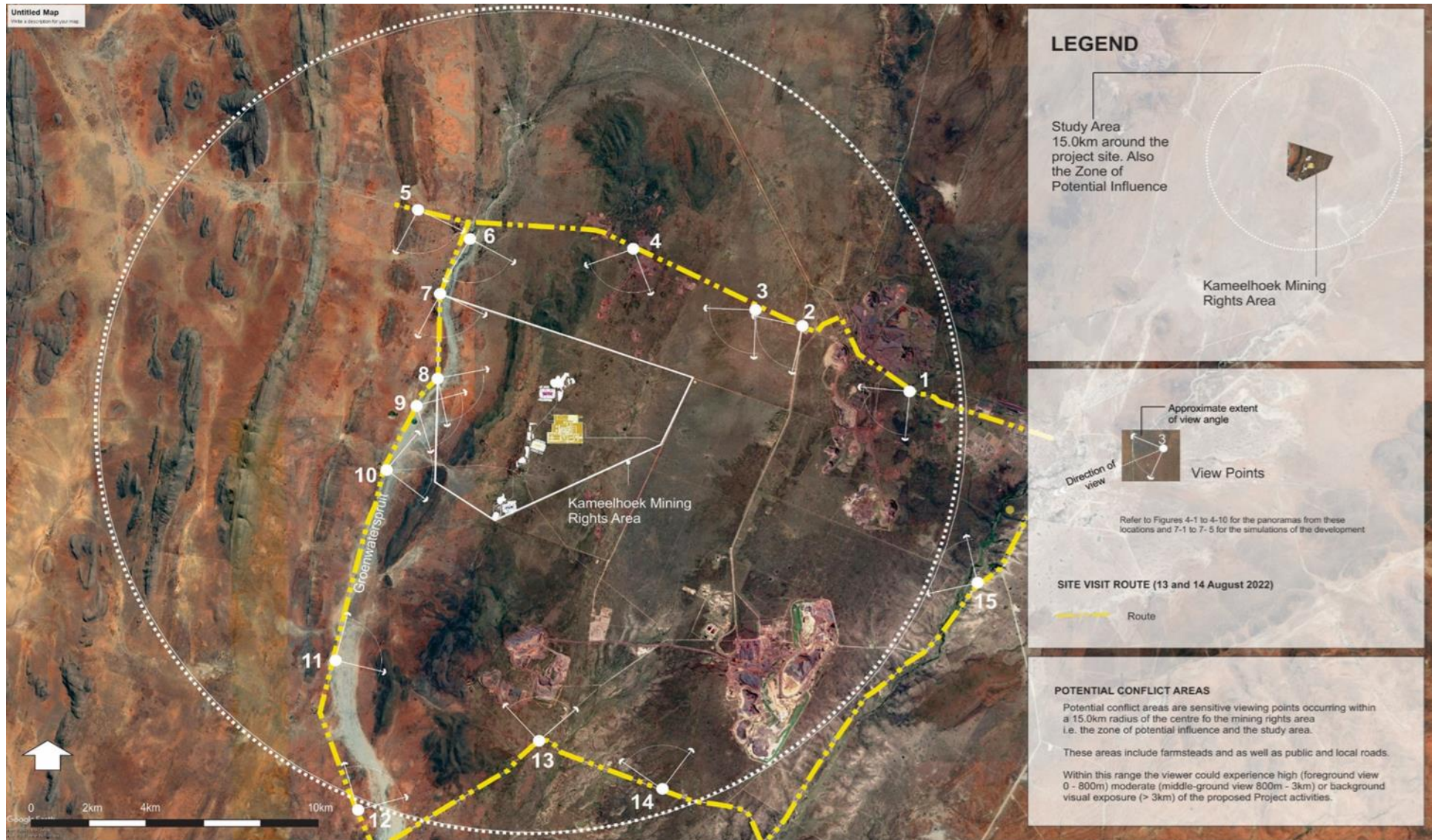


Figure 62: Viewing points around the MRA (GYLA, 2022)



Figure 63: Landscape character – views 1, 2 and 3 (GYLA, 2022)



Figure 64: Landscape character – views 4, 5 and 6 (GYLA, 2022)

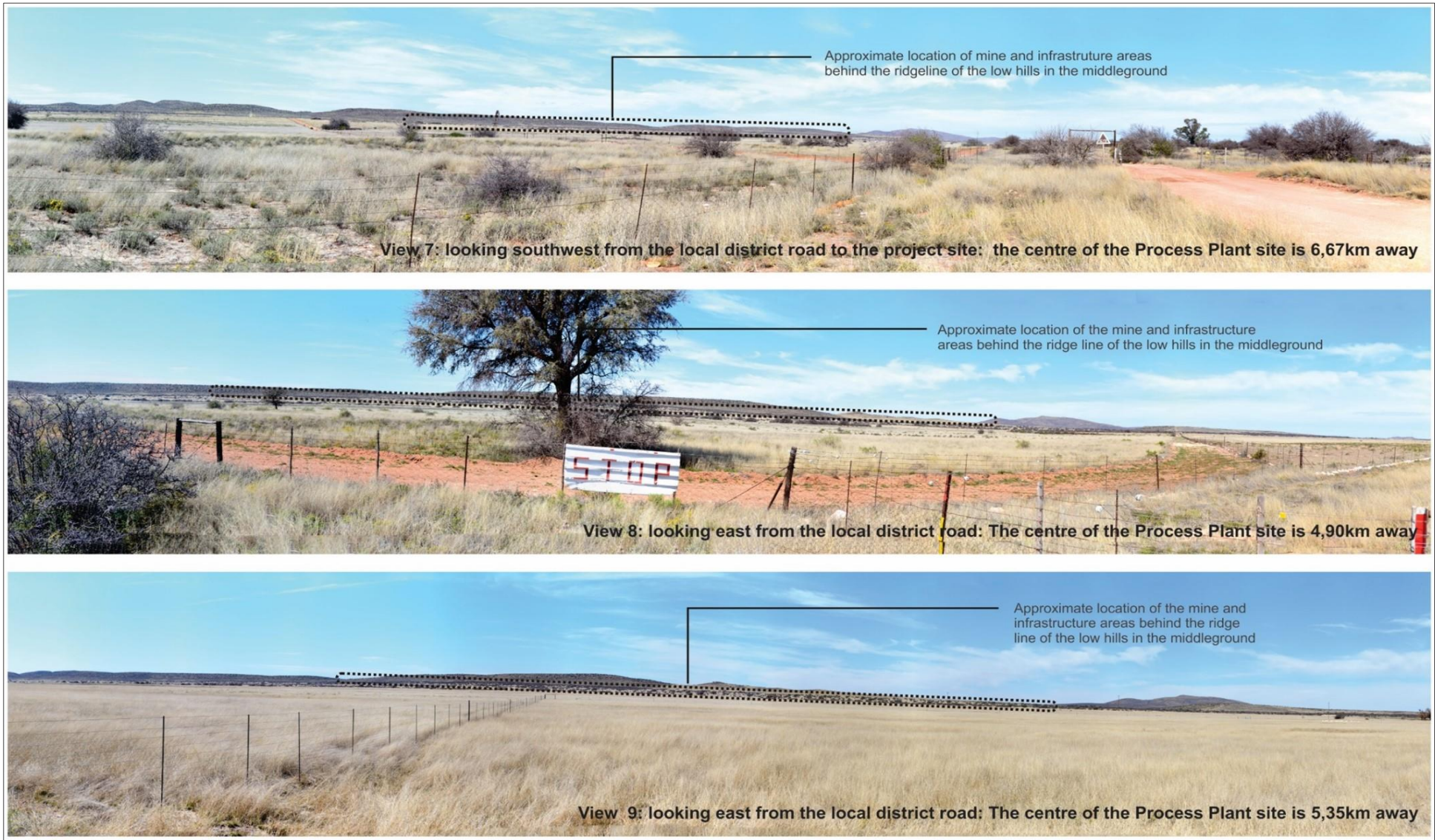


Figure 65: Landscape character – views 7, 8 and 9 (GYLA, 2022)



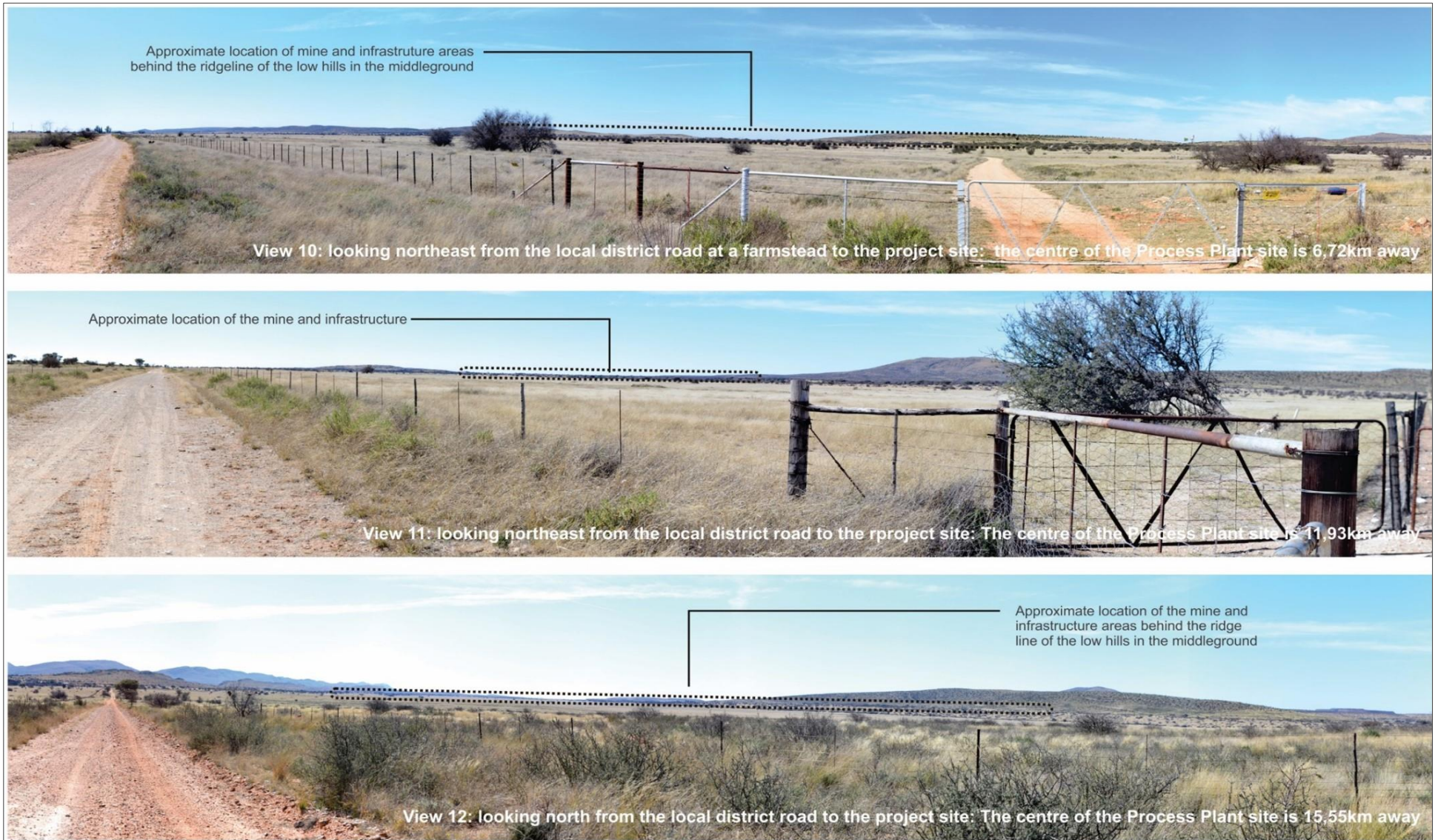


Figure 66: Landscape character – views 10, 11 and 12 (GYLA, 2022)



Figure 67: Landscape character – views 13, 14 and 15 (GYLA, 2022)