



HERITAGE IMPACT ASSESSMENT

FOR

THE EVEREST NORTH MINING

DEVELOPMENT, 2530AA,

VYGENHOEK 10 JT, MPUMALANGA

AQUARIUS PLATINUM SA (PTY) LTD

OCTOBER 2012

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This document has been prepared by **Digby Wells Environmental**.

Report Title: Heritage Impact Assessment for the Everest North Mining Development, 2530AA, Vygenhoek 10 JT, Mpumalanga

Project Number: SYL1256

Report type: NHRA Section 38(8)

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EXECUTIVE SUMMARY

Digby Wells Environmental has been requested by Aquarius Platinum Limited to conduct an Environmental Impact Assessment including a Heritage Impact Assessment for the proposed Everest North Mining Development in the Mpumalanga Province. Aquarius Platinum SA (Pty) Ltd are planning to develop a new platinum mine on the farm Vygenhoek 10 JT near Lydenburg. The proposed project, called the Everest North Mine, will be located within the Groot Dwars River valley, approximately 28 km north east Roosenekal and 30 km west of Lydenburg.

A summary table is provided below of identified heritage resources during the field survey conducted 25-28 March 2012. These sites were rated to provide a significance rating (SA) and impact assessment (IA) of the proposed activities on the heritage resources (see Appendix C for detailed discussion on methodology).

Table 1-1: Summary Table of Identified Heritage Resources in the Project Area

SITE ID	DESCRIPTION	SA ¹	IA ²
SYL1256/DW001	Extensive stone walled site, with terraced walling. Possibly Badfontein type walling with communal grinding area. Decorated potsherds found scattered between walling. Located next to current homestead and road.	4	94
SYL1256/DW002	Stone feature, possibly from clearing.	1	79
SYL1256/DW003	Stone walling on rise along road. Used natural boulders in the walling. Potsherds were noted on the site, both decorated and undecorated.	2	80
SYL1256/DW004 & DW005	Stone walling on rise, some terraced walling. Associated communal grinding area to the south of stone walls. Close to site DW003	3	81
SYL1256/DW006	Stone features, including walling, circles and mounds. Potsherds noted at the site.	2	80
SYL1256/DW007	Stone walling associated with a rise, located along road. Potsherds noted at the site, none decorated.	3	81
SYL1256/DW008, DW009 & DW046	Stone walled site with a communal grinding area (DW009). Used natural boulders in construction of walling. Lower grind stone identified at DW046	2	80
SYL1256/DW010	Stone walling at the base of rise. Some terracing. Potsherds and an Upper grind stone noted at the site.	2	26
SYL1256/DW011	Stone walling, some terracing on the northern side. Possible communal grinding area associated with stone walling.	2	26

¹ Significance Assessment

² Impact Assessment



SYL1256

SYL1256/DW012	Single burial. Name on headstone: Moraka Phillimon Lekgeu. Rising sun image on headstone.	4	28
SYL1256/DW013	Stone walling with possible communal grinding area in close proximity.	2	26
SYL1256/DW014	Stone walling around natural boulders. Walls are large and well preserved with an enclosure approximately 15m in diameter.	4	28
SYL1256/DW015	Stone walling associated with a rise. Communal grinding area is in close proximity. Potsherds noted around the site.	2	26
SYL1256/DW016	Single findspot of MSA flake and potsherd on open, exposed rock surface.	1	25
SYL1256/DW017	Grinding surface area. Single MSA faceted quartz flake identified.	1	25
SYL1256/DW018	Stone walling - Natural boulders packed with stone. Not substantial.	2	26
SYL1256/DW019	Substantial stone walling, large and well preserved. Enclosure of approximately 15m diameter with a clearly defined entrance.	4	28
SYL1256/DW020	Stone walling, not extensive.	2	26
SYL1256/DW021	Stone walling, not extensive and not well preserved.	1	25
SYL1256/DW022	Stone walling - Double walling, straight and approximately 10m long	2	26
SYL1256/DW023	Burial site. 5 graves with no formal headstones. Site lies directly next to DW022. Grave have stone surface dressing and are tended.	4	28
SYL1256/DW024	Stone walling - Enclosure approximately 5m in diameter	3	27
SYL1256/DW025	Burial site. 8 graves identified with formal grave dressing with headstones. Surface grave goods associated with the graves.	4	28
SYL1256/DW026	Stone walling - Collapsed and not extensive or well preserved.	1	25
SYL1256/DW027 & DW028	Stone walling - Straight, approximately 20m long. Enclosure with entrance. Next to communal grinding area	4	28
SYL1256/DW029	Recent homestead - old fencing found, cleared area and tomatoe plants growing. No other physical structures identified.	1	25

SYL1256/DW030	Stone foundations - outside project area	1	1
SYL1256/DW031	Grinding surface area. No other heritage features identified	2	2
SYL1256/DW032	Stone walling - Single stone wall, possibly for erosion gully.	2	38
SYL1256/DW033	Findspot in erosion gully - MSA & LSA tools identified. Single potsherd with notch identified.	1	37
SYL1256/DW034 & DW035	Stone walling - Stone enclosures, one approximately 15m in diameter. Possibly associated with Choma Village to the north.	4	40
SYL1256/DW036	Stone Walling - Stone wall foundations with communal grinding area. Rectangular in shape.	3	99
SYL1256/DW037	Stone walling - scatter of small stone walls in front of Choma Village. Lower grindstone and potsherds found in wash around stone walls. Associated with larger Choma Village.	3	99
SYL1256/DW038	Stone Walling - Rectangular walling. Porcelain found amongst walling. Potsherds also found. Associated with Choma Village	3	136
SYL1256/DW039	Stone Walling - Large, well preserved circular stone walling. Lower grind stone identified.	3	136
SYL1256/DW040	Stone Walling - Circular stone enclosure approximately 3m in diameter on the slope of a rise at the bottom of the Choma Village.	3	51
SYL1256/DW041	Grinding surface with 6 large, well defined grinding grooves.	3	27
SYL1256/DW042	Burial site - Area is fenced off and untended. 5 identified graves with headstones and formal dressing, the remainder with stone dressing.	4	28
SYL1256/DW043 & DW044	Burial site - Area is fenced off and also had large stone walling at its entrance. It is tended. 12 graves were identified, 7 with headstones and formal dressing, the remainder with stone dressing. 1 Lower grind stone identified.	4	28
SYL1256/DW045	Single findspot - Large lower grind stone.	1	25
SYL1256/DW047	Single monolith, possible headstone. No other feature identified.	2	26
SYL1256/DW048	Possible single burial site	4	28
SYL1256/DW049	Stone walling - Single L-shaped wall.	2	26

SYL1256/DW050	Historic - Trig Beacon VH10	1	113
Choma Village Complex (Pistorius 2006)	Historical Settlement Complex. Several stone walled circles in primary context. Potsherds scattered throughout settlement, several lower grind stones noted.	5	138
Pistorius (2006) C004	Burial site located within the Choma Village Complex. Surrounded by stone wall enclosure, large and intact.	4	116

Recommendations for project mitigation of the identified heritage resources include:

- No mitigation is recommended for sites SYL1256/DW10-33; 41-42, 47; 49; 50, as these sites are either of no heritage value or further than 500 m outside the proposed impact area.
- Adjustment of the haul road and associated infrastructure as far as is feasible be conducted for sites SYL1256/DW1-9 and 46. Where this is not possible, heritage mitigation will include a Phase 2 Heritage Assessment consisting of test excavation, shovel test pits (STP), sampling and collection of material culture, and detailed mapping for site SYL1256/DW1. Recording of sites SYL1256/DW3-5; 7-9; and 46 through surface collections, photographs and detailed mapping is also recommended. On completion of the recommended heritage mitigations, a Destruction Permit from SAHRA can be applied for on behalf of Aquarius.
- For heritage resources impacted upon by mining infrastructure and activities, it is recommended that the proposed mine plan be amended as far as is feasible to avoid irreparable damage to heritage resources. Additionally, *in situ* preservation for burial sites SYL1256/DW43-44 and 48 with an associated draft management plan and monitoring programme is recommended. Where this is not possible, a Phase 2 HIA consisting of STP's, sampling and collection of material culture, detailed mapping and an application for a Destruction Permit from SAHRA is recommended for SYL1256/DW36. For burial sites SYL1256/DW43-44 and 48, relocation of the graves including PPP is recommended.
- Adjustment of the mine plan to exclude the Choma Village Complex is recommended. In addition, it is recommended that the Choma Village Complex be conserved, a conservation management plan be developed and that the complex be nominated for Grade III Heritage Site status with SAHRA.
- Consideration of a Letter of Recommendation for Exemption for a Palaeontological Impact Assessment by SAHRA and the implementation of Fossil Chance Find Procedure.

GLOSSARY OF ABBREVIATIONS AND TERMS

AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
BCE	Before Common Era
BP	Before Present
CE	Common Era
CRM	Cultural Resources Management
CRP	Cultural Resources Pre-Assessment
EIA	Early Iron Age- 300-900 AD. Farmers with domestic stock and agriculture settle at permanent points and produce pottery, as well as trade with other groups. Metal artefacts such as iron and ivory are present. Communities were divided by status or rank.
EMP	Environmental Management Plan
ESA	Early Stone Age- ± 2 Million years and 250 000 years BP. Large hand axes and cleavers present within deposit.
ESIA	Environmental and Social Impact Assessment
HIA	Heritage Impact Assessment
IFC	International Finance Co-operation
KYA	Thousand years ago
LIA	Later Iron Age- 1300-1840 AD. Interaction with colonialists and the movement of groups with the landscapes.
LSA	Later Stone Age- ±20 000 BP to present. Artefacts include microliths such as scrapers, flakes and bladelets. Art in the form of paintings and engravings occur, and domesticated stock and early pottery are present.
Mitigation	Project mitigation: mitigation recommended reducing or removing possible impacts on heritage resources by changing or influencing designs. Heritage mitigation: mitigation on or of heritage resources where project mitigation has not been sufficiently reduced or removed (such as Phase 2 Archaeological Impact Assessments, grave relocation, destruction of sites)
MYA	Million years ago
MIA	Middle Iron Age- 900-1300 AD. Kingdom or capitals emerge with communities divided by class. Pottery, iron and agriculture are still present, with the addition of copper, gold and beads as trade items and the construction of stone walls.
MSA	Middle Stone Age- ±250 000 -20 000 BP. Stone tools such as blades and points, and other artefacts include shell beads, pendants and the use of ochre.
SAHRA	South Africa Heritage Resources Agency

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1 INTRODUCTION

Aquarius Platinum SA (Pty) Ltd (Aquarius) is planning to develop a new platinum mine on the farm Vygenhoek 10 JT near Lydenburg, Mpumalanga. The proposed project, called the Everest North Mine, will be located within the Groot Dwars River valley, approximately 28 km north east Roosenekal and 30 km west of Lydenburg. The project area is 715 ha.

2 BACKGROUND INFORMATION OF PROJECT

2.1 Report type: Section 38(8) Heritage Impact Assessment Report

Digby Wells Environmental (Digby Wells) has been requested to conduct an Environmental Impact Assessment (EIA) including a Heritage Impact Assessment (HIA) for the proposed Everest North Mining Development.

This HIA report is submitted in terms of Section 38(8) of the National Heritage Resources Act, 28 of 1999.

2.2 Context of Development

2.2.1 Type of development

The proposed project will involve:

- both opencast and underground mining;
- waste rock and topsoil stockpiles; and
- a haul road from the Everest North Mine to the existing processing facilities at the Everest South Mine.

The project will include supporting services and facilities for the mining area.

2.2.2 Development context of Study Area

The main aim of the project is to exploit the UG2 Reef on the farm Vygenhoek 10 JT using a combination of underground and open pit mining methods. The main product of the mine will be a platinum group metal concentrate that will be sold to Impala Refining Services near Rustenburg. Chromite concentrate could also be produced. This would be sold to the highest bidder. The decision to produce a chromite concentrate will depend on the demand for this product.

Ore produced by the mine will be processed at the existing Everest South UG2 concentrator plant. An upgrade of the front end of the plant may be required to blend the ore from Everest South with that of Everest North after accounting for the metal content in each. The project will describe the supporting services and facilities for the Everest North mine only, as it is assumed that existing facilities and infrastructure at the Everest South concentrator plant will remain largely unaffected.

2.3 Client, Consultant and Land Owner Contact Details

Table 2-1: Client Contact Details

ITEM	COMPANY CONTACT DETAILS
Company	Aquarius Platinum SA (Pty) Ltd
Contact person	Jac van Heerden
Tel no	012 001 2001
Fax no	012 001 2070
E-mail address	jac.vanHeerden@aquarius.co.za

Table 2-2: Consultant Contact Details

ITEM	COMPANY CONTACT DETAILS
Company	Digby Wells Environmental
Contact person	Johan Hayes
Tel no	011 789 9495
Fax no	011 789 9498
E-mail address	johan.hayes@digbywells.com
Postal address	Private BagX10046, Randburg, 2125, South Africa

3 TERMS OF REFERENCE

3.1 Client Term of Reference

Digby Wells was appointed by Aquarius to conduct a HIA for the proposed Everest North Mining Development on the farm Vygenhoek 10 JT, Mpumalanga

3.2 Heritage Resources Authority Terms of Reference

As per recommendation from the South African Heritage Resources Agency (SAHRA), a new HIA was conducted to re-evaluate the previously identified heritage resources and to conduct a broad based stakeholder consultation.

3.3 Scope of Work

As part of the EIA and recommended terms of reference (ToR) from SAHRA, the scope of work consisted of compiling a HIA report which included the aims and objectives discussed below.

3.4 Aims and objectives

The aim of this HIA was to advise and assist the client to responsibly manage heritage resources as required in terms of the NHRA and provide mitigation and/or management recommendations for heritage resources found in the proposed project area. The NHRA provides a general legislative framework for the protection, preservation and development of heritage resources. In order to achieve this aim the required objectives were:

- The identification, recording and documenting of significant archaeological, cultural and historic sites, including graves and cemeteries, within the proposed development area;
- To evaluate whether proposed mining activities will have any negative impacts on these archaeological, cultural, historical and natural heritage resources during construction, operation and decommissioning phases;
- To assess the magnitude or severity of identified impacts on the cultural landscape and heritage resources;
- To recommend project mitigation and management measures to reduce or remove any identified negative impacts on the cultural landscape or heritage resources; and
- Promote the overall conservation and protection of natural and cultural resources in the proposed project area and its surroundings.

3.5 Legislative Requirements

The HIA is governed by national legislation and standards; and International Best Practise. These include:

- South African Legislation (see Appendix F)
 - National Heritage Resources Act (Act 25 of 1999) (NHRA);
 - Mineral and Petroleum Resources Development Act, 28 of 2002 (MPRDA);
 - National Environmental Management Act, Act No. 107 of 1998 (NEMA); and
 - National Water Act, 36 of 1998 (NWA).
- Standards and Regulations
 - SAHRA Minimum Standards;
 - Guideline for involving Heritage Specialists in the EIA Process (Heritage Western Cape); and
 - Association of Southern African Professional Archaeologists (ASAPA) Constitution and Code of Ethics.
- International Best Practise and Guidelines

- Equator Principles (Drafted 2003, Updated 2006);
- ICOMOS Standards (Guidance on Heritage Impact Assessments for Cultural World Heritage Properties); and
- The UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage (1972)

3.6 Expertise of Specialist

Justin du Piesanie completed his Master of Science (MSc) degree in Archaeology at the University of the Witwatersrand in 2008. He is currently employed as an Archaeology Consultant at Digby Wells Environmental. He has 10 years of experience in archaeology of which 5 years in been spent in heritage management through being involved in several Archaeological and Heritage Impact Assessments in South Africa and the Democratic Republic of Congo.

A CV of the specialist and declaration of independence is attached in Appendix A.

4 METHODOLOGY

This HIA consisted of a desktop study - including background literature reviews, aerial and historical map surveys and a review of relevant impact assessment reports, inferred information – and a pedestrian site survey. A heritage site visit was undertaken by two qualified and accredited archaeologists for the identification and documentation of potential heritage resources, as stipulated in the NHRA (1999) and SAHRA Minimum Standards (2006). Fieldwork took place 25 to 28 March 2012.

4.1 Survey and sampling

A pedestrian survey was undertaken from the 25th to 28th of March 2012 by two qualified and accredited archaeologists in the proposed project area. This survey was aimed at locating and documenting potential sites of heritage significance located within the project boundaries and its immediate surrounds. General site conditions and features on site were recorded by means of photographs, GPS location, and description. The survey was done by physical, pedestrian survey to identify and record any sites found in situ.

4.2 Data acquisition

Data acquisition was aimed at information gathering relating to known heritage resources within and surrounding the proposed area for development. Project information and data was obtained through intensive research and data gathering, including a variety of primary and secondary sources such as academic journals, textbooks and records, national and provincial websites, archaeological field guides, national guidelines, maps, photographs and plans. Surveys of aerial photographs, topographical maps, satellite imagery and other cartographic material was undertaken to plot potential sites. Some older maps such as the major Jackson series of early 20th century topographical maps were also consulted and integrated into the HIA where applicable. These are invaluable resources, as they often include features and information not recorded on later maps.

4.3 Public participation and consultation

As part of the Public Participation Process (PPP) for the EIA, comments and issues pertaining to heritage resources were recorded. Questions regarding the living and intangible heritage were included during consultation as part of the social impact assessment. These questions were designed to determine the potential existence of any sites of significance in terms of section 3 of the NHRA. The results were reported on in the Social Impact Assessment (SIA) report.

4.4 Assessment

4.4.1 Assessment of Site Value and Significance

The identified heritage resources were assessed to determine their significance in context of the National Estate in terms of Section 3 of the NHRA. Potential impacts on the heritage resources were assessed in terms of Digby Wells' standard EIA methodology, as well as in terms of the impact assessment criteria and ratings as detailed in the Association of South African Professional Archaeologists (ASAPA) guidelines and the South African Heritage Resources Agency (SAHRA) guidelines. The site significance and impact assessment were integrated into the final EIA report.

4.5 Report Compilation

Once the relevant field surveys were completed, a HIA report was compiled for submission to the relevant heritage/environmental authority for their perusal. This included:

- The identification and mapping of all heritage resources in the affected area;
- An assessment of resource significance in terms of the heritage assessment criteria (Section 3 of the NHRA);
- An assessment of the impact of the development on such resources and the consideration of alternatives; and
- Proposed recommendations – based on the site significance and impact assessment – towards mitigation of any adverse effects during and after the completion of the development.

Subsequent to the completion of these steps, the HIA was submitted to the relevant HRA to determine whether a Phase 2 mitigation of identified sites will be required (e.g. grave relocation, and/or the excavation of specific archaeological sites, and/or detailed mapping of site/s, and/or detailed collection of artefacts at sites of significance that may be adversely affected by the proposed development).

5 DESCRIPTION OF PROPERTY AND/OR AFFECTED ENVIRONMENT

5.1 Details of Area Surveyed











The total area for the project is 7.15 km²

Table 5-1: Location Data

Province	Mpumalanga
Magisterial District / Local Authority	Ehlanzeni Municipal District
Municipality	Thaba Chweu Local Municipality
Property Name and Number	Vygenhoek 10 JT
1: 50 000 Map Sheet	2530 AA Draaikraal
1: 10 000 Aerial Photo	
GPS Co-ordinates (relative centre point of study area)	East/LON/X: 25.04247
	South/LAT/Y:30.16060

Aquarius Platinum Everest North Regional Setting

Legend

-  Project Site
-  Major Town
-  Secondary Town
-  Other Town
-  Settlement
-  Main Roads
-  National Roads
-  Perennial River
-  Non-Perennial River
-  Provincial Boundary



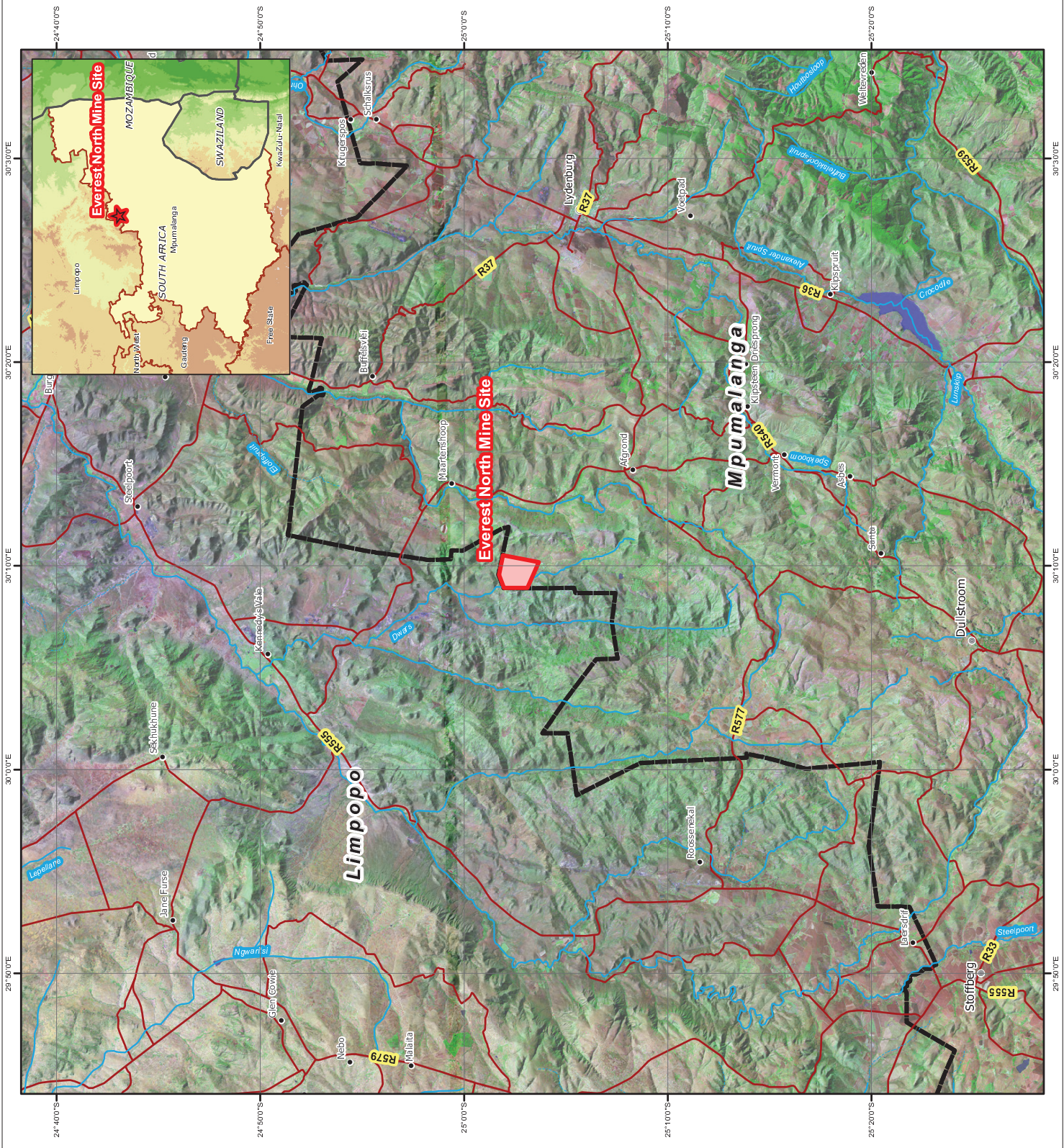
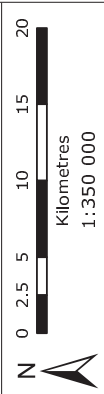
**DIGBY WELLS
ENVIRONMENTAL**

www.digbywells.com

Projection: Transverse Mercator
Datum: Harbertshoek 1994
Central Meridian: 31°E

Ref: amp-SYLL256.201206.149
Revision Number: 1

Date: 25/06/2012



Aquarius Platinum Everest North Local Setting

Legend



Project Site

Topographical Map:
2530AA Draaikraal



DIGBY WELLS
ENVIRONMENTAL

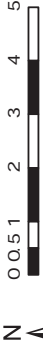
www.digbywells.com

Ref: amp-SYL1266, 2012, 230

Revision Number: 1

Date: 31/10/2012

Geographic Coordinate System
Datum: WGS 1984



Kilometres
1: 100 000

