

**Cultural Heritage Survey of the Proposed Platinum Flotation and Tailings
Facility on the Farm De Grooteboom 373 KT, Sekhukhune District,
Limpopo Province**

For

AGES Environmental

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Executive Summary

Stone Age & Iron Age settlements

No Stone Age or Iron Age settlements, structures, features or artefacts were recorded during the survey.

Buildings

No historical buildings, structures or features were recorded during the survey.

Also note the following:

- It should be kept in mind that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area during construction activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf.* **NHRA (Act No. 25 of 1999)**, Section 36 (6)).

1. Introduction

The aim of this cultural heritage survey is to record and document cultural heritage remains consisting of visible archaeological and historical artefacts, structures (including graves) and settlements of cultural significance within the boundaries of the proposed areas of development. Two specified areas were investigated at the Thorncliff Operations; on portion 3 of the farm De Grootboom 373KT. This report forms part of the EIA process and was requested by AGES Environmental.

2. Terms of Reference

The terms of reference of this survey are as follows:

- * Provide a detailed description of all archaeological artefacts, structures (including graves) and settlements
- * Estimate the level of significance/importance of the archaeological remains within the area
- * Assess any possible impact on the archaeological and historical remains within the area emanating from the proposed development activities
- * Propose possible mitigation measures provided that such action is necessitated by the development

3. Nature of the Proposed Activity or Development

The proposed project forms part of the existing Thorncliffe operations. Thorncliffe Mine is an existing mine located on the farm Thorncliffe 374 KT, in the Limpopo Province.

The proposed design intent includes the following:

- Platinum Flotation Plant (approximately
- Tailings Facility

4. Definitions and Approach

- Archaeological remains can be defined as human-made objects, which reflect past ways of life, deposited on or in the ground.
- Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and they are valuable, finite non-renewable and irreplaceable.
- All archaeological remains, artificial features and structures older than 100 years and historic structures older than 60 years are protected by the relevant legislation, in this case the **National Heritage Resources Act (NHRA) (Act No. 25 of 1999)**. The Act makes an archaeological impact assessment as part of an EIA and EMPR mandatory. No archaeological artefact, assemblage or settlement (site) may be moved or destroyed without the necessary approval from the **South African Heritage Resources Agency (SAHRA)**. Full cognisance is taken of this Act in making

recommendations in this report.

- Cognisance will also be taken of the **Mineral and Petroleum Resources Development Act (Act No 28 of 2002)** and the **National Environmental Management Act (Act No 107 of 1998)** when making any recommendations.
- Human remains older than 60 are protected by the **National Heritage Resources Act**, with reference to Section 36. Human remains that are less than 60 years old are protected by the **Human Tissue Act (Act 65 of 1983 as amended)**.
- **Mitigation guidelines:**

Significance Rating	Action
Not protected	1. None
Low	2a. Recording and documentation (Phase 1) of site adequate; no further action required
	2b. Controlled sampling (shovel test pits, augering), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction
Medium	3. Excavation of representative sample, C ¹⁴ dating,), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]
High	4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism 4b. Graves: Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances and regional by-laws; exhumation and reinterment [including 2a, 2b & 3]

- Rating the **significance of the impact** on a historical or archaeological site is linked to the significance of the site itself. If the significance of the site is rated high, the significance of the impact will also result in a high rating. The same rule applies if the significance rating of the site is low.
- With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise.
- The guidelines as provided by the **NHRA (Act No. 25 of 1999)** in Section 3, with special reference to subsection 3, and the Australian ICOMOS Charter (also known as the Burra Charter) are used when determining the cultural significance or other special value of archaeological or historical sites.
- It should be kept in mind that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal material be revealed in the area

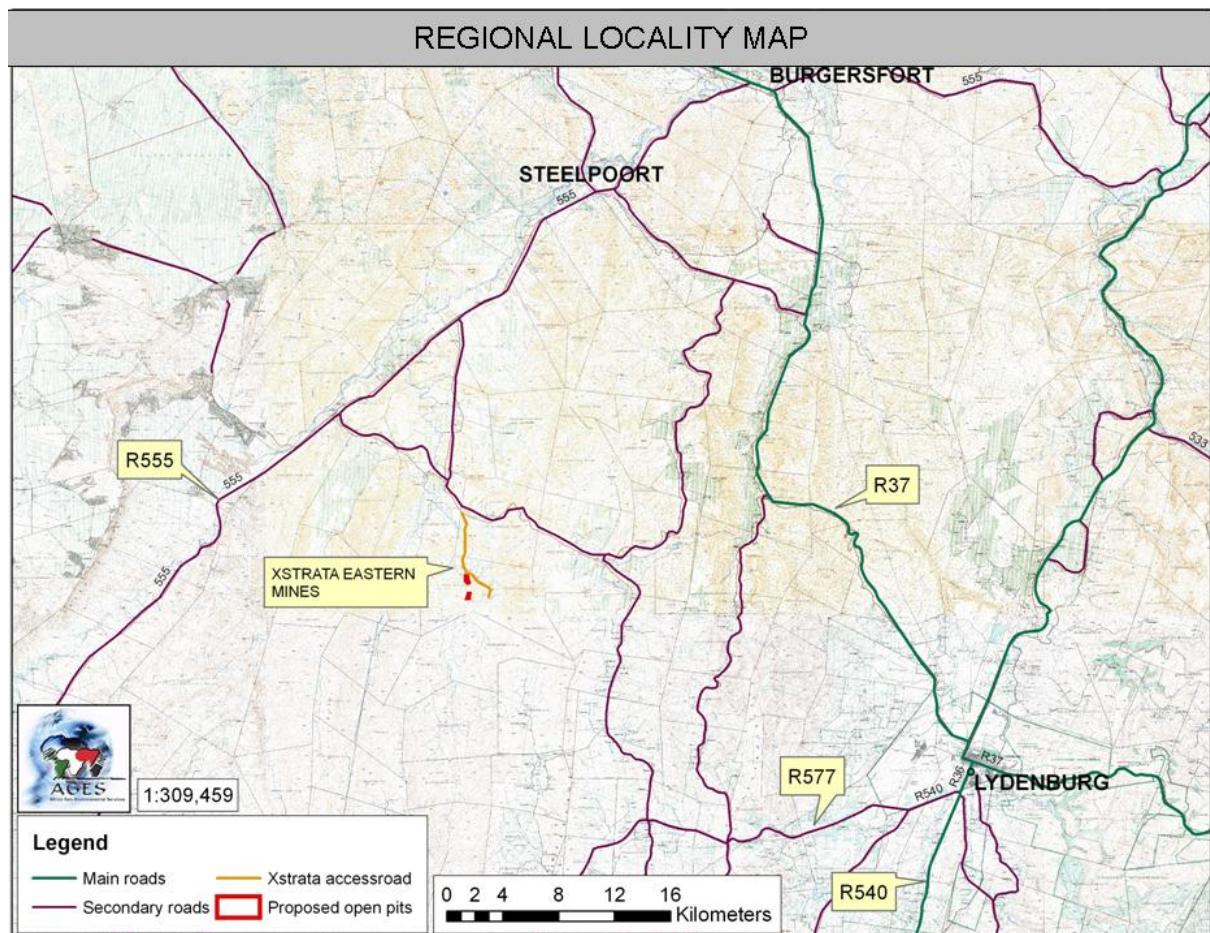
during construction activities, such activities should be halted, and a university or museum notified in order for an investigation and evaluation of the find(s) to take place (*cf.* NHRA (Act No. 25 of 1999), Section 36 (6)).

- A copy of this report will be lodged with the **South African Heritage Resources Agency (SAHRA)** as stipulated by the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), Section 38 (especially subsection 4).
- Note that the final decision for the approval of permits, or the removal or destruction of sites, structures and artefacts identified in this report, rests with the South African Heritage Resources Agency (SAHRA) (or relevant PHRA).

5. Methodology

5.1 Maps and Other Sources

The area is localised on the 1:50 000 topographic map 2430CC. The location of the survey area is indicated on Map 1.



Map 1: Geographical context of survey area.

5.2 Fieldwork

An intensive site visit was conducted on 15 September 2008. The existing road network was used and selected areas were investigated on foot.

5.3 Visibility and Constraints

No restrictions were encountered. Also note that due to the subterranean nature of cultural remains this report should not be construed as a record of all archaeological and historic sites in the area.

6. Description of Study Area

The site is situated approximately 35 km south of Steelpoort and about 33 km northwest of Lydenburg in the Limpopo Province (Map 1). The project falls within the jurisdiction of the Tubatse Local Municipality (which is under the jurisdiction of the Greater Sekhukhune Municipality) of the Limpopo Province. The site is situated on portion 3 of the farm De Grootboom 373KT.



Figure 1: Entrance to the Xstrata underground mine.

7. Archaeological Sequence

PERIOD	APPROXIMATE DATE
Early Stone Age	more than c. 2 million years ago - c. 250 000 years ago
Middle Stone Age	c. 250 000 years ago – c. 25 000 years ago
Later Stone Age (Includes San Rock Art)	c. 25 000 years ago - c. AD 200 (up to historic times in certain areas)
Early Iron Age	c. AD 400 - c. AD 1025
Late Iron Age (Stonewalled sites)	c. AD 1025 - c. AD 1830 (c. AD 1640 - c. AD 1830)

8. Archaeological Context

8.1 Stone Age Sequence

Concentrations of Early Stone Age (ESA) sites are usually present on the flood-plains of perennial rivers and may date to over 2 millions years ago. These ESA open sites may contain scatters of stone tools and manufacturing debris and secondly, large concentrated deposits ranging from pebble tool choppers to core tools such as handaxes and cleavers. The earliest hominins who made these stone tools, probably not always actively hunted, instead relying on the opportunistic scavenging of meat from carnivore kill sites.

Middle Stone Age (MSA) sites also occur on flood plains, but are also associated with caves and rock shelters (overhangs). Sites usually consist of large concentrations of knapped stone flakes such as scrapers, points and blades and associated manufacturing debris. Tools may have been hafted but organic materials, such as those used in hafting, seldom preserve. Limited drive-hunting activities are also associated with this period.

Sites dating to the Later Stone Age (LSA) are better preserved in rock shelters, although open sites with scatters of mainly stone tools can occur. Well-protected deposits in shelters allow for stable conditions that result in the preservation of organic materials such as wood, bone, hearths, ostrich eggshell beads and even bedding material. By using San (Bushman) ethnographic data a better understanding of this period is possible. South African rock art is also associated with the LSA.

8.2 Iron Age Sequence

In the northern regions of South Africa at least three settlement phases have been distinguished for early prehistoric agropastoralist settlements during the **Early Iron Age** (EIA). Diagnostic pottery assemblages can be used to infer group identities and to trace movements across the landscape. The first phase of the Early Iron Age, known as **Happy Rest** (named after the site where the ceramics were first identified), is representative of the

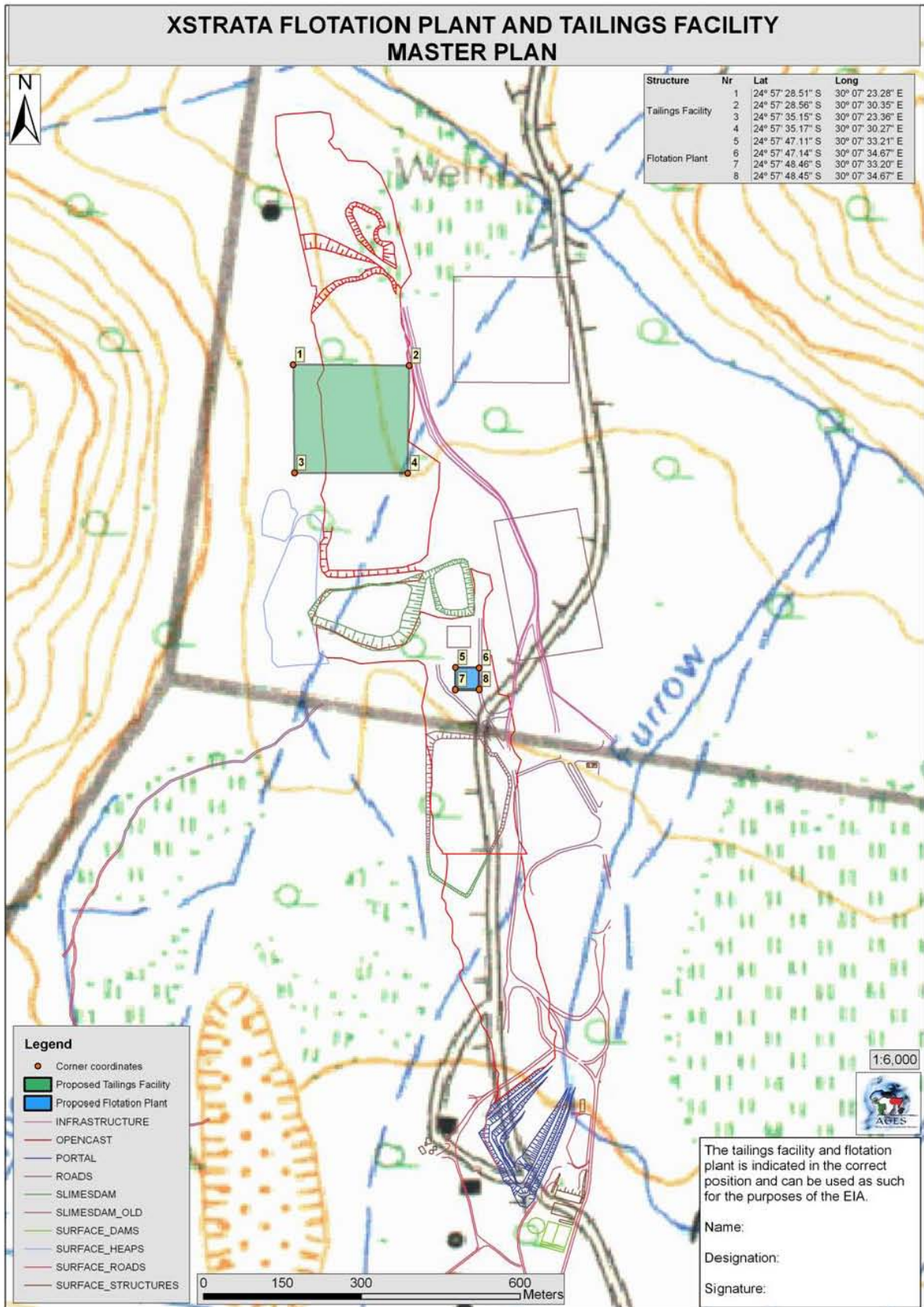
Western Stream of migrations, and dates to AD 400 - AD 600. The second phase of **Diamant** is dated to AD 600 - AD 900 and was first recognized at the eponymous site of Diamant in the western Waterberg. The third phase, characterised by herringbone-decorated pottery of the **Eiland** tradition, is regarded as the final expression of the Early Iron Age (EIA) and occurs over large parts of the North West Province, Northern Province, Gauteng and Mpumalanga. This phase has been dated to about AD 900 - AD 1200. These sites are usually located on low-lying spurs close to water. However, please note that there are no EIA sites in the Free State.

The **Late Iron Age** (LIA) settlements are characterised by stone-walled enclosures situated on defensive hilltops c. AD 1640 - AD 1830). This occupation phase has been linked to the arrival of ancestral Northern Sotho, Tswana and Southern Ndebele (Nguni-speakers) in the northern and Waterberg regions, and dates from the sixteenth to seventeenth centuries AD. The terminal LIA is represented by late 18th/early 19th century settlements with multichrome Moloko pottery commonly attributed to the Sotho-Tswana. These settlements can in many instances be correlated with oral traditions on population movements during which African farming communities sought refuge in mountainous regions during the processes of disruption in the northern interior of South Africa, resulting from the so-called *difaqane* (or *mfecane*).

9. Description of Sites



Map 2: Aerial view of the tailings facility and flotation plant.



Map 3: Detailed location of the tailings facility and flotation plant.

9.1 Tailings Facility

The site is an open flat area which has been disturbed during past mining activities. No archaeological or historical remains were recorded.



Figure 2: General disturbed condition of the area.

9.2 Flotation Plant

The site is an open area which has been almost completely backfilled. Various excavations can still be seen and a road extends the western side of the site. No archaeological or historical remains were recorded.



Figure 3: General disturbed condition of the area.

10. Conclusions and Recommendations

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Also note the following:

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