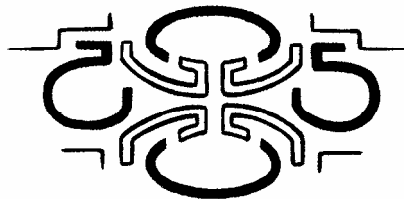


**Cultural Heritage Survey of the Proposed Upgrade of the Existing Prison
Dam, Rustenburg Local Municipality, North West Province**



For
SRK Consulting (Pty) Ltd
PO Box 55291
Northlands
2116
Tel: 011 441 1111
Fax: 011 8808086

By
Francois P Coetzee
Department of Anthropology & Archaeology
University of South Africa
PO Box 392
Pretoria
0003
Tel: (012) 429 6297
Fax: (012) 429 6091
coetzfp@unisa.ac.za



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Executive Summary

This report contains a comparative heritage impact assessment investigation in accordance with the provisions of Sections 38(1) and 38(3) of the *National Heritage Resources Act* (Act no 25 of 1999). This report focuses on the results from a cultural heritage survey that was conducted for the proposed Prison Dam upgrade, which consists of increasing the height and length of the existing dam wall. The dam is located in the Rustenburg Local Municipality, North West Province.

Stone Age settlement

No Early, Middle or Later Stone Age tools were noted during the survey and no manufacturing or basecamp sites were identified.

Iron Age settlements

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

Graves

No graveyards or individual graves (base and headstone) were recorded during the survey.

Historical structures

Although several in-use cattle enclosures were recorded on the western periphery of the dam, no historical structures, features or artefacts were recorded.

Recommendations

In terms of cultural remains no further action is required. However, a social consultation process must be enacted to inform and consult with the local farmers who still keep cattle in the area.

However, 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 development 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)).

Definitions and abbreviations

- Midden: Refuse that accumulates in a concentrated heap.
Stone Age: An archaeological term used to define a period of stone tool use and manufacture
Iron Age: An archaeological term used to define a period associated with domesticated livestock and grains, metal working and ceramic manufacture
NHRA: National Heritage Resources Act (Act no 25 of 1999)

Coetzee, FP

HIA: Prison Dam Upgrade, Rustenburg, NW Province

SAHRA: South African Heritage Resources Agency

PHRA-G: Provincial Heritage Resources Authority - Gauteng

HIA: Heritage Impact Assessment

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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. The survey forms part of an Environmental Authorisation (Basic Assessment) for the proposed Prison Dam upgrade, which consists of increasing the height and length of the existing dam wall. The Prison Dam is located in the Rustenburg Local Municipality, North West Province. The heritage survey was requested by SRK Consulting (Pty) Ltd on behalf of the client.

2. Objectives

The terms of reference of this survey are as follows:

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

3. Study Area

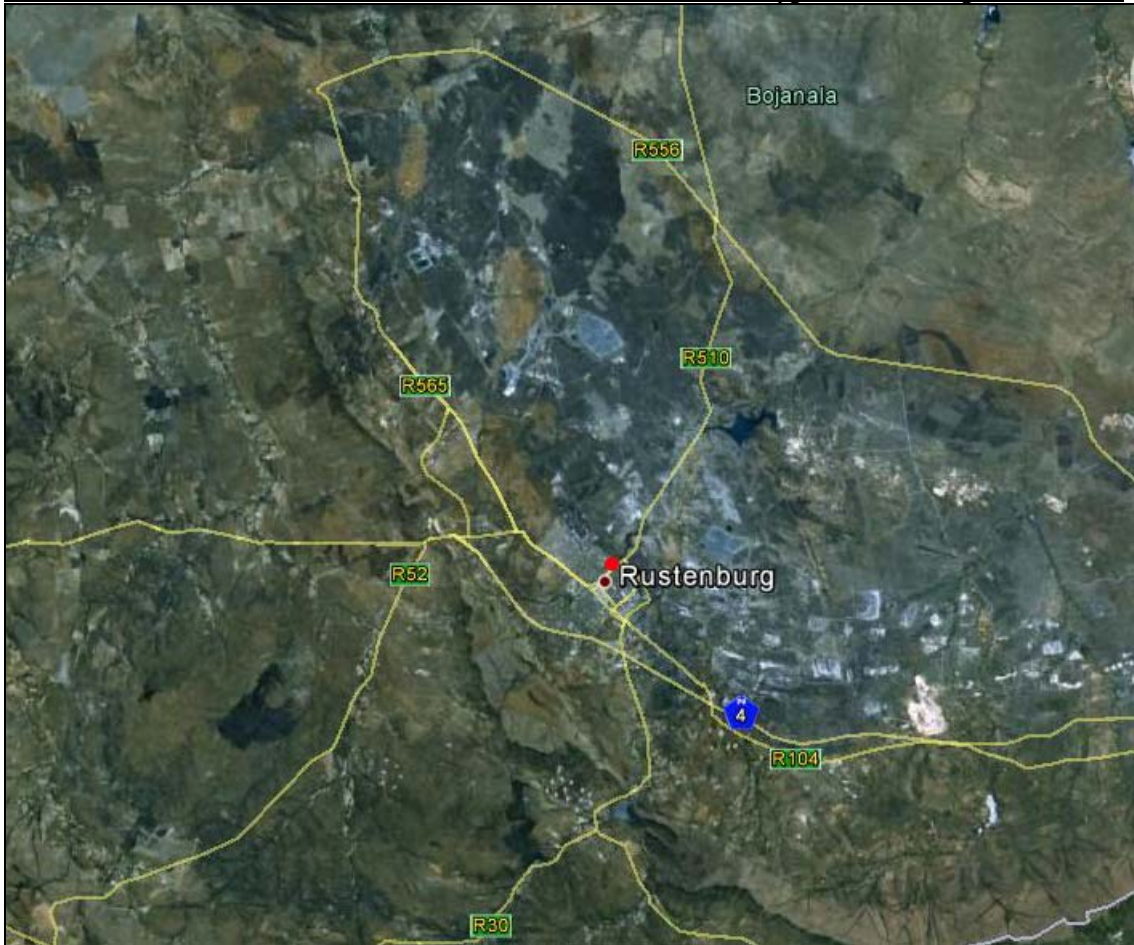
The survey area is broadly defined by the footprint of the existing Prison Dam and associated structures. The main feature is the existing dam wall which spans both the northern and eastern side of the dam. The Prison storage dam is located within Rustenburg Local Municipality, in the North West Province and is located on the outskirts of the town (approximately 8.5 km north-east of the centre of the town). The Prison Dam is registered as a category II dam with the Department of Water Affairs. The dam currently has a storage capacity of 120 000 cubic metres and is owned by the Local Municipality of Rustenburg.

The residential area, Boitekong X15, is located downstream of the Prison Dam. During the previous rainy season a number of houses were inundated by flood waters and the residents had to be evacuated to safer places and have still not been able to return to their homes since there is a safety risk. Remedial measures have been identified to mitigate the future flooding of the Boitekong x15. Various options were investigated and the most viable option involves the upgrading of the existing dam to act as a flood attenuation dam.

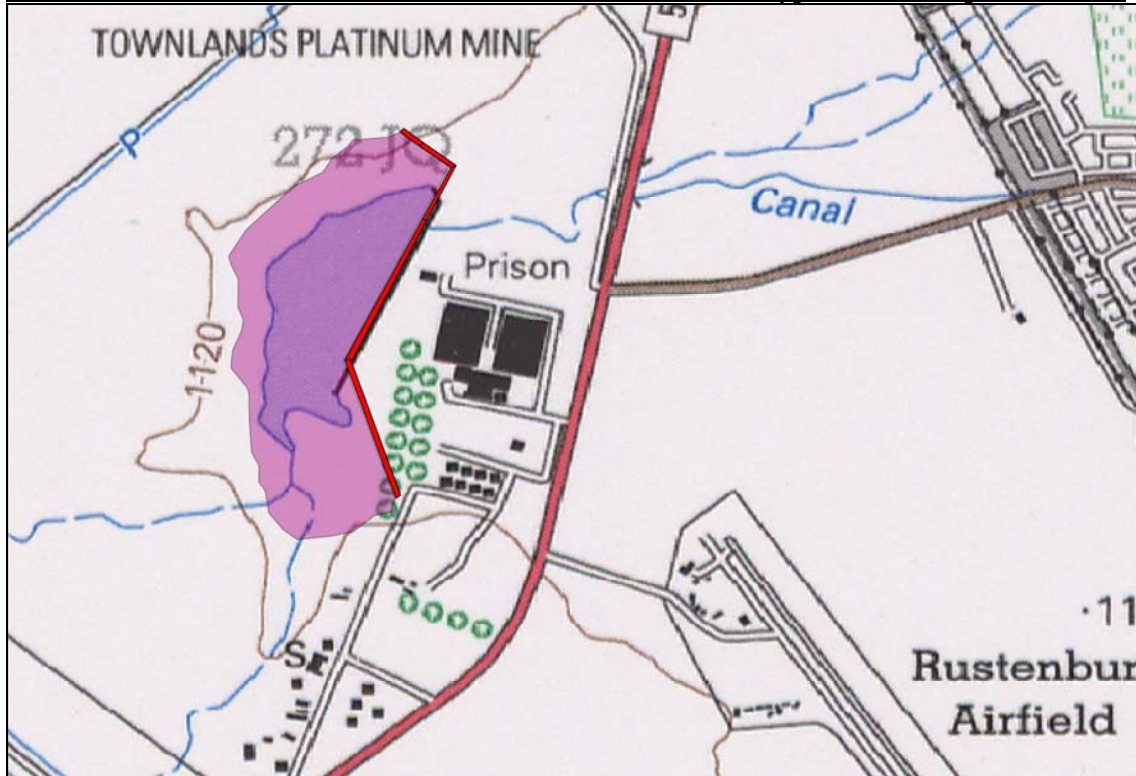
The dam is situated adjacent to the Rustenburg Prison Compound and associated buildings. The area is mainly part of the floodplain of the perennial Dorpspruit River.

Please note that the area has been severely disturbed by the construction of the dam. The Dorpspruit River has also caused areas of erosion. Also the area north of the dam is being used to dump building rubble and other rubbish.

The survey area is located on extension 1 of farm number 272 JQ (part of Rustenburg town area).



Map 1: Regional context of the survey area (indicated by the red circle)



Map 2: Location of the survey area on the 1:50 000 topographic map 2527CB (purple outline indicates new dam footprint; red line indicates the new dam wall)



Map 3: Detail aerial view of the survey area



Figure 1: Area to the west of the dam



Figure 2: A section of the main dam wall



Figure 3: The extent of the dam with trees growing on the eastern dam wall



Figure 4: Disturbed area behind the eastern dam wall



Figure 5: Southern area of the dam (Blue Gum trees indicate the location of the Dorpspruit flowing into the dam)

4. Proposed Project Activities

The proposed development will include the following:

- Increase the existing dam embankment height by 2.5 m and length, with a combination of compacted earth embankment and masonry wall; and
- Redesign and modify the existing spillway.

As a result the spillway invert level will remain the same but the storage capacity of the dam will increase to 200 000 cubic metres.

5. Legal Framework

- 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, features, structures and artefacts 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, Section 34 & 35)**. The Act makes an archaeological impact assessment as part of an EIA and EMPR mandatory (see **Section 38**). 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 **NHRA**, 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 (The significance of the site):**

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 (also see Table 1).

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, auguring), 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]

Table 1: Rating the significance of sites

- 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 (International Council on Monuments and Sites) 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 development 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)).

- **Architectural significance:**
 - Does the site contain any important examples of a building type?
 - Are any of the buildings important examples of a style or period?
 - Do any of the buildings contain fine details and or reflect fine workmanship?
 - Are any of the buildings the work of a major architect or builder?
 - Are the buildings important examples of an industrial, technological or engineering development?
 - What is the integrity of the buildings?
 - Are the buildings still utilised?
 - Has the buildings been altered and are these alterations sympathetic to the original intent of the design?

- **Spatial significance of architecture:**
 - Is the site or any of the buildings a landmark in the city or town?
 - Does the plant contribute to the character of the neighbourhood/region?
 - Do the buildings contribute to the character of the street or square?
 - Is the place or building part of an important group of buildings?

- **Architecture: Levels of significance are:**
 - Protect
 - Highly significant
 - Possible significance
 - Least significance
 - No significance

- **Architecture: Levels of protection are:**

Retain and protect	Considered to be of high significance. The building or structure can be used as part of the development but must be suitably protected. Should not include major structural alterations. If the building is older than 60 years a modification permit is required from SAHRA.
Retain and re-use	Considered to be of moderate significance. The building or structure can be altered to be accommodated within the development plans. Structural alterations can be included. If the building is older than 60 years a modification permit is required from SAHRA.
Alter and re-use	Considered to be of low significance. The building or structure can be structurally altered or destruction can be considered following further documentation. If the building is older than 60 years a modification/destruction permit is required from SAHRA.
Can be demolished	Considered to be of negligible significance and can be demolished. If the building is older than 60 years a destruction permit is required from SAHRA.

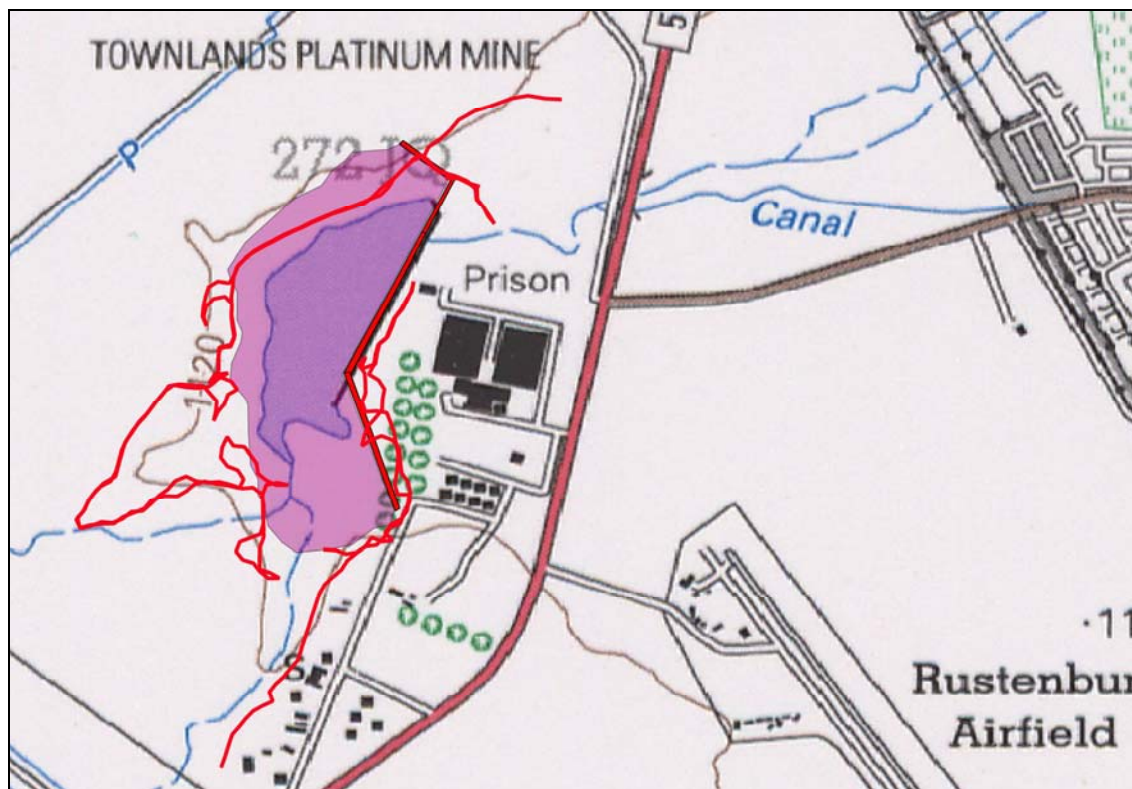
Table 2: Level of protection of buildings/structures

- A copy of this report will be lodged with the **SAHRA** as stipulated by the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), Section 38 (especially subsection 4) and the relevant Provincial Heritage Resources Authority (PHRA).
- 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 SAHRA (or relevant PHRA).

6. Study Approach/Methods

Regional maps, shapefiles and other geographical information were supplied by SRK Consulting. In addition Google images and topographic maps were used to indicate the survey area. The survey area was localised on the 1:50 000 topographic map 2527CB.

The survey area was surveyed on foot using both systematic and intuitive pedestrian survey techniques.



Map 4: Recorded survey tracks for the project

6.1 Review of information/data

Additional information on the cultural heritage of the area was sourced from the following records:

- National Mapping Project by SAHRA (which lists heritage impact assessment reports submitted for South Africa)
- Maps and information documents supplied by the client

- Published literature

6.2 Site visit

The site investigation took place on 28 July 2012.

6.3 Impact assessment

The criteria used to describe heritage resources and to provide a significance rating of recorded sites are listed in the NHRA (Act 25 of 1999) specifically Section 7(7) and Section 38). SAHRA also published various regulations including: Minimum standards: Archaeological and palaeontological components of impact assessment reports in 2006.

Please note that no alternatives were proposed in terms of the project proposal.

6.4 Assumptions, uncertainties and gaps in knowledge

No severe physical restrictions were encountered. Please 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.

7. Description and Evaluation of Cultural Heritage Sites

Note that no Historical, Iron Age or Stone Age settlements, structures, features or artefacts were recorded.

However, several enclosures used as cattle pens were recorded to the west of the dam area. At least four large cattle enclosures were recorded with associated shelters (steel and corrugated iron) which were currently dilapidated. The cattle enclosures are still being used to pen cattle during the night. Please note that the proposed expansion of the footprint of the dam will flood these areas. No other cultural structures were recorded.



Figure 6: A cattle enclosure currently in use



Figure 7: A cattle enclosure currently in use



Figure 8: A cattle enclosure currently in use



Figure 9: A cattle enclosure currently in use



Figure 10: The remains of a dilapidated shelter



Figure 11: The remains of a dilapidated shelter

8. Recommendations and Conclusions

Iron Age settlements

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

Graves

No graveyards or individual graves (base and headstone) were recorded during the survey.

Historical structures

Although several in-use cattle enclosures were recorded on the western periphery of the dam, no historical structures, features or artefacts were recorded.

Recommendations

In terms of cultural remains no further action is required. However, a social consultation process must be enacted to inform and consult with the local farmers who still keep cattle in the area.

However, 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 development 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)).

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Addendum 1: Archaeological Sequence

The table provides a general overview of the chronological sequence of the archaeological periods in South Africa.

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)

Archaeological Context

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 million 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.

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.

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 Ndebele (Nguni-speakers) in the northern regions of South Africa with associated sites dating between the sixteenth and 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*).

More specifically to the region, Olifantspoort 328 JQ (further south) is recognised as the most important farm archaeologically. In the 1970s Professor Revil Mason of the University of the Witwatersrand conducted aerial surveys of the area and identified several stone-walled Iron Age sites, which was numbered as follows: 20/71, 21/71, 25/71, 26/71, 27/71, 60/71, 61/71, 62/71, 64/71, 65/71, 2/72, 29/72, 38/73, and 47/73. The list is not comprehensive of all sites on the farm Olifantspoort, and cites only those that Mason briefly looked at or where he conducted limited excavations. He did, however, conduct extensive excavation at Olifantspoort 20/71, a stone-walled town with an area of approximately 80 000 m² in extent. This site and others in the area were classified as Type 6 by Mason, featuring scalloped outer walling and a cattle track leading to the central enclosures (Mason 1986).

The site is also important because it became a 'type site' for a unique phase in the development of LIA pottery which is referred to as the Olifantspoort facies.

Recent surveys revealed that the area around site 20/71 on the farm Olifantspoort, and Commissiesdrift also contains at least another four large stone-walled settlements, with an additional large settlement on the farm Renosterhoek 359 JQ.

Several locals in the region have also been identified where metals (e.g. iron, copper, lead) have been mined and smelted.

Addendum 2: Survey General Plan of the Farm

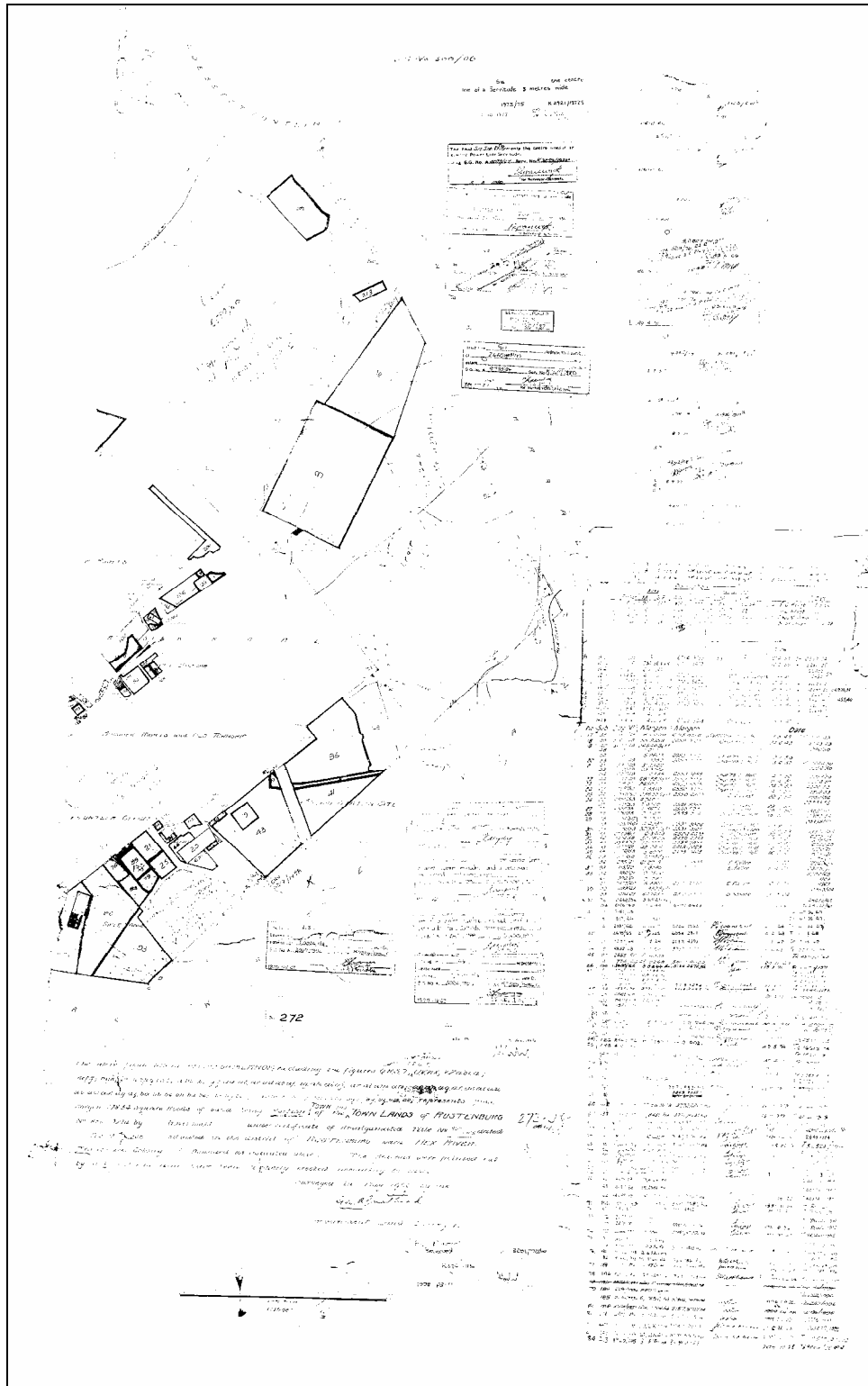


Figure 12: Survey General's document of the farm 272 JQ surveyed in May 1905