

**A SURVEY OF CULTURAL RESOURCES FOR THE
PROPOSED NEW TWICKENHAM-PASCHASKRAAL-HACKNEY
MINING DEVELOPMENT, SEKHUKHUNE DISTRICT,
NORTHERN PROVINCE**

For:

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SUMMARY

A survey of cultural resources for the proposed new Twickenham-Paschaskraal-Hackney mining development, Sekhukhune District, Northern Province

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the area in which it is proposed to develop the mine and its infrastructure.

Based on what was found and its evaluation, it is recommended that the proposed development can continue in the area, on condition of acceptance of the following recommendations:

- All graves should be relocated, but only after consultation with the local community.
- Only one Iron Age site (No. 2430AC124) of significance will be impacted upon by the development and will have to be investigated archaeologically.
- The larger area is historically very important, as it was the original home of the Pedi polity, as well as being the battlefield where the British and the Pedi clashed in 1879. Although the mine development would not impact on this directly, it does so in an indirect manner – eg. visually, as well as creating more interest in the area, with the possibility of more people getting access to the different sites. In order to pre-empt this, it is recommended that these areas be strictly avoided, or, alternatively, a programme for local tourism be developed so that access to these sites can take place under controlled circumstances as well as generating additional income for the community. ACACHS, a non-profit unit in the Dept. of Anthropology at UNISA, in conjunction with the Cultural History Museum, Pretoria, have wide experience in setting up such programmes.
- Some sites that fall outside the development area are indicated in the survey. This serves to indicate the richness of the area. The implication is that no development (eg, roads, routes, borrow pits, etc. can be developed unless those specific areas were investigated by an archaeologist.
- The developer should also be notified that archaeological sites might be exposed during the construction work. If anything is noticed, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

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1. AIMS OF THE SURVEY

The National Cultural History Museum was contracted by **Naledi Development** to survey an area in which it is proposed to develop a new platinum mine. The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the area that is to be impacted by the developed.

2. TERMS OF REFERENCE

The **Terms of Reference** for the study were to:

- 2.1 Identify all objects, sites, occurrences and structures of an archaeological or historical nature located in the area of the proposed development.
- 2.2 Assess the significance of the cultural resources in terms of their historical, social, religious, aesthetic and scientific value.
- 2.3 Determine the possible impacts on the known and potential cultural resources in the area of interest.
- 2.4 Develop mitigation or control measures for impact minimization and cultural resources preservation.
- 2.5 Develop procedures to be implemented if previously unidentified cultural resources are uncovered during the construction.

3. DEFINITIONS AND ASSUMPTIONS

The following aspects have a direct bearing on the survey and the resulting report:

- X **Cultural resources** are all nonphysical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.

- X The **significance** of the sites and artifacts are determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

- X Sites regarded as having low significance have already been recorded in full and require no further mitigation. Sites with medium to high significance require further mitigation.
- X The latitude and longitude of archaeological sites are to be treated as sensitive information by the developer and should not be disclosed to members of the public.

4. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are mainly dealt within two acts. These are the South Africa Heritage Resources Act (Act 25 of 1999) and the Environmental Conservation Act (Act 73 of 1989).

4.1 South African Heritage Resources Act

Archaeology, palaeontology and meteorites

Section 35(4) of this act states that no person may, without a permit issued by the responsible heritage resources authority:

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency.

Human remains:

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
- (b) destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old is subject to provisions of the Human Tissue Act (Act 65 of 1983) and to local regulations.

Exhumation of graves must conform to the standards set out in the **Ordinance on Excavations (Ordinance no. 12 of 1980)** (replacing the old Transvaal Ordinance no. 7 of 1925). Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (ie where the graves are located and where they are to be relocated) before exhumation can take place.

Human remains can only be handled by a registered undertaker or an institution declared under the **Human Tissues Act (Act 65 of 1983 as amended)**.

4.2 Environmental Conservation Act

This act states that a survey and an evaluation of cultural resources should be undertaken in areas where development, which will change the face of the environment, is to be made. The impact of the development on the cultural resources should also be determined and proposals to mitigate this impact is to be formulated.

5. METHODOLOGY

5.1 Preliminary investigation

5.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various anthropological, archaeological and historical sources were consulted - see the list of references below. Nothing pertaining to the archaeology of this particular area was found, although a number of survey reports from adjacent areas exist. Some source on historical events that took place in the area also exists.

5.1.2 Data bases

The **Archaeological Data Recording Centre (ADRC)**, housed at the National Cultural History Museum, Pretoria, was consulted. The **Environmental Potential Atlas** was also consulted.

5.1.3 Other sources

The topocadastral and other maps were also studied - see the list of references below.

5.2 Field survey

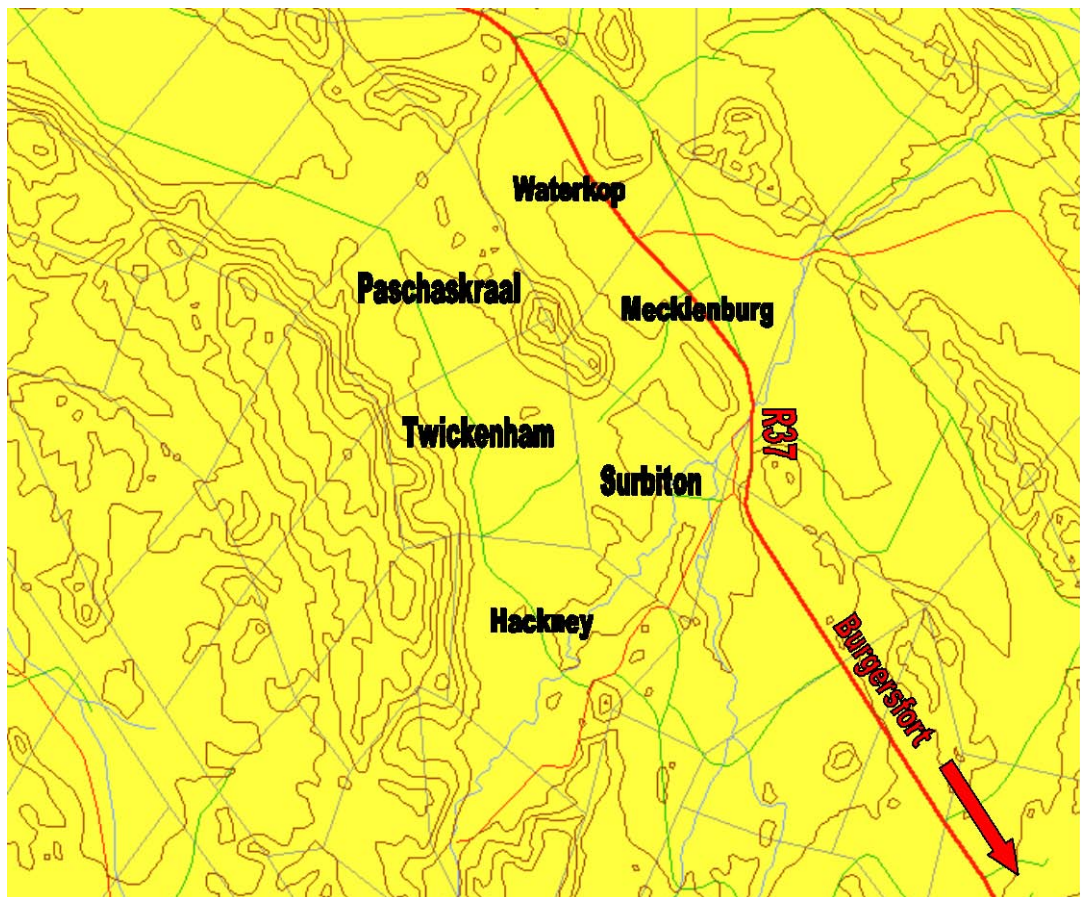
The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by Naledi Development and members of the local community assisted with the survey, acting as guides and interpreters. The area was investigated by walking across it. Special attention was given to unnatural topographical occurrences such as trenches, holes, outcrops and clusters of trees were investigated.

Where possible, local people were interviewed in an effort to obtain information on the existence of known sites.

5.3 Documentation

All sites, objects and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were determined by means of the **Global Positioning System (GPS)**¹ and plotted on a map. This information was added to the description in order to facilitate the identification of each locality.

6. DESCRIPTION OF THE AREA



¹¹ According to the manufacturer a certain deviation may be expected for each reading. Care was, however, taken to obtain as accurate a reading as possible, and then correlate it with reference to the physical environment before plotting it on the map.

The areas surveyed were determined by the proposed development, described as the development “footprint”, and occur on the farms Paschaskraal, Waterkop, Twickenham, Hackney, Surbiton and Mecklenburg in the Sekhukhuneland district of Northern Province (see Fig. 1). The areas investigated include the position of the different shafts, with their supporting buildings, access roads, pipelines for water, slimes dams, conveyor belt routes and relocation areas for the affected communities (see Van Schalkwyk 2002).

The topography of the area varies from low mountains, to plains, bisected by a number of smaller rivers.

The original vegetation of the area consisted of two veld types – Mixed Bushveld and Sourish Mixed Bushveld. However, agricultural activities – ploughing and grazing – and harvesting of wood, has turned it largely into scrub veld.

7. DISCUSSION

This report should be read together with the one of Schoeman & Van Doornum (2001).

The area is rich in Stone Age archaeology. Tools dating to the Middle and Late Stone Age are found all over. However, this material is all surface material, eroding out in dongas and riverbeds. The implication is that it is not in primary context any more and therefore do not have much significance. Some rock art is also known to exist in the area, but is located well outside the area of impact.

A number of sites dating to the Early Iron Age were identified. Most of these are located outside the area of impact, except for site No. 2430AC124 (see Appendix 2), for which mitigation measures will have to be implemented.

A number of sites containing graves were identified in or near the area of proposed development - see Appendix 2, most of which will have to be relocated.

Probably the most significant aspect of the cultural heritage of the area, is that it was the original home of the Pedi polity, which they occupied during the 1700s. They moved away after 1879, after clashing with the British.

8. RECOMMENDATIONS

The aim of the survey was to locate, identify, evaluate and document sites, objects and structures of cultural importance found within the boundaries of the area in which it is proposed to develop the mine and its infrastructure.

Based on what was found and its evaluation, it is recommended that the proposed development can continue in the area, on condition of acceptance of the following recommendations:

- All graves should be relocated, but only after consultation with the local community.

- Only one Iron Age site of significance will be impacted upon by the (No. 2430AC124), which will have to be excavated archaeologically.
- The larger area is historically very important, as it was the original home of the Pedi polity, as well as being the battlefield where the British and the Pedi clashed in 1879. Although the mine development would not impact on this directly, it does so in an indirect manner – eg. visually, as well as creating more interest in the area, with the possibility of more people getting access to the different sites. In order to pre-empt this, it is recommended that these areas be strictly avoided, or, alternatively, a programme for local tourism be developed so that access to these sites can take place under controlled circumstances as well as generating additional income for the community. ACACHS, a non-profit unit in the Dept. of Anthropology at UNISA, in conjunction with the Cultural History Museum, Pretoria, have wide experience in setting up such programmes.
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- The developer should also be notified that archaeological sites might be exposed during the construction work. If anything is noticed, it should immediately be reported to a museum, preferably one at which an archaeologist is available, so that an investigation and evaluation of the finds can be made.

9. REFERENCES

9.1 Unpublished sources

9.1.1 Data base

Archaeological Data Recording Centre, National Cultural History Museum, Pretoria.
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.

9.2 Published sources

9.2.1 Books and journals

Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric archaeology*. Pretoria: J.L. van Schaik.

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Van Warmelo, N.J. 1935. *A Preliminary survey of the Bantu Tribes of South Africa*. Ethnological Publications No. 5. Pretoria: Government Printer.

Van Warmelo, N.J. 1977. *Anthropology of Southern Africa in Periodicals to 1950*. Pretoria: Government Printer.

9.2.2 Maps

1: 50 000 Topocadastral maps - 2430AC, 2430AD

10. PROJECT TEAM

J van Schalkwyk

APPENDIX 1: STANDARDIZED SET OF CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON CULTURAL RESOURCES**Significance of impact:**

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment
- Probable: More than 70% sure of a particular fact, or of the likelihood of that impact occurring
- Possible: Only more than 40% sure of a particular fact, or of the likelihood of an impact occurring
- Unsure: Less than 40% sure of a particular fact, or the likelihood of an impact occurring

Recommended management action:

For each impact, the recommended practically attainable mitigation actions which would result in a measurable reduction of the impact, must be identified. This is expressed according to the following:

- 1 = no further investigation/action necessary
- 2 = controlled sampling and/or mapping of the site necessary
- 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary
- 4 = preserve site at all costs

Legal requirements:

Identify and list the specific legislation and permit requirements which potentially could be infringed upon by the proposed project, if mitigation is necessary.

APPENDIX 2: SURVEY RESULTS²

[Previous site numbers relate to other known sites on a particular ¼ degree sheet already documented in the ADRC, and does not necessarily refer to sites occurring on or close to the specific area of development.]

1. Site number: 2430AC79

Location: Paschaskraal 466KS: S 24E22'04.3"; E 30E00'24.9"

Description: Graves marked with cement, in old cattle kraal. Numbered as No.'s 1-7. Old settlement site nearby. Abandoned ± 1955. Memorial in cement close by with following inscription: "Motse wa ba bina Noko" (Place of those who venerate the porcupine).

Discussion: This area falls just outside the "footprint" of the proposed development, but, in all probability will have to be relocated.

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: Relocate graves.

Legal requirements: Consultation; notification; permits

2. Site number: 2430AC80

Location: Paschaskraal 466KS: S 24E22'28.6"; E 30E00'27.6"

Description: Two graves marked with stone cairns. Numbered as No.'s 8-9. Remains of homestead and stone walling in vicinity, under conveyor belt.

Discussion: The conveyor will pass over this site. The site is not all that old, nor significant. However, the graves will have to be relocated.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves.

Legal requirements: Consultation; notification; permits

3. Site number: 2430AC81

Location: Paschaskraal 466KS: S 24E22'50.4"; E 30E00'27.6"

Description: Grave with marble headstone, numbered as No. 10.

Discussion: This site will probably be impacted upon by the development

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

4. Site number: 2430AC82

Location: Paschaskraal 466KS: S 24E23'04.2"; E 30E00'26.8"

Description: Grave of a child. Numbered as No. 11.

Discussion: This site is close to the conveyor.

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: Relocate grave

²² See Appendix 1 for an explanation of the conventions used in assessing the cultural remains.

Legal requirements: Consultation; notification; permits

5. Site number: 2430AC83

Location: Twickenham 114KT: S 24E24'03.0"; E 30E01'06.5"

Description: MSA stone tools eroding out in donga.

Discussion: Conveyor will cross the donga. The stone tools are not in primary context any more. However, it is recommended that an archaeologist is present when the conveyor belt is constructed, in order to recover any material before it is damaged.

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: 2 = controlled sampling and/or mapping of the site necessary

Legal requirements: SAHRA permit (for removal of artefacts)

6. Site number: 2430AC84

Location: Twickenham 114KT: S 24E23'56.3"; E 30E01'04.8"

Description: Cemetery with more than 50 graves.

Discussion: This site is located far from the conveyor route and will not be impacted upon.

Significance of impact: Low

Certainty of prediction: Definite

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

7. Site number: 2430AC85

Location: Twickenham 114KT: S 24E24'18.5"; E 30E01'24.4"

Description: Grave marked with cement slab, numbered as No. 12.

Discussion: This grave will probably have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

8. Site number: 2430AC86

Location: Twickenham 114KT: S 24E24'42.3"; E 30E01'51.8"

Description: Two graves in an old homestead, numbered as No. 13-14.

Discussion: These graves will be impacted upon by the development. The homestead, although abandoned, is not viewed as significant.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

9. Site number: 2430AC87

Location: Twickenham 114KT: S 24E24'49.3"; E 30E01'57.6"

Description: Cemetery with 16 graves. Originally we were informed of only 15, but the following day another was identified between no. 21 & 27. It was, however, not given a separate number, as this would have broken the sequence of numbers. Numbered as No.'s 15-29.

Discussion: This site will be impacted upon by the development

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits.

10. Site number: 2430AC88

Location: Surbiton 115KT: S 24E25'51.6"; E 30E02'50.5"

Description: Cemetery with five graves.

Discussion: This site is not close to the conveyor route

Significance of impact: Low

Certainty of prediction: Definite

Recommended management action: 1 = no further investigation/action necessary

Legal requirements:

11. Site number: 2430AC89

Location: Hackney 116KT: S 24E27'42.0"; E 30E03'42.6"

Description: Five graves marked with stone cairns. Numbered as No.'s 30-34.

Discussion: These graves should be relocated.

Significance of impact: High

Certainty of prediction: Probably

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

12. Site number: 2430AC90

Location: Forrest Hill 117KT: S 24E27'59.0"; E 30E03'53.5"

Description: A number of graves, located outside the "footprint" of the development.

Discussion: If the people are to move, the graves will have to be relocated

Significance of impact: High

Certainty of prediction: Possible

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

13. Site number: 2430AC91

Location: Hackney 116KT: S 24E27'43.4"; E 30E03'35.4"

Description: Some Early Iron Age pottery found here.

Discussion: This probably represents a single vessel. The shards were probably washed down from higher up the slope.

Significance of impact: Low

Certainty of prediction: Probable

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

14. Site number: 2430AC92

Location: Hackney 116KT: S 24E27'39.3"; E 30E03'31.2"

Description: Twelve graves marked with stone cairns. Numbered as No.'s 36-47.

Discussion: These graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

15. Site number: 2430AC93

Location: Hackney 116KT: S 24E27'49.0"; E 30E03'29.1"

Description: Number of graves in an old cattle kraal. Numbered as No.'s 48-63.

Discussion: These graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

16. Site number: 2430AC94

Location: Hackney 116KT: S 24E27'41.0"; E 30E03'30.6"

Description: Two graves marked with stone cairns. Numbered as No.'s 64-65.

Discussion: These graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

17. Site number: 2430AC95

Location: Hackney 116KT: S 24E27'50.7"; E 30E03'29.6"

Description: Grave, marked as No 66. Apparently there are a number of others in the immediate vicinity, but local informants were unable to identify their position.

Discussion: These graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

18. Site number: 2430AC96

Location: Hackney 116KT: S 24E27'50.8"; E 30E03'30.9"

Description: Number of graves marked with stone cairns. Numbered as No.'s 67-72.

Discussion: These graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

19. Site number: 2430AC97

Location: Hackney 116KT: S 24E27'54.0"; E 30E03'31.6"

Description: Grave in an old cattle kraal, marked as No. 73.

Discussion: This grave will have to be relocated

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

20. Site number: 2430AC98

Location: Hackney 116KT: S 24E27'24.4"; E 30E03'26.1"

Description: Graves in an old cattle kraal. Numbered as No.'s 74-80.

Discussion: These graves will have to be relocated

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: Relocate graves
Legal requirements: Consultation; notification; permits

21. Site number: 2430AC99

Location: Hackney 116KT: S 24E27'24.9"; E 30E03'26.6"

Description: Two graves marked with stone cairns. Numbered as No.'s 81-82.

Discussion: These graves probably fall just outside the "footprint" of the development, but if the people move the graves will have to be relocated.

Significance of impact: High

Certainty of prediction: Probable

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

22. Site number: 2430AC100

Location: Hackney 116KT: S 24E27'20.9"; E 30E03'23.1"

Description: Three graves marked with stone cairns. Numbered as No.'s 83-85.

Discussion: These graves probably fall just outside the "footprint" of the development, but if the people move the graves will have to be relocated.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

23. Site number: 2430AC101

Location: Hackney 116KT: S 24E27'22.3"; E 30E03'18.5"

Description: Cemetery with approximately 25 graves. Numbered as No.'s 150-180.

Discussion: These graves probably fall just outside the "footprint" of the development, but if the people move the graves will have to be relocated.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocated graves

Legal requirements: Consultation; notification; permits

24. Site number: 2430AC102

Location: Waterkop 112KT: S 24E22'11.0"; E 30E01'56.4"

Description: A single grave, numbered as No. 86.

Discussion: If the people move, the grave will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

25. Site number: 2430AC103

Location: Waterkop 112KT: S 24E22'09.9"; E 30E01'57.1"

Description: Single grave, numbered as No. 87. Apparently there are a number of others in the area but local informants were unable to identify their position.

Discussion: If the people move, the grave will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

26. Site number: 2430AC104

Location: Waterkop 112KT: S 24E22'19.8"; E 30E02'00.7"

Description: Number of marked graves in a cattle kraal. Numbered as No.'s 88-93. Apparently there are many more unmarked graves in the area.

Discussion: If the people move, the graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

27. Site number: 2430AC105

Location: Waterkop 112KT: S 24E22'18.1"; E 30E01'49.1"

Description: Single grave marked with a stone cairn. Numbered as No. 94.

Discussion: If the people move, the grave will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

28. Site number: 2430AC106

Location: Waterkop 112KT: S 24E22'17.5"; E 30E01'46.8"

Description: Two graves, numbered as No.' 95-96. Apparently there are three other unmarked graves in the area.

Discussion: If the people move, the graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

29. Site number: 2430AC107

Location: Waterkop 112KT: S 24E22'13.5"; E 30E01'43.3"

Description: Grave marked with cement slab. Numbered as No. 97.

Discussion: If the people move, the grave will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

30. Site number: 2430AC108

Location: Waterkop 112KT: S 24E22'10.9"; E 30E01'44.6"

Description: Grave marked with cement slab. Numbered as No. 99. Apparently one other unmarked grave in the area.

Discussion: If the people move, the graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

31. Site number: 2430AC109

Location: Waterkop 112KT: S 24E22'14.4"; E 30E01'49.9"

Description: Five graves. One is located at the back of the hut and the other next to the courtyard. Numbered as No.'s 100-104.

Discussion: If the people move, the graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

32. Site number: 2430AC110

Location: Waterkop 112KT: S 24E22'15.0"; E 30E01'51.0"

Description: Single grave marked with a stone. Numbered as No. 105.

Discussion: If the people move, the grave will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

33. Site number: 2430AC111

Location: Waterkop 112KT: S 24E22'13.0"; E 30E01'50.7"

Description: Two graves marked with cement slabs. Numbered as No.'s 106-107.

Discussion: If the people move, the graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

34. Site number: 2430AC112

Location: Waterkop 112KT: S 24E22'13.8"; E 30E01'52.4"

Description: Grave marked with a stone, numbered as No. 108.

Discussion: If the people move, the grave will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

35. Site number: 2430AC113

Location: Waterkop 112KT: S 24E22'08.3"; E 30E01'52.4"

Description: Grave marked with cement slab – very big, atypical in appearance. Numbered as No. 109.

Discussion: If the people move, the grave will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate grave

Legal requirements: Consultation; notification; permits

36. Site number: 2430AC114

Location: Waterkop 112KT: S 24E22'09.6"; 30E01'53.3"

Description: Grave marked with a stone. Numbered as No. 110.

Discussion: If the people move, the grave will have to be relocated

Significance of impact: High
Certainty of prediction: Definite
Recommended management action: Relocate grave
Legal requirements: Consultation; notification; permits

37. Site number: 2430AC115

Location: Twickenham 114KT: S 24E24'54.8"; E 30E01'52.1"
Description: Graves marked with stone cairns, numbered as No.'s 111-117.
Discussion: If the people move, the graves will have to be relocated
Significance of impact: High
Certainty of prediction: Definite
Recommended management action: Relocate grave
Legal requirements: Consultation; notification; permits

38. Site number: 2430AC116

Location: Twickenham 114KT: S 24E24'56.3"; E 30E01'50.0"
Description: Six graves, apparently just outside "footprint" of the development. A second group, containing \pm 20 graves, is located \pm 10 m further south.
Discussion: If the people move, the graves will have to be relocated
Significance of impact: High
Certainty of prediction: Definite
Recommended management action: Relocate graves
Legal requirements: Consultation; notification; permits

39. Site number: 2430AC117

Location: Twickenham 114KT: S 24E24'53.7"; E 30E01'52.4"
Description: Graves marked with stone cairns, numbered as No.'s 118-123. No. 123 is located on the opposite side of the fence.
Discussion: If the people move, the graves will have to be relocated
Significance of impact: High
Certainty of prediction: Definite
Recommended management action: Relocate graves
Legal requirements: Consultation; notification; permits

40. Site number: 2430AC118

Location: Twickenham 114KT: S 24E24'53.4"; E 30E01'53.7"
Description: Grave of a child marked with a stone, numbered as No. 124.
Discussion: If the people move, the grave will have to be relocated
Significance of impact: High
Certainty of prediction: Definite
Recommended management action: Relocate grave
Legal requirements: Consultation; notification; permits

41. Site number: 2430AC119

Location: Twickenham 114KT: S 24E24'53.8"; E 30E01'54.2"
Description: Graves in cattle kraal, marked with a stone, numbered as No.'s 125-128.
Discussion: If the people move, the graves will have to be relocated
Significance of impact: High
Certainty of prediction: Definite
Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

42. Site number: 2430AC120

Location: Twickenham 114KT: S 24E24'51.3"; E 30E01'56.2"

Description: Nineteen graves, marked in different ways, numbered as No.'s 129-147.

Discussion: If the people move, the graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

43. Site number: 2430AC121

Location: Twickenham 114KT: S 24E24'49.8"; E 30E01'56.7"

Description: Two graves of uncertain origin, numbered as No.'s 148-149.

Discussion: If the people move, the graves will have to be relocated

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocate graves

Legal requirements: Consultation; notification; permits

44. Site number: 2430AC122

Location: Twickenham 114KT: S 24E25'16.7"; E 30E00'02.2"

Description: MSA tools in donga. Close by a LIA grave occurs

Discussion: This site is well outside the area of development

Significance of impact: Low

Certainty of prediction: Definite

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

45. Site number: 2430AC123

Location: Surbiton 115KT: S 24E25'12.8"; E 30E03'24.7"

Description: MSA & some LSA tools in donga

Discussion: This site is outside the area of development

Significance of impact: Low

Certainty of prediction: Definite

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

46. Site number: 2430AC124

Location: Surbiton S 24E26'38.8"; E 30E03'40.1"

Description: EIA site, also containing LIA pottery and LSA tools.

Discussion: This site will be impacted upon by the proposed development, ie. the proposed pipeline . Mitigation measures will have to be implemented

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: 3 = preserve site if possible, otherwise extensive salvage excavation and/or mapping necessary

Legal requirements: SAHRA permit

47. Site number: 2430AC125

Location: Forest Hill 117KT: S 24E25'41.4"; E 30E04'29.6"

Description: Pottery, as well as LSA flakes

Discussion: This site will be impacted upon by the proposed road. However, the potsherds seem to represent a single vessel dating to recent times and are judged not to be of high significance.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: 1 = no further investigation/action necessary

Legal requirements: None

48. Site number: 2430AC126

Location: Hackney 116KT: S 24E27'20.8"; E 30E03'23.5"

Description: Cemetery with approximately 4 graves. Numbered as No.'s 181-184.

Discussion: These graves probably fall just outside the "footprint" of the development, but if the people move the graves will have to be relocated.

Significance of impact: High

Certainty of prediction: Definite

Recommended management action: Relocated graves

Legal requirements: Consultation; notification; permits

APPENDIX 3: GLOSSARY AND ABBREVIATIONS

This section is included to give the reader some necessary background. It must be kept in mind, however, that these dates are all relative and serve only to give a very broad framework for interpretation.

STONE AGE

Early Stone Age (ESA)	2 000 000 - 150 000 Before Present
Middle Stone Age (MSA)	150 000 - 30 000 BP
Late Stone Age (LSA)	30 000 - until c. AD 200

IRON AGE

Early Iron Age (EIA)	AD 200 - AD 1000
Late Iron Age (LIA)	AD 1000 - AD 1830

HISTORICAL PERIOD

Since the arrival of the white settlers - c. AD 1840 in this part of the country

ADRC - Archaeological Data Recording Centre

core - a piece of stone from which flakes were removed to be used or made into tools

SAHRA - South African Heritage Resources Agency