

**Archaeological Survey of Proposed Mhlathuze Water Pipeline to  
Fairbreeze Mine**

**For Lombard & Associates**

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## Introduction

Lombard and Associates approached the Institute for Cultural Resource Management to undertake an archaeological survey of the Mhlathuze Water proposed pipeline route to Ticor's Fairbreeze Mining Plant. The pipeline passes through areas of archaeological sensitivity and several sites have been previously recorded (Anderson 1996; Anderson and Whitelaw 1995).

The pipeline begins at the Thukela River, passes several main rivers and sugar cane fields, and ends at the proposed Fairbreeze mining area. Most of the pipeline follows existing servitudes, such as an Eskom transmission line, gravel or tar roads and afforested areas. Several areas have been affected by sugar cane farming only, indicating that these areas may still yield valuable (and relatively undisturbed) archaeological remains.

The initial survey was undertaken over a four day period in early August 2001. A total of eight new sites were recorded during the initial survey, while a further ten had been previously recorded. Of all of these site five required further mitigation. Subsequently, the route was realigned and the February 2002 survey recorded four new sites, and revisited one site. The new survey will affect nine archaeological sites in total. Depending on the precise pipeline alignment two or three archaeological sites would require further mitigation. These sites should not deter any development provided that mitigation is undertaken.

All archaeological sites are protected by the KwaZulu-Natal Heritage Act of 1998. A permit for the damage, alteration and/or destruction of any archaeological site is required from KwaZulu-Natal Heritage. The onus is on the developer, in this case Mhlathuze Water, to apply for such a permit.

This report does not give the developer permission to continue with the archaeological component of the contract. Permission can only be granted by KwaZulu-Natal Heritage.

## Methodology

The engineering company mapped the route of the proposed pipeline on 1:50 000 and 1:10 000 maps. The former map gives the general route alignments, while the latter details the changes along the route. During the course of the survey the 1:10 000 map was used as a reference point for the pipeline route. All archaeological sites, sensitive areas and unsurveyed areas were placed on both maps.

All sites have been grouped according to low, medium and high significance for the purpose of this report. Sites of low significance have no diagnostic artefacts, especially pottery. Sites of medium significance have diagnostic artefacts and these are sampled. Sampling includes the collection of artefacts for future analysis. All diagnostic pottery, such as rims, lips and decorated sherds are sampled, while bone, stone and shell are mostly noted. Sampling usually occurs on most sites. Sites of high significance are excavated or extensively sampled. The sites that are extensively sampled have high research potential, yet poor preservation of features. I attempt to recover as many artefacts from these sites by means of systematic sampling, as opposed to sampling diagnostic artefacts only.

Significance is generally determined by several factors. However, in this survey, a wider definition of significance is adopted since the aim of the survey is to gather as much information as possible from every site. This strategy allows for an analysis of every site in some detail, without resorting to excavation.

### Defining significance

Archaeological sites vary according to significance and several different criteria relate to each type of site. However, there are several criteria that allow for a general significance rating of archaeological sites.

These criteria are:

1. **State of preservation of:**
  - 1.1. Organic remains:
    - 1.1.1. Faunal
    - 1.1.2. Botanical

- 1.2. Rock art
- 1.3. Walling
- 1.4. Presence of a cultural deposit
- 1.5. Features:
  - 1.5.1. Ash Features
  - 1.5.2. Graves
  - 1.5.3. Middens
  - 1.5.4. Cattle byres
  - 1.5.5. Bedding and ash complexes
- 2. Spatial arrangements:**
  - 2.1. Internal housing arrangements
  - 2.2. Intra-site settlement patterns
  - 2.3. Inter-site settlement patterns
- 3. Features of the site:**
  - 3.1. Are there any unusual, unique or rare artefacts or images at the site?
  - 3.2. Is it a type-site?
  - 3.3. Does the site have a very good example of a specific period, feature, or artefact?
- 4. Research:**
  - 4.1. Providing information on current research projects
  - 4.2. Salvaging information for potential future research projects
- 5. Inter- and intra-site variability**
  - 5.1. Can this particular site yield information regarding intra-site variability, i.e. spatial relationships between various features and artefacts?
  - 5.2. Can this particular site yield information about a community's social relationships within itself, or between other communities?
- 6. Archaeological Experience:**
  - 6.1. The personal experience and expertise of the CRM practitioner should not be ignored. Experience can indicate sites that have potentially significant aspects, but need to be tested prior to any conclusions.
- 7. Educational:**

- 7.1. Does the site have the potential to be used as an educational instrument?
- 7.2. Does the site have the potential to become a tourist attraction?
- 7.3. The educational value of a site can only be fully determined after initial test-pit excavations and/or full excavations.

The more a site can fulfill the above criteria, the more significant it becomes. Test-pit excavations are used to test the full potential of an archaeological deposit. These test-pit excavations may require further excavations if the site is of significance. Sites may also be mapped and/or have artefacts sampled as a form of mitigation. Sampling normally occurs when the artefacts may be good examples of their type, but are not in a primary archaeological context. Mapping records the spatial relationship between features and artefacts.

## **Findings**

The archaeological sites, their significance and mitigation are summarised in Table 1. The approximate locations of the sites are given in Table 2<sup>1</sup>.

### **IHM1**

This site is located near the Eskom tower #178. It is situated on a relatively flat area and extends further uphill towards the school. The density of artefacts increases as one heads uphill, suggesting that the main living area be near the top of the hill. The artefacts include daga fragments and various sherds. The sherds come from several vessels and many have a black, brown or dark red-brown burnish. One sherd has a black burnish with a flat lip and rim.

The soil becomes deeper as one heads uphill (south), indicating that an archaeological deposit may occur – the soil horizon near the tower is virtually non-existent, but becomes thicker upslope.

The site probably dates to the Historical Period.

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<sup>1</sup> These have been handed to the engineering company.

Significance: The site is of medium archaeological significance due to the high density of artefacts and a potential archaeological deposit. The pipeline would not need to be rerouted as a result of the archaeological site.

Mitigation: Further mitigation would be required at this site. The mitigation should follow a two-phase approach. The first phase should include several test-pit excavations to determine the full potential of the site. These test-pits should occur along the exact route of the pipeline. **If the excavations yield significant material, then the second phase will be required. This will include more in depth excavations.**

## **IHM2**

This site is located downhill (east) from the school near IHM1. The site consists of a sparse scatter of sherds along the dirt road and sugarcane cutting. Most of the site probably extends into the dense sugarcane to the north of the road.

The site probably dates to the Historical Period.

Significance: The part of the site that was recorded is of low archaeological significance. More of the site may occur to the north, i.e. into the existing sugarcane. This area is of medium significance because of its archaeological deposit and artefacts.

Mitigation: If the pipeline is placed along the current dirt road, or to the south of it, then no further mitigation would be required. However, if the pipeline is situated to the north of the dirt road (i.e. in the existing sugarcane), then this site would require mitigation in the form of test-pits. **Further archaeological excavations may be required along the route, if the excavations yield significant material.**

## **IHM3**

This site is located  $\pm$  300 m east, or towards the new N2, of IHM2, on the top of a flat hill. The site consists of a scatter of sherds. This scatter is less dense than IHM1. One sherd has a flat lip with a tapering rim with an orange-brown colouring. An archaeological deposit exists at the site.

The site probably dates to the Historical Period.

Significance: The part of the site that was recorded is of medium archaeological significance.

Mitigation: If the pipeline is placed along the current dirt road, or to the south of it, then no further mitigation would be required. However, if the pipeline is situated to the north of the dirt road, then this area would need to be excavated. Excavations would be in the form of test-pit excavations to determine the full potential of the site. **Further archaeological excavations may be required along the route, if the excavations yield significant material.**

### **IHM8**

The site is an extensive scatter of sherds along the spur of the hill extending for  $\pm 100$  m. The lower (northern) parts of the site will be affected by the realigned route. The pipeline route has moved further north, or downslope of the site. However, artefacts were still located at this lower end. The pipeline thus probably touches the outer perimeters of the site. These “outskirts” are however, important, as it is this area that tends to be the main discard area; hence, the archaeological deposit.

Many vessels of varying colours and burnish were recorded, as well as grinding stones and quartz flakes.

Significance: The site is of medium archaeological significance due to the density of sherds and archaeological deposit.

Mitigation: Test-pit excavations should occur to determine the exact nature of the archaeological site. These test-pit excavations would be restricted to the area of the pipeline. **Further archaeological excavations may be required along the route, if the excavations yield significant material.**

### **IHM9**

This site is located between Hawkstone Estate and Thornlands, near the electricity tower no. 157. The site is an ephemeral scatter of pottery sherds dating to the Late Iron Age or Historical Period.

Significance: The site is of low archaeological significance.

Mitigation: No further mitigation is required.

### **IHM10**

This site is located near Main Road 224 on the hill closest to the Matikulu River. The site consists of an ephemeral scatter of pottery sherds dating to the Late Iron Age or Historical Period.

Significance: The site is of low archaeological significance.

Mitigation: No further mitigation is required.

### **IHM11**

The site is located on the top of a hill near the Main Road 224. The site consists of an ephemeral scatter of pottery sherds dating to the Late Iron Age or Historical Period.

Significance: The site is of low archaeological significance.

Mitigation: No further mitigation is required.

### **IHM12**

The site is located near St Kitts Estate and is uphill and south of the pipeline. The site is a scatter of Middle Stone Age tools and Historical Period pottery. The site will not be directly affected by the pipeline, however earthmoving equipment may damage parts of the site during the construction phase.

Significance: The site is of low archaeological significance.

Mitigation: No further mitigation is required.



## Conclusion

The February 2002 archaeological survey along the proposed Mhlathuze Water pipeline route recorded four new archaeological sites. The realigned route will affect a total of nine sites. Of these sites, three would require some form of mitigation. Two more sites may require test-pit excavations if the realigned route is placed in the sugarcane, and not the current track.

I suggest that test-pit excavations should occur for the sites of medium significance. Further excavations would be required if these sites yield significant more material and/or information. The test-pit excavations should occur as soon as possible, and after the precise location of the pipeline has been established. In this way, the archaeological component would not cause delays during the course of the construction phase of the pipeline.

Mhlathuze Water will need to apply to KwaZulu-Natal Heritage for a permit regarding the damage to all of the archaeological sites affected by the pipeline.

## References

Anderson, G. 1996. Specialist report on the potential impact of the proposed Iscor Mining Project on Affected Archaeological Sites. CRM report submitted to CSIR, Environmental Services.

Anderson, G. and Whitelaw. G. 1995. Archaeological Survey for the new N2 Road. CRM Report for the Department of Transport.

**Table 1: List of archaeological sites, their significance and mitigation**

Archaeological Site No.	Significance	Mitigation
IHM1	Medium	Test-pits
IHM2	Low-medium	Test-pits if affected, else no further mitigation
IHM3	Low-medium	Test-pits if affected, else no further mitigation
IHM4	Low	None
IHM8	Medium	Test-pits
IHM9	Low	None
IHM10	Low	None
IHM11	Low	None
IHM12	Low	None

**Table 2: Location of archaeological sites along the realigned route**

Orthophoto. Sheet No.	Point locations on orthophoto	Archaeological site No.
5	D2 – D3	IHM1
5	D3 – D4	IHM2
5	D3 – D4	IHM3
6	D5 – D6/E0	IHM4
3	C3 – C4	IHM8
5	C5 – C6/D0	IHM9
5	C4 – C5	IHM10
4	Irrigation off-take no.13 - Irrigation off-take no. 16	IHM11
4	Irrigation off-take no. 12 - Irrigation off-take no. 13	IHM12