

**HERITAGE SURVEY OF THE MARINE AQUACULTURE
ZONE, EAST LONDON INDUSTRIAL DEVELOPMENT
ZONE:**

**EIA REFERENCES: AR/7/F/1 (e), 1 (p)/1/09 &
AR/7/F/1 (e), 1 (p)/2/09: DEDEA EAST LONDON**

FOR COASTAL & ENVIRONMENTAL SERVICES

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By Gavin Anderson

**Umlando: Archaeological Tourism and Resource
Management**

PO Box 102532, Meerensee, 3901

**Phone/fax: 035-7531785 Fax: 0865445631 cell:
0836585362**



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INTRODUCTION

Umlando cc was contracted by Coastal and Environmental Services to undertake a heritage survey of the Marine Aquaculture Zone, East London Industrial Development Zone.

The area is located (fig. 1) southwest of East London in the Industrial Development Zone. The vegetation is coastal bush and grass and most of it has not been disturbed. The high water mark occurs within 100m of the development, and the main rock outcrops occur from 40m to 100m from the southern (and southeastern) part of the development. The area is thus in an highly sensitive area in terms of archaeology.

The development consists of mariculture facilities, servitudes and a processing facility.

The dense coastal bush resulted in very poor to non-existent archaeological visibility. Visibility was only possible in those areas that had been cleared in some manner. Regardless of the poor visibility, I recorded seven archaeological sites. This suggests that more sites would occur in the heavily vegetated areas and these would require monitoring during the earth moving construction phase.

METHOD

The method for Heritage assessment consists of several steps.

The first step forms part of the desktop assessment. Here we would consult Umlando's database. This database does; however, tend to be restricted to archaeological and palaeontological sites. Consulting with the relevant authorities will also cover known battlefields and historical sites. We also consult with an historical architect, a palaeontologist, and an historian where necessary. I also

consulted with the East London Museum regarding shipwrecks and forts of the area.

The initial archaeological survey (i.e. fieldwork) consists of a foot survey where the selected area was covered. The survey results will define the significance of each recorded site, as well as a management plan. The main problem with the survey was the poor archaeological visibility. I surveyed the entire area in transects (Fig. 2). During these surveys, I concentrated on exposed areas, molehills and aardvark (or similar) holes where artefacts, middens etc. may have been exposed. Unfortunately, the area yielded few sites, as sites occurred only in areas of cleared vegetation. I also surveyed along a section of the fencing to determine the possible location of shell middens.

All sites are 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 and/or extensively sampled. Those sites that are extensively sampled have high research potential, yet poor preservation of features. We attempt to recover as many artefacts from these sites by means of systematic sampling, as opposed to sampling diagnostic artefacts only.

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, i.e. a site that has the first diagnostic material of its kind?

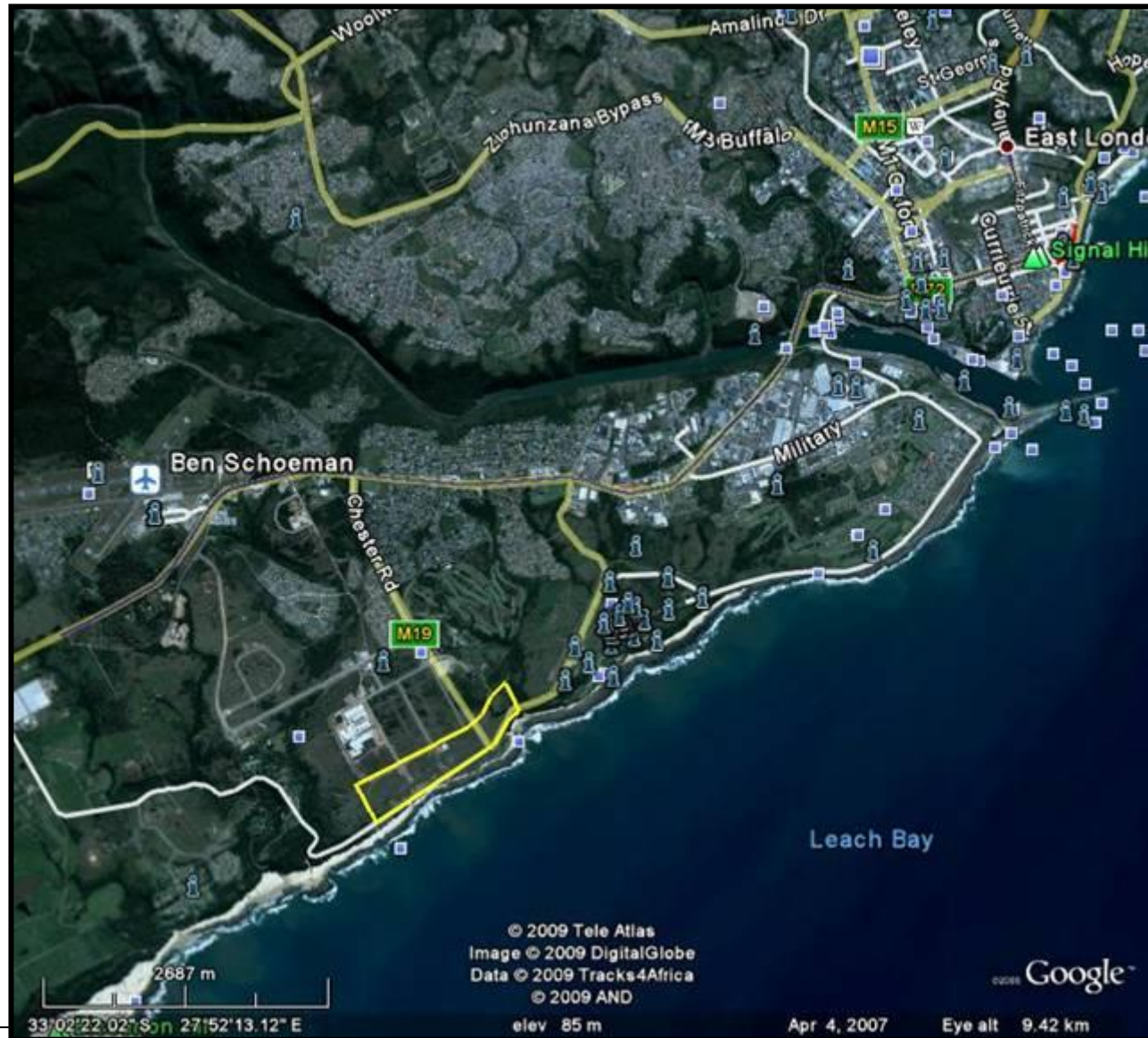
3.3. Does the site have a very good example of a specific time period, feature, or artefact?

4. Research:

4.1. Providing information on current research projects

4.2. Salvaging information for potential future research projects

FIG. 1: LOCATION OF THE PROPOSED MARICULTURE DEVELOPMENT¹



¹ Study area is outlined in yellow

FIG. 2: SURVEY WALKPATH OF THE STUDY AREA²



² Walk path in blue

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.

8. Other Heritage Significance:

- 8.1. Palaeontological sites
- 8.2. Historical buildings
- 8.3. Battlefields and general Anglo-Zulu and Anglo-Boer sites
- 8.4. Graves and/or community cemeteries
- 8.5. Living Heritage Sites
- 8.6. Cultural Landscapes, that includes old trees, hills, mountains, rivers, etc related to cultural or historical experiences.

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. This occurs in Phase 2. These test-pit excavations may require further excavations if the site is of significance (Phase 3). 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.

RESULTS

Seven sites were recorded during the survey. These are all shell middens probably predating the arrival of domestic animals in the areas, i.e. c. 1700 years ago. All sites have a prefix of IDZ for the „Industrial Development Zone“. The locations of these sites are illustrated in Figure 3.

IDZ01

The site is a shell midden that is eroding from a small hill overlooking a natural spring and the ocean. The site extends for ~60m x 40m in terms of the scatter; however, most of it is undisturbed in a ~15m x 15m area (fig. 4a). An extension to the midden carries over to the fence nearby. This may be another shell midden or part of the original midden that has now been bisected by erosion.

There is a wide variety of shell species and these include *Choromytilus meridionalis* (black mussel), two to three *Patella spp.* (limpets), *Oxystele spp.*, and/or *Turbo spp.* (alikleaukel). Other smaller shell species occurred on the site such as a variety of whelks and barnacle. The faunal remains consist of avian and bovid(?) bone that is very weathered. A few upper grinding stones that have also been used as hammer stones and/or pestles occur on the surface. A possible hearth surrounded by a few rocks occurs on the lower parts of the site (fig. 4b).

Significance: The site is of medium significance as it has faunal remains (which would be better preserved in the midden), a deposit, and features. Excavations could yield significant information regarding coastal settlement and dietary patterns for this area.

Mitigation: If the site is to be affected it will need to be excavated. I suggest that a few test-pits are excavated to determine the nature of the site. Thereafter, the site can be assessed if further excavations are required.

FIG. 3: LOCATION OF RECORDED SITES IN THE STUDY AREA



FIG. 4a: LOCATION OF IDZ01³



FIG. 4b: LOCATION OF POSSIBLE HEARTH AT IDZ01



3

IDZ02

IDZ02 is located on the next raised level up from ADZ01. The site consists of a scatter of shell and Late Stone Age (LSA) tools located on the old track. More of the site is probably located inside the bushes.

Significance: The site is of low significance

Mitigation: No further mitigation is required; however, the area will need to be monitored during bush clearance phase.

IDZ03

IDZ03 is located ~40m southwest of IDZ02. It consists of a lower grinding stone and a few LSA flakes exposed along the same track. More of the site is probably located inside the bushes.

Significance: The site is of low significance

Mitigation: No further mitigation is required; however, the area will need to be monitored during bush clearance phase.

IDZ04

IDZ04 is located on the upper ridge of the development area. It consists of fragmented shell, and LSA tools. The tools include one Heavy Edge Damage flake, and normal flakes. There is a possible stone circle on the top of the hill where these shells are located (i.e. 30m west). This circle may be related to more recent activity, as a structure is located in the vicinity on the Google Earth map. The dense vegetation makes it difficult to assess.

Significance: The site is of low significance

Mitigation: No further mitigation is required; however, the area will need to be monitored during bush clearance phase.

IDZ05

IDZ05 is located on a small hill directly west of IDZ01. Some shell fragments were observed in the molehills under a large bush. It appears that the midden may cover the entire hill, as is the case at IDZ01

Significance: The site is of low-medium significance as it has potential deposit. Excavations could yield significant information regarding coastal settlement and dietary patterns for this area.

Mitigation: If the site is to be affected it will need to be excavated. I suggest that a few test-pits are excavated to determine the nature of the site. Thereafter, the site can be assessed if further excavations are required and in relation to IDZ01.

IDZ06

IDZ06 is located along the boundary fence and has been damaged by this fence. The midden is ~5-10cm thick and approx. 4m wide. It would extend on both sides of the fence.

Significance: The site is of low-medium significance as it has potential deposit.

Mitigation: If the site is to be affected it will need to be excavated. I suggest that a few test-pits are excavated to determine the nature of the site. Thereafter, the site can be assessed if further excavations are required and in relation to the other shell middens of the area.

IDZ07

IDZ07 is located in the road cutting. It is the remains of a shell lens, and is probably the edge of that midden as it is only ~20cm in width, and 5cm in

thickness. The current road construction has damaged this site. A shell lens is a thin layer of shell forming part of an archaeological deposit.

Significance: The site is now of low significance; however, this is not a true assessment of the site as it has been damaged beyond an assessment.

Mitigation: No mitigation is required.

SHIPWRECKS

I consulted the East London Museum database for known shipwrecks, and thus survivor camps. The closest shipwreck is 2.5km northeast of the study area. Survivor camps are thus not an issue.

MANAGEMENT PLAN

Seven sites were recorded during the survey. All of these sites are related to shell middens. The shell middens that were recorded were only recorded as they were in cleared areas. I believe that there are more sites on both the „levels“ of IDZ01/IDZ05/IDZ06 and IDZ02/IDZ03/IDZ04; however, these were not observed due to the dense vegetation. Most of the development will occur on the upper level and the current footprint misses IDZ01, IDZ05 and IDZ06. The location of servitudes needs to be noted.

I suggest the site is briefly resurveyed after bush clearance and before earth moving activity. This will establish if more shell middens occur in the area. I suggest that someone competent in observing shell middens does this initial “survey” after dune clearance⁴. If middens do occur, then a heritage practitioner will need to assess the middens in more detail. As this type of assessment will need to be undertaken on short notice, I suggest that a date for bush clearance is set well in advance of the actual clearance so that an archaeologist can be ready to come out if needs be.

⁴ Such a person exists at the East London Museum and assisted me in this survey.

CONCLUSION

A heritage survey of the proposed mariculture development in the East London Industrial Development Zone was undertaken. While seven sites were recorded, I believe that more sites may occur under the dense bush vegetation. These will need reassessment after initial bush clearance. I suggested that on site observations are made during, or directly after, bush clearance and if middens are observed then the area is reassessed by a qualified heritage Practitioner. This is suggested due to the distance of East London to the nearest archaeologists qualified to excavate these sites.

Of the seven recorded sites, three would require test-pit excavation if affected by the development in any manner, while the rest will need to be reassessed.

The developer will need to apply for a permit to destroy the archaeological sites. This permit is available from SAHRA

APPENDIX A

SITE RECORD FORMS

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM



SITE CATEGORY: (X where applicable)

Late Stone Age: X

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: IDZ01

Official Name: Erf 60883

Local Name: N/A

Map Sheet: 3327

Map Reference: 33° 3'40.20"S 27°51'18.40"E (alt = 14m)

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From East London, take R72 southwest to West Bank. Take M19 left, and continue straight through circle and to security checkpoint. After checkpoint take first right, then second left to the end of the road. There is a grass track with cement runners. Follow this to the fence and turn left. Pass building on RHS. Site is ~130m further along on the LHS.

SITE DESCRIPTION:

Type of Site: Midden with deposit

Merits conservation: Yes; excavation

Threats: yes

What threats: Possible development

RECORDING:

Graphic record: digital photos

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 27 February 2009

Owner:

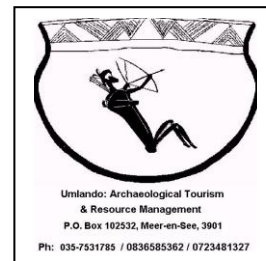
References:

Description of site and artefactual content.

The site is a shell midden that is eroding from a small hill overlooking a natural spring and the ocean. The site extends for ~60m x 40m in terms of the scatter, however most of it is undisturbed in a ~15m x 15m area (fig. 4a). An extension to the midden carries over to the fence nearby. This may be another shell midden or part of the original midden that has now been bisected by erosion.

There is a wide variety of shell species and these include: *Choromytilus meridionalis* (black mussel), two to three *Patella spp.* (limpets), *Oxystele spp.* and/or *Turbo spp.* (alikeaukel). Other smaller shell species occurred on the site such as a variety of whelks and barnacle. The faunal remains consist of avian and bovid(?) bone that is very weathered. A few upper grinding stones that have also been used as hammer stones and/or pestles occur on the surface. A possible hearth surrounded by a few rocks occurs on the lower parts of the site

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM



SITE CATEGORY: (X where applicable)

Late Stone Age: X

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: IDZ02

Official Name: Erf 60877

Local Name: N/A

Map Sheet:

Map Reference: 33° 3'28.30"S 27°51'32.30"E (alt = 22m)

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From East London, take R72 southwest to West Bank. Take M19 left, and continue straight through circle and to security checkpoint. After checkpoint, continue straight with the road to the T-junction~700m ahead. From T-junction walk 90m in line southeast (in line with road you drove down). Artefacts visible in track

SITE DESCRIPTION:

Type of Site: Surface, may contain deposit.

Merits conservation: Not this section, but yes if middens occur in bush

Threats: yes

What threats: Possible development

RECORDING:

Graphic record: None

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date:27 February 2009

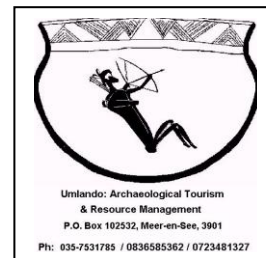
Owner:

References:

Description of site and artefactual content.

IDZ02 is located on the next raised level up from ADZ01. The site consists of a scatter of shell and Late Stone Age (LSA) tools located on the old track. More of the site is probably located inside the bushes.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM



SITE CATEGORY: (X where applicable)

Late Stone Age: X

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: IDZ03

Official Name: Erf 60878

Local Name: N/A

Map Sheet:

Map Reference: 33° 3'28.60"S 27°51'31.30"E (alt = 22m)

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

As for IDZ02, except site is on same track but 30m southwest.

SITE DESCRIPTION:

Type of Site: Surface

Merits conservation: wait for bush clearance.

Threats: yes

What threats: Possible development

RECORDING:

Graphic record: None

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 27 February 2009

Owner:

References:

Description of site and artefactual content.

IDZ03 is located ~40m southwest of IDZ02. It consists of a lower grinding stone and a few LSA flakes exposed along the same track. More of the site is probably located inside the bushes.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM



SITE CATEGORY: (X where applicable)

Late Stone Age: X

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: IDZ04

Official Name: Erf 60886

Local Name: N/A

Map Sheet:

Map Reference: 33° 3'39.90"S 27°51'8.50"E (alt = 23m)

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From East London, take R72 southwest to West Bank. Take M19 left, and continue straight through circle and to security checkpoint. After checkpoint take first right, then second left to the end of the road. There is a grass track with cement runners. Follow this track for 110m. The site is on the west side of the track and a bit uphill.

SITE DESCRIPTION:

Type of Site: Surface, may contain deposit.

Merits conservation: Wait for bush clearance

Threats: yes

What threats: Possible development

RECORDING:

Graphic record: None

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 27 February 2009

Owner:

References:

Description of site and artefactual content.

IDZ04 is located on the upper ridge of the development area. It consists of fragmented shell, and LSA tools. The tools include one Heavy Edge Damage flake, and normal flakes. There is a possible stone circle on the top of the hill where these shells are located (i.e. 30m west). This circle may be related to more recent activity as a structure is located in the vicinity in the Google Earth map. The dense vegetation makes it difficult to assess.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM

SITE CATEGORY: (X where applicable)

Late Stone Age: X

Early Iron Age:

Late Iron Age

Historical Period:

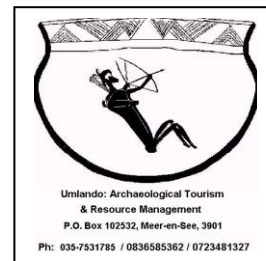
Recorder's Site No.: IDZ05

Official Name: Erf 60883

Local Name: N/A

Map Sheet:

Map Reference: 33° 3'40.22"S 27°51'16.77"E (alt = 16m)



DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

As for IDZ01, but this site is on the hill 40m to the WNW

SITE DESCRIPTION:

Type of Site: Midden with deposit.

Merits conservation: test-pit excavations

Threats: yes

What threats: Possible development

RECORDING:

Graphic record: None

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 27 February 2009

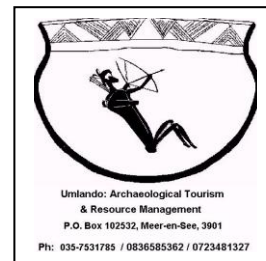
Owner:

References:

Description of site and artefactual content.

IDZ05 is located on a small hill directly west of IDZ01. Some shell fragments were observed in the molehills under a large bush. It appears that the midden may cover the entire hill as is the case at IDZ01

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM



SITE CATEGORY: (X where applicable)

Late Stone Age: X

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: IDZ06

Official Name: Erf 60883

Local Name: N/A

Map Sheet:

Map Reference: 33° 3'39.80"S 27°51'21.70"E (alt = 12m)

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

As for IDZ01, but 75m further northeast along the fence.

SITE DESCRIPTION:

Type of Site: Midden with deposit.

Merits conservation: test-pit excavations

Threats: yes

What threats: Possible development

RECORDING:

Graphic record: None

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 27 February 2009

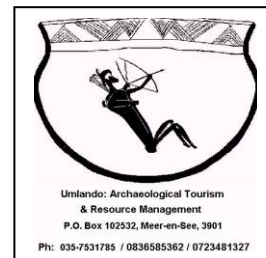
Owner:

References:

Description of site and artefactual content.

IDZ06 is located along the boundary fence and has been damaged by this fence. The midden is ~5-10cm thick and approx. 4m wide. It would extend on both sides of the fence.

UMLANDO ARCHAEOLOGICAL SITE RECORD FORM



SITE CATEGORY: (X where applicable)

Late Stone Age: X

Early Iron Age:

Late Iron Age

Historical Period:

Recorder's Site No.: IDZ07

Official Name: Erf 60866

Local Name: N/A

Map Sheet:

Map Reference: 33° 3'14.70"S 27°51'41.80"E (alt = 26m)

DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.

From East London, take R72 southwest to West Bank. Take M19 left, and continue straight through circle and to security checkpoint. After checkpoint take first left and this will join up with Mansfield rd (?). Continue with this road in the direction of the beach (or M18) fence. Site is on small hill in road cutting on LHS.

SITE DESCRIPTION:

Type of Site: Midden

Merits conservation: No

Threats: yes

What threats: Road development damaged the site

RECORDING:

Graphic record: None

Digital pictures:

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 27 February 2009

Owner:

References:

Description of site and artefactual content.

IDZ07 is located in the road cutting. It is the remains of a lens, and is probably the edge of that midden as it is only ~20cm in width, and 5cm in thickness. The current road construction has damaged this site.