

**HERITAGE SURVEY OF THE FAIRBREEZE MINE,  
MTUNZINI, KWA-ZULU NATAL, JULY 2014**

**FOR TRONOX**

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**By Gavin Anderson**

**Umlando: Archaeological Surveys and Heritage  
Management**

**PO Box 102532, Meerensee, 3901**

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

**Cell: 0836585362**



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## **INTRODUCTION**

Umlando is contracted by Tronox to undertake regular surveys at the Fairbreeze mine, in Mtunzini, KwaZulu-Natal. The mine is currently at the construction phase where offices, and plants are being built: mining has not begun.

These surveys are part of the RoD, where all vegetation clearance and earthmoving activity will be monitored by an archaeologist.

The current construction consists of building a burn near the freeway (fig. 1-3).

Umlando was called out to inspect an area near a previously recorded site: 2832CD 010. This site is a Late Iron Age site and had potential human remains.

This reports forms part of the quarterly report.

**.FIG. 1 GENERAL LOCATION OF THE TRONOX FAIRBREEZE MINE**

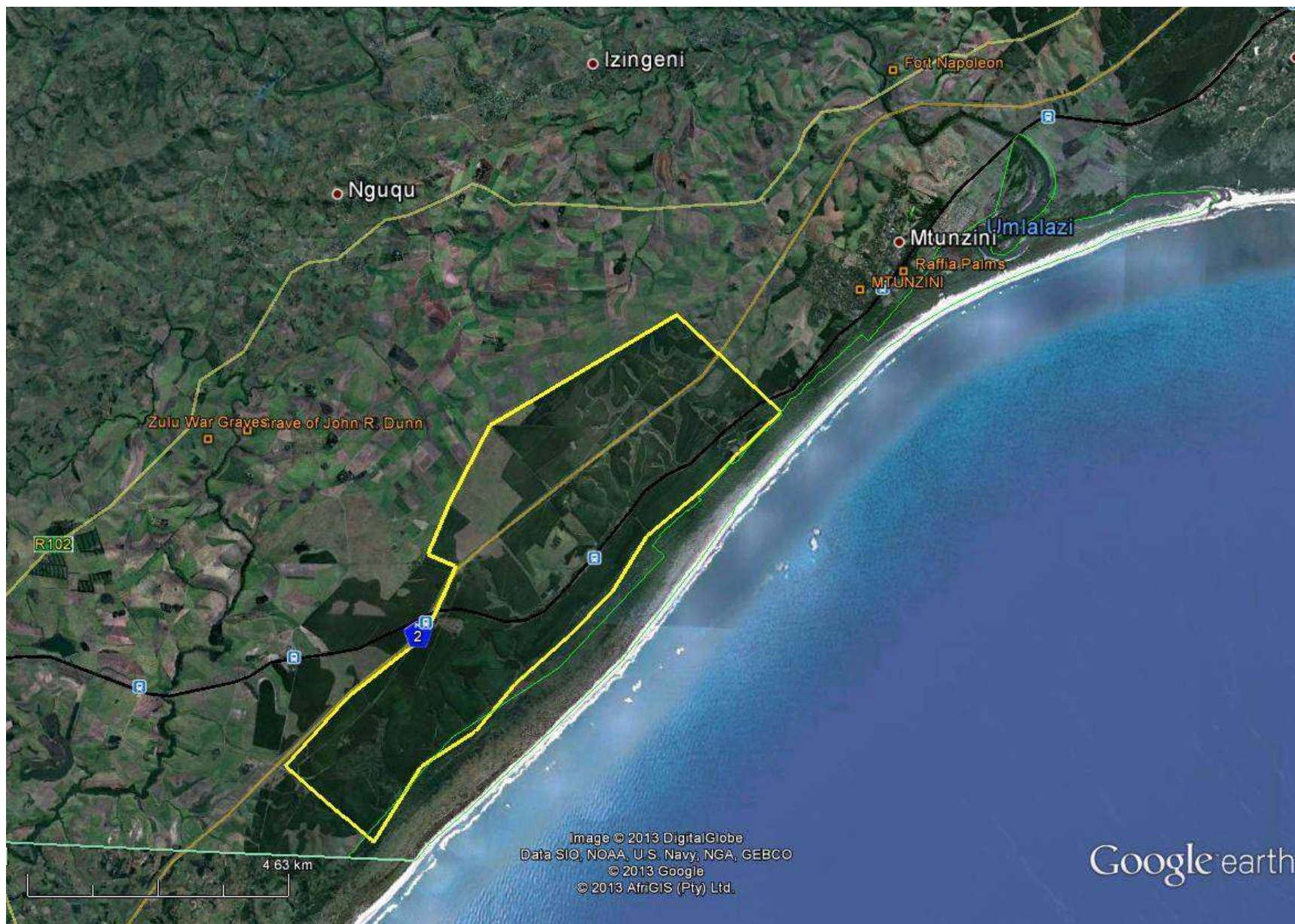


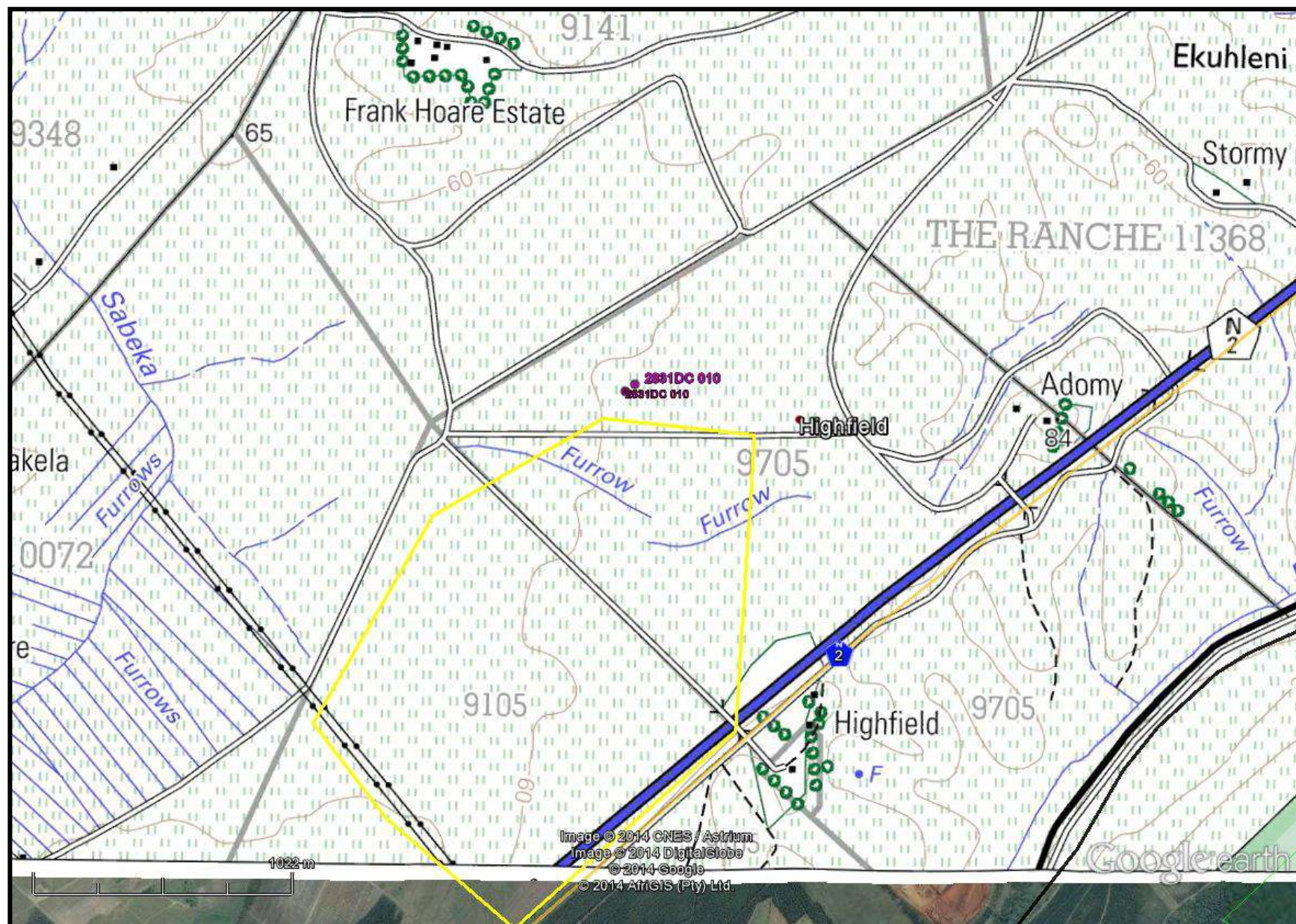


FIG. 2: AERIAL VIEW OF THE SURVEY AREA





FIG. 3: TOPOGRAPHICAL MAP OF THE SURVEY AREA



## **KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008**

1. “ General protection: Structures.—
  - a. No structure which is, or which may reasonably be expected to be older than 60 years, may be demolished, altered or added to without the prior written approval of the Council having been obtained on written application to the Council.
  - b. Where the Council does not grant approval, the Council must consider special protection in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
2. The Council may, by notice in the *Gazette*, exempt—
  - a. a defined geographical area; or
  - b. defined categories of sites within a defined geographical area, from the provisions of subsection where the Council is satisfied that heritage resources falling in the defined geographical area or category have been identified and are adequately protected in terms of sections 38, 39, 40, 41 and 43 of Chapter 9.
  - c. A notice referred to in subsection (2) may, by notice in the *Gazette*, be amended or withdrawn by the Council.
3. General protection: Graves of victims of conflict.—No person may damage, alter, exhume, or remove from its original position—
  - a. the grave of a victim of conflict;
  - b. a cemetery made up of such graves; or
  - c. any part of a cemetery containing such graves, without the prior written approval of the Council having been obtained on written application to the Council.
4. General protection: Traditional burial places.—
  - a. No grave—
  - b. not otherwise protected by this Act; and
  - c. not located in a formal cemetery managed or administered by a local authority, may be damaged, altered, exhumed, removed from its original position, or otherwise disturbed without the prior written approval of the Council having been obtained on written application to the Council.



5. The Council may only issue written approval once the Council is satisfied that—
  - a. the applicant has made a concerted effort to consult with communities and individuals who by tradition may have an interest in the grave; and
  - b. the applicant and the relevant communities or individuals have reached agreement regarding the grave.
  - c. 36. General protection: Battlefield sites, archaeological sites, rock art sites, palaeontological sites, historic fortifications, meteorite or meteorite impact sites.—
6. No person may destroy, damage, excavate, alter, write or draw upon, or otherwise disturb any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.
7. Upon discovery of archaeological or palaeontological material or a meteorite by any person, all activity or operations in the general vicinity of such material or meteorite must cease forthwith and a person who made the discovery must submit a written report to the Council without delay.
8. The Council may, after consultation with an owner or controlling authority, by way of written notice served on the owner or controlling authority, prohibit any activity considered by the Council to be inappropriate within 50 metres of a rock art site.
9. No person may exhume, remove from its original position or otherwise disturb, damage, destroy, own or collect any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site without the prior written approval of the Council having been obtained on written application to the Council.
10. No person may bring any equipment which assists in the detection of metals and archaeological and palaeontological objects and material, or excavation equipment onto any battlefield site, archaeological site, rock art site,



palaeontological site, historic fortification, or meteorite impact site, or use similar detection or excavation equipment for the recovery of meteorites, without the prior written approval of the Council having been obtained on written application to the Council.

11. The ownership of any object or material associated with any battlefield site, archaeological site, rock art site, palaeontological site, historic fortification, meteorite or meteorite impact site, on discovery, vest in the Provincial Government and the Council is regarded as the custodian on behalf of the Provincial Government.” (KZN Heritage Act of 2008)

## **METHOD**

The method for Heritage assessment consists of several steps.

The first step forms part of the desktop assessment. Here we would consult the database that has been collated by Umlando. This databases contains archaeological site locations and basic information from several provinces (information from Umlando surveys and some colleagues), most of the national and provincial monuments and battlefields in Southern Africa (<http://www.vuvuzela.com/googleearth/monuments.html>) and cemeteries in southern Africa (information supplied by the Genealogical Society of Southern Africa). We use 1<sup>st</sup> and 2<sup>nd</sup> edition 1:50 000 topographical and 1937 aerial photographs where available, to assist in general location and dating of buildings and/or settlements with graves. The database is in Google Earth format and thus used as a quick reference when undertaking desktop studies. Where required we would consult with a local data recording centre, however these tend to be fragmented between different institutions and areas and thus difficult to access at times. We also consult with an historical architect, palaeontologist, and an historian where necessary.

The use of historical maps allows us to note the locations of potential heritage sites in areas where the vegetation is too dense, or where there is no physical

evidence of a settlement. That is, some areas have a high rate of deterioration of archaeological/organic remains, and human graves are generally ephemerally marked or demarcated with organic remains. By using the maps we can indicate sensitive areas and suggest appropriate management plans.

The survey results will define the significance of each recorded site, as well as a management plan.

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 or features. Sites of medium significance have diagnostic artefacts or features and these sites tend to be 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.

### **Defining significance**

Heritage 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 time 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.

**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**

### **FIELD SURVEY**

The field survey was undertaken in an area that was being exposed by construction clearance. The topsoil had been removed in several areas (fig. 4). The soil was humic on the top, and “bleached” white underneath, alternatively some areas appear to be old (reclaimed) wetland. Selected areas were surveyed for potential artefacts. We were notified when activities occurred within 50m of the previously recorded Late Iron Age site, 2831DC 010.

No artefacts were observed in the construction areas. A 50m sensitivity buffer should be placed around 2831DC 010. That is, construction may go ahead, however there is a possibility that human remains may occur in the area.

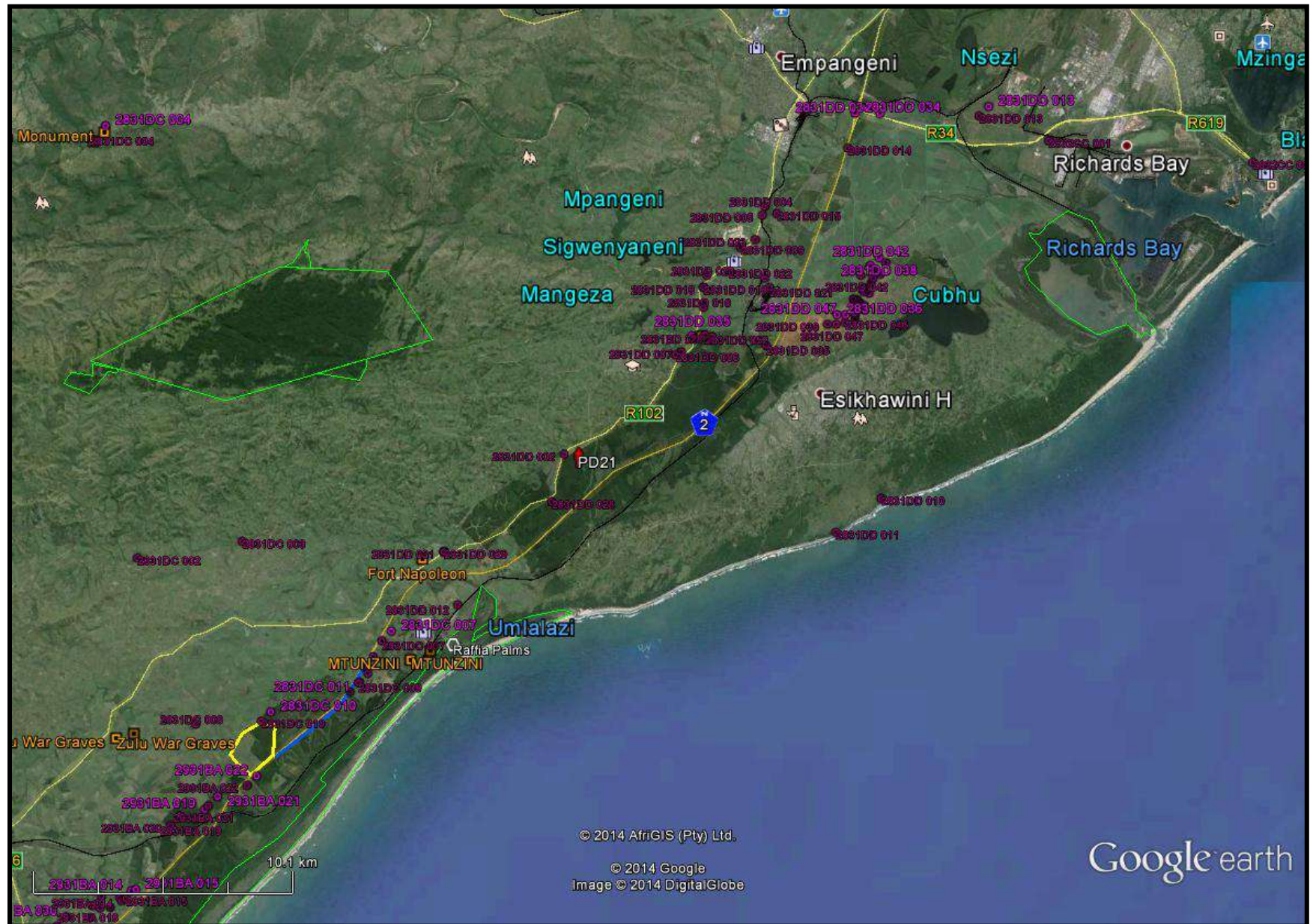
We were also asked to survey the construction of the pipeline. No new sites were noted in the mining lease.

**FIG. 4: VIEW OF CONSTRUCTION SITE**





FIG. 5 LOCATION OF KNOWN SITES IN THE GENERAL MTUNZINI-EMPANGENI AREA





## **CONCLUSION**

A heritage survey was undertaken for the Tronox Fairbreeze mine in August. This is part of the management plan whereby areas cleared of vegetation and topsoil are surveyed. No artefacts or sites were observed in the construction area.

We noted that the new pipeline has only been partially surveyed and that the Umlalazi River bridge was required a permit to be affected. We suggested that a complete desktop survey is undertaken in compliance with the heritage legislation.