

**PROPOSED AGRICULTURAL DEVELOPMENT BY  
ZAMOKUHLE TRUST NEAR MKUZE, NORTHERN,  
KWAZULU-NATAL**

**FOR EXIGENT ENGINEERING CONSULTANTS**

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## TABLE OF CONTENT

INTRODUCTION .....	3
<b>KWAZULU-NATAL HERITAGE ACT NO. 4 OF 2008</b> .....	7
METHOD .....	9
Defining significance.....	10
RESULTS .....	13
DESKTOP STUDY .....	13
FIELD SURVEY.....	20
A2 .....	24
H80 .....	25
H81 .....	26
H82 .....	27
H83 .....	28
MKU01.....	29
MKU02.....	30
MKU03.....	30
MKU04.....	33
MKU05.....	33
MKU06.....	36
EI968 – EI971 .....	36
MANAGEMENT PLAN .....	38
PALAEONTOLOGY.....	40
CONCLUSION.....	40
REFERENCES .....	41
APPENDIX A .....	42
SITE RECORD FORMS .....	42

### TABLE OF FIGURES

FIG. 1 GENERAL LOCATION OF THE STUDY AREA.....	4
FIG. 2: AERIAL OVERVIEW OF THE STUDY AREA .....	5
FIG. 3: TOPOGRAPHICAL OVERVIEW OF THE STUDY AREA.....	6
TABLE 1: SAHRA GRADINGS FOR HERITAGE SITES .....	12
TABLE 2: LOCATIONS OF SITES NOTED DURING THE DESKTOP STUDY .....	14
FIG. 4: LOCATION OF KNOWN HERITAGE SITES & HIA NEAR THE STUDY AREA .....	15
FIG. 5: SURVEYOR GENERAL DIAGRAM FOR WIGGET 13138.....	16
FIG. 6: SURVEYOR GENERAL DIAGRAM FOR MARA 13139 .....	17
FIG. 7: STUDY AREA IN 1937 .....	18
FIG. 8: STUDY AREA IN 1950 (top) and 1969 .....	19
TABLE 3: SUMMARY AND LOCATION OF RECORDED HERITAGE SITES .....	21
FIG. 9: VIEWS OF THE STUDY AREA.....	22
FIG. 10: LOCATION OF RECORDED SITES .....	23
FIG. 11: RESERVOIR AND ARTEFACTS AT A2 .....	24
FIG. 12: H80 AND POTTERY SHERDS .....	25
FIG. 13: H81 AND POTTERY SHERDS .....	26
FIG. 14: ARTEFACTS AT H82 .....	27
FIG. 15: LOWER GRINDING STONES AT H83 .....	28
FIG. 16: E. INGENS AND ARTEFACTS AT MKU01.....	29
FIG. 17: ARTEFACTS AND POSSIBLE GRAVE AT MKU02 .....	31
FIG. 18: E. INGENS AND ARTEFACTS AT MKU03.....	32
FIG. 19: GENERAL SCATTER OF RAW MATERIALS FOR STONE TOOLS .....	34
FIG. 20: ARTEFACTS AT MKU05.....	35
FIG. 21: EUPHORBIA INGENS AND POSSIBLE GRAVES AT MKU06 .....	37
FIG. 22: EUPHORBIA INGENS AT EI969 .....	38

## **INTRODUCTION**

“Zamokuhle Trust is planning to establish commercial agriculture (sugar cane) on a site mostly covered with natural vegetation. The proposed project involves the planting of approximately 570ha of irrigated sugarcane. It is the intention of the landowner to allocate 10% of the project to the local community, as well as create 300 jobs with the proposed farming activities.

Irrigation pipelines will be provided to the new agricultural area and will have a diameter of 400 mm. Some drainage lines will be crossed by the pipelines and will include the removal and deposition of material within 32 m of a water course. The proposed agricultural project will also involve the provision of haulage roads. These roads are expected to be 4-6 m in width.

The site is located on the farm Kovies No. 18308. The farm is located approximately 12 kilometres north of the town of Mkuze, on the right hand side of the N2. The site is located adjacent to the Pongolapoort Nature Reserve which is located on the boundary of the Pongolapoort dam” (Exigent BID 2015). Kovies No 18308 was recently amalgamated from subdivisions of Mara No. 13139, Wigget No. 13138 and Ulrica No. 14116.

A railway line and the old N2 that ran parallel with the railway in this area bisect the study area.

Figures 1 – 3 indicate the location of the proposed line.

FIG. 1 GENERAL LOCATION OF THE STUDY AREA

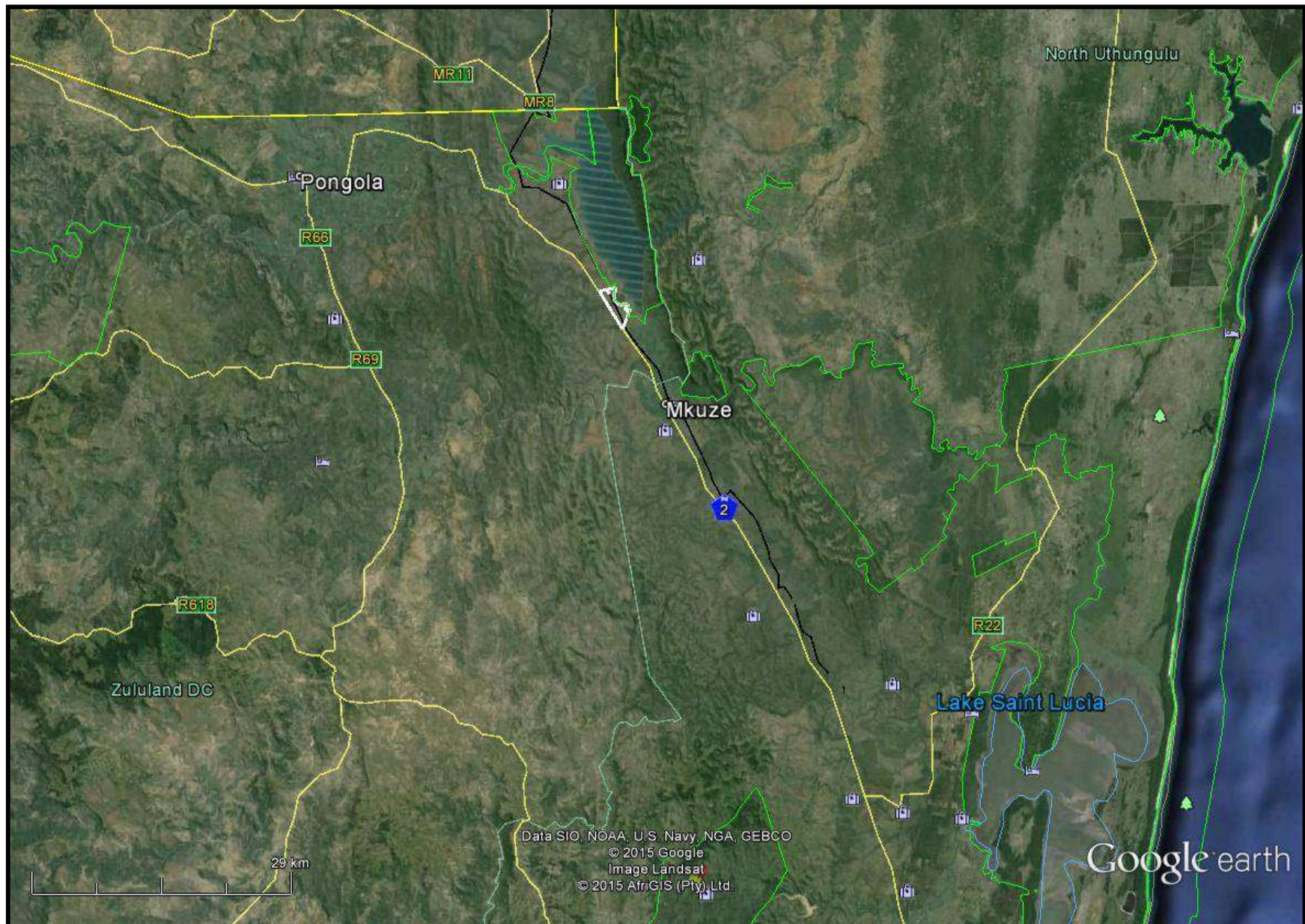
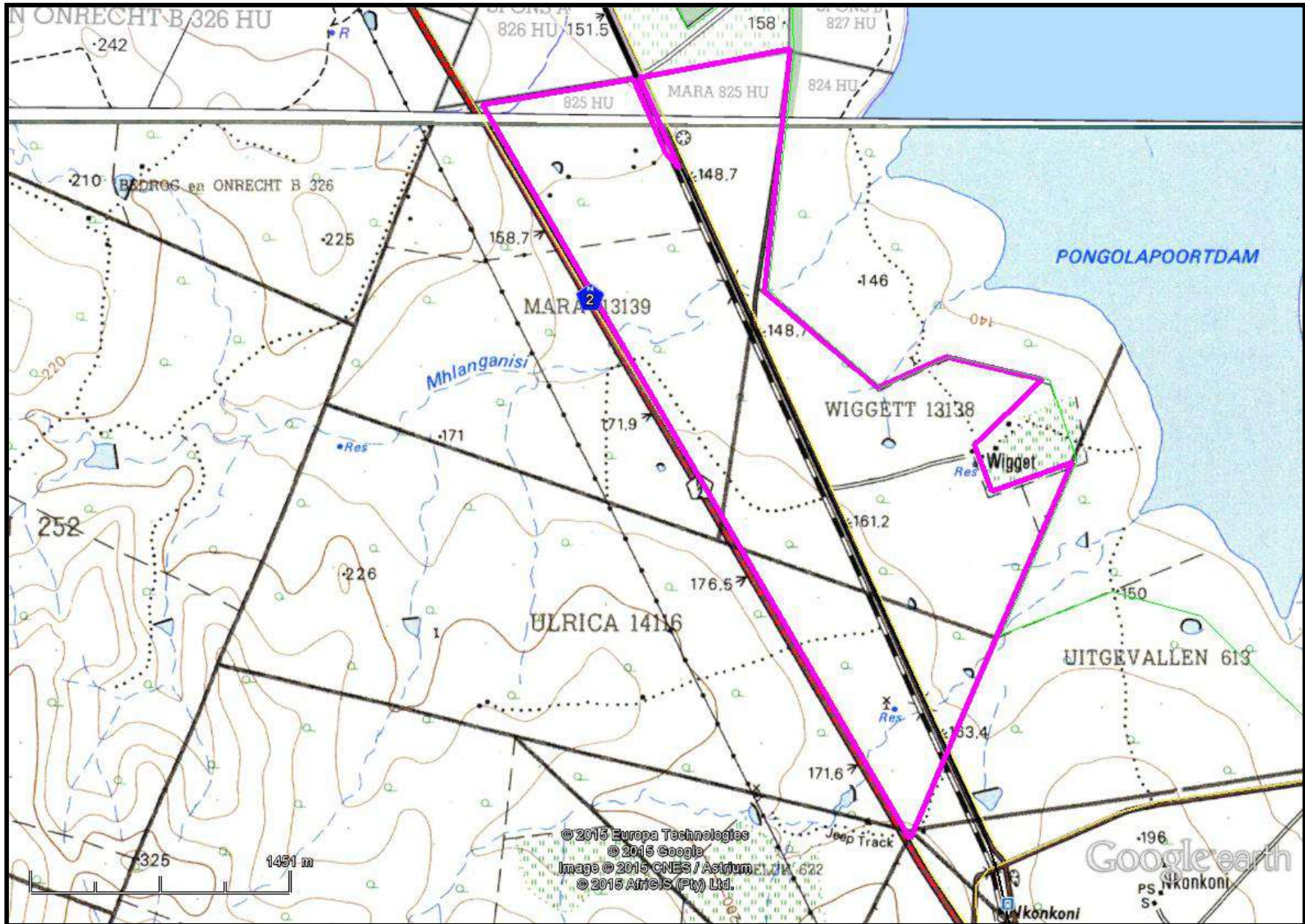


FIG. 2: AERIAL OVERVIEW OF THE STUDY AREA



FIG. 3: TOPOGRAPHICAL OVERVIEW OF THE STUDY AREA



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

“General protection: Structures.—

- 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.
- 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.
- The Council may, by notice in the *Gazette*, exempt—
- A defined geographical area; or
- 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.
- A notice referred to in subsection (2) may, by notice in the *Gazette*, be amended or withdrawn by the Council.

General protection: Graves of victims of conflict.—No person may damage, alter, exhume, or remove from its original position—

- the grave of a victim of conflict;
- a cemetery made up of such graves; or
- 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.
- General protection: Traditional burial places.—
- No grave—
- not otherwise protected by this Act; and
- 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.

The Council may only issue written approval once the Council is satisfied that—

- the applicant has made a concerted effort to consult with communities and individuals who by tradition may have an interest in the grave; and
- the applicant and the relevant communities or individuals have reached agreement regarding the grave.

General protection: Battlefield sites, archaeological sites, rock art sites, palaeontological sites, historic fortifications, meteorite or meteorite impact sites.—

- 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.
- 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.
- 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.
- 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.
- 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.
- 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. These 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 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 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.

Each site is given a SAHRA rating according to its significance. This is summarised in Table 1.

**TABLE 1: SAHRA GRADINGS FOR HERITAGE SITES**

<b>SITE SIGNIFICANCE</b>	<b>FIELD RATING</b>	<b>GRADE</b>	<b>RECOMMENDED MITIGATION</b>
<b>High Significance</b>	National Significance	Grade 1	Site conservation / Site development
<b>High Significance</b>	Provincial Significance	Grade 2	Site conservation / Site development
<b>High Significance</b>	Local Significance	Grade 3A - C	
<b>High / Medium Significance</b>	Generally Protected A	3A	Site conservation or mitigation prior to development / destruction
<b>Medium Significance</b>	Generally Protected B	3B	Site conservation or mitigation / test excavation / systematic sampling / monitoring prior to or during development / destruction
<b>Low Significance</b>	Generally Protected C	3C	On-site sampling monitoring or no archaeological mitigation required prior to or during development / destruction

## RESULTS

### DESKTOP STUDY

The desktop study consisted of analysing various maps for evidence of prior habitation in the study area, as well as for previous archaeological surveys. The archaeological database indicates that there are archaeological sites in the general area (fig. 4). Davies, prior to the Pongolapoort Dam being completed, surveyed the area now covered by the dam. He recorded Stone Age and Iron Age sites. Two HIA studies have been undertaken next to the study area (PGS 2012; v.d. Walt 2014). V.d. Walt found some undecorated sherds while PGS only found a MSA site along the entire transmission line route, although they did suggest a full survey was required.

No national monuments, battlefields, or historical cemeteries are known to occur in the study area.

The two farms Wigget 13138 and Mara 13139 appear to have been granted in 1923 (fig's 5 – 6). No buildings are shown on the SG diagrams; and one could assume that the buildings in the area post-date 1923.

The 1937 aerial photographs indicate that the area was a similar environment to today, although some areas have since been cultivated (fig. 7). Only three features can be seen on these photographs. Two are farm buildings and one is an unknown feature.

By 1950-1969 Wigget is an established farm and there are six settlements in the study area (fig. 8). These are presumed farm labourers' houses. The buildings identified as 'a3' are not noted on the map. 'A' does fall outside of the study area. Wigget falls on the border of the study area.

The sites with the 'h' prefix could have human graves associated with them. A 50m sensitivity radius should be placed around each of these sites. This does not mean that no development may occur; rather that the development must be aware of the possibility of uncovering human graves in this area.

The locations of these sites are given in Table 2.

**TABLE 2: LOCATIONS OF SITES NOTED DURING THE DESKTOP STUDY**

<b>NAME</b>	<b>LATITUDE</b>	<b>LONGITUDE</b>	<b>DESCRIPTION</b>	<b>Map date</b>
<b>a1</b>	-27.523401843	31.973033809	Feature	1937
<b>a2</b>	-27.518041513	31.978885459	Building	1937
<b>a3</b>	-27.513082696	31.975686367	Building	1937
<b>h80</b>	-27.502145998	31.960473240	Settlement	1969
<b>h81</b>	-27.501489221	31.959463430	Settlement	1969
<b>h82</b>	-27.502392012	31.959370759	Settlement	1969
<b>h83</b>	-27.502883601	31.955352946	Settlement	1969
<b>h85</b>	-27.503784002	31.954297284	Settlement	1969
<b>h88</b>	-27.497028604	31.967791731	Settlement	1950
<b>Wigget</b>	-27.517382492	31.979625598	Farm	1969

FIG. 4: LOCATION OF KNOWN HERITAGE SITES & HIA NEAR THE STUDY AREA

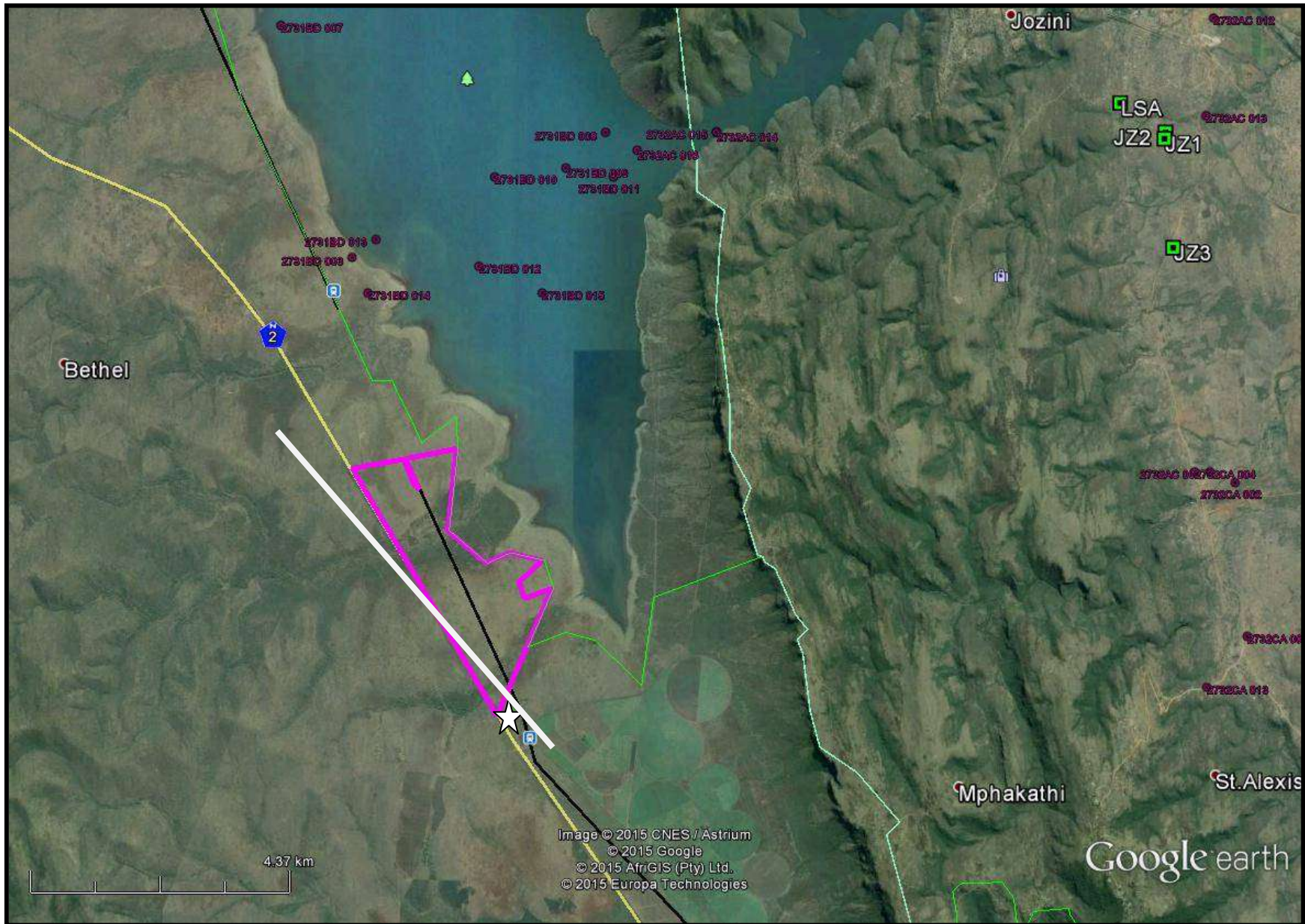


FIG. 5: SURVEYOR GENERAL DIAGRAM FOR WIGGET 13138

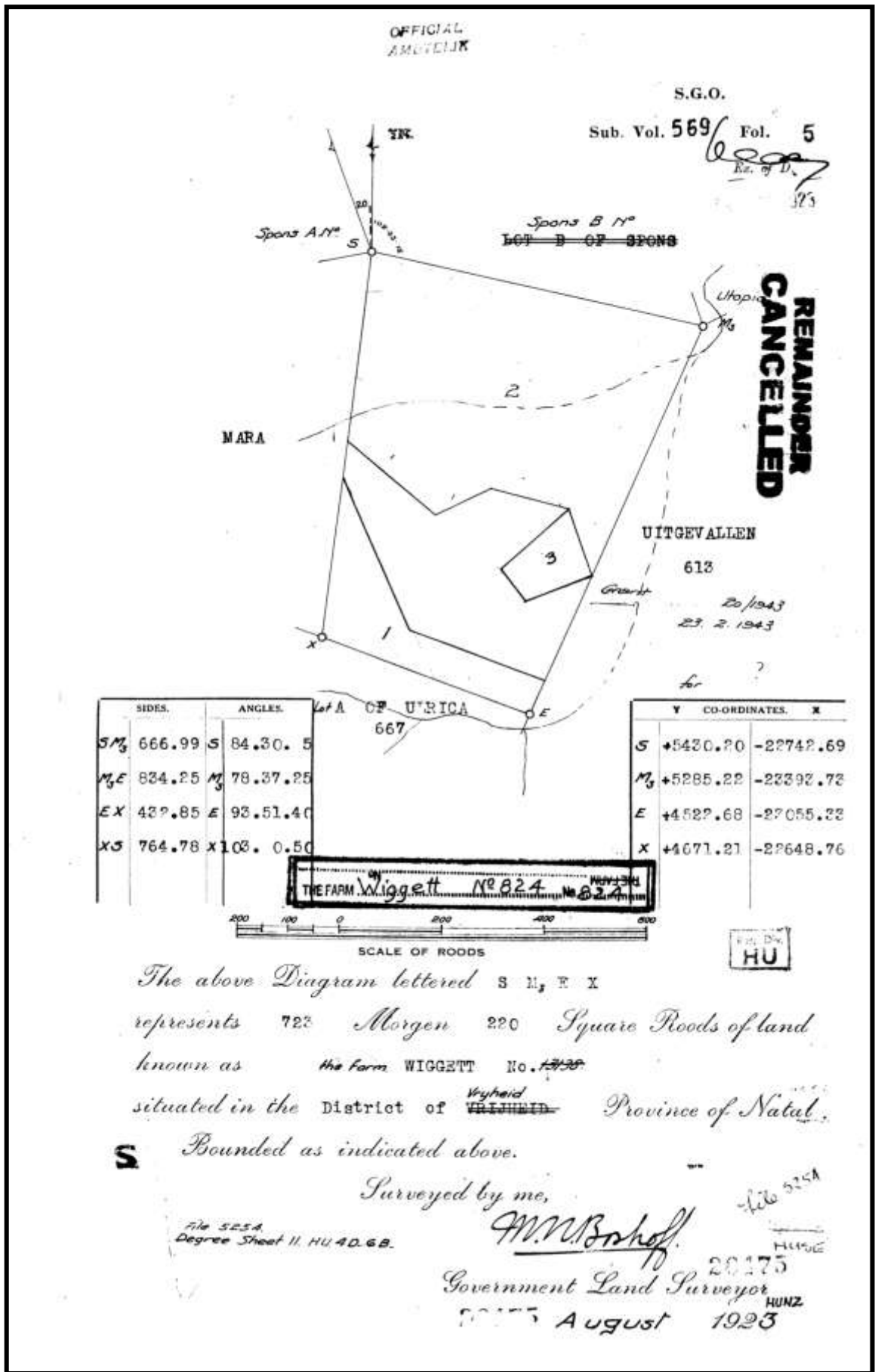




FIG. 6: SURVEYOR GENERAL DIAGRAM FOR MARA 13139

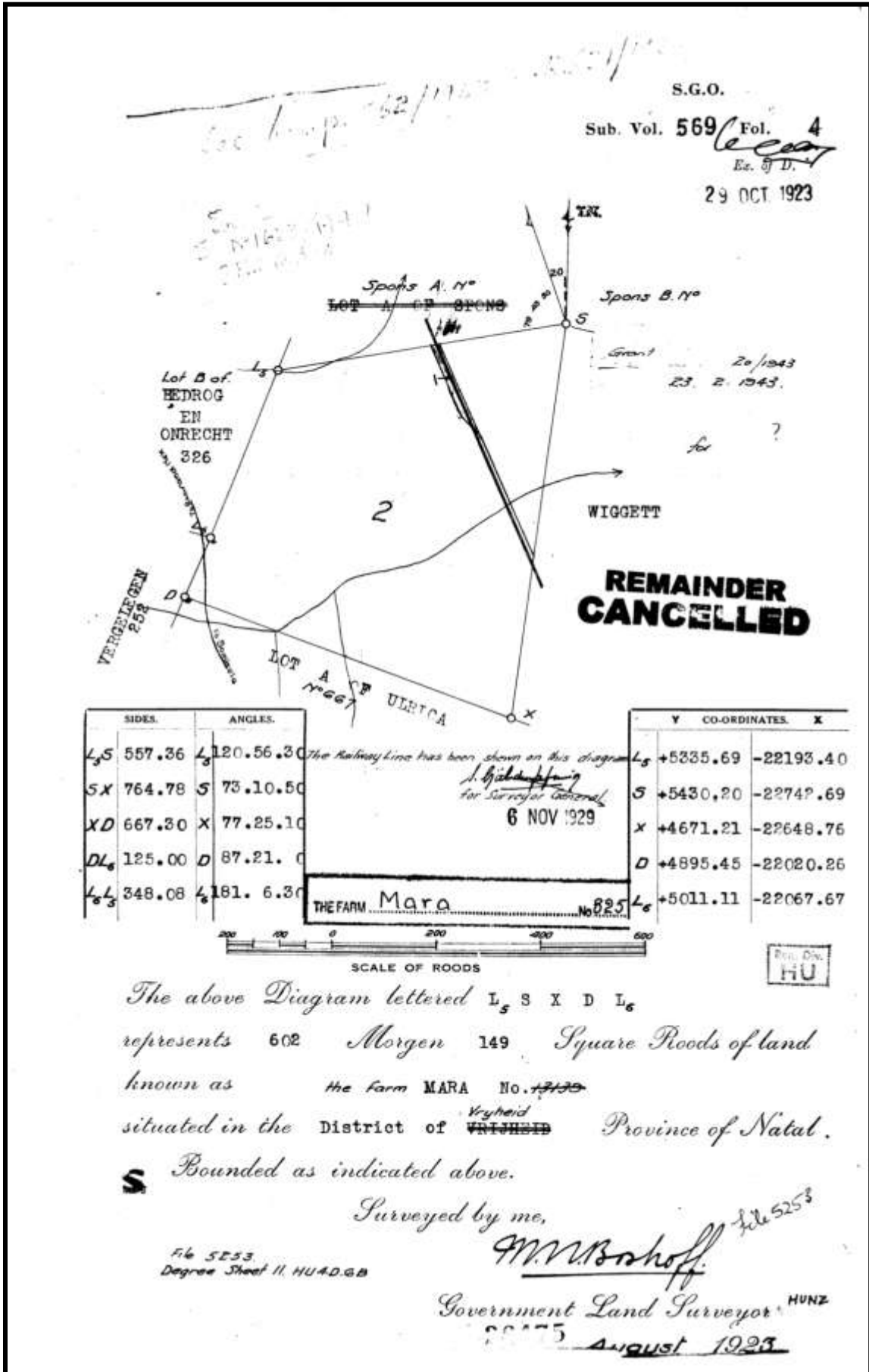


FIG. 7: STUDY AREA IN 1937

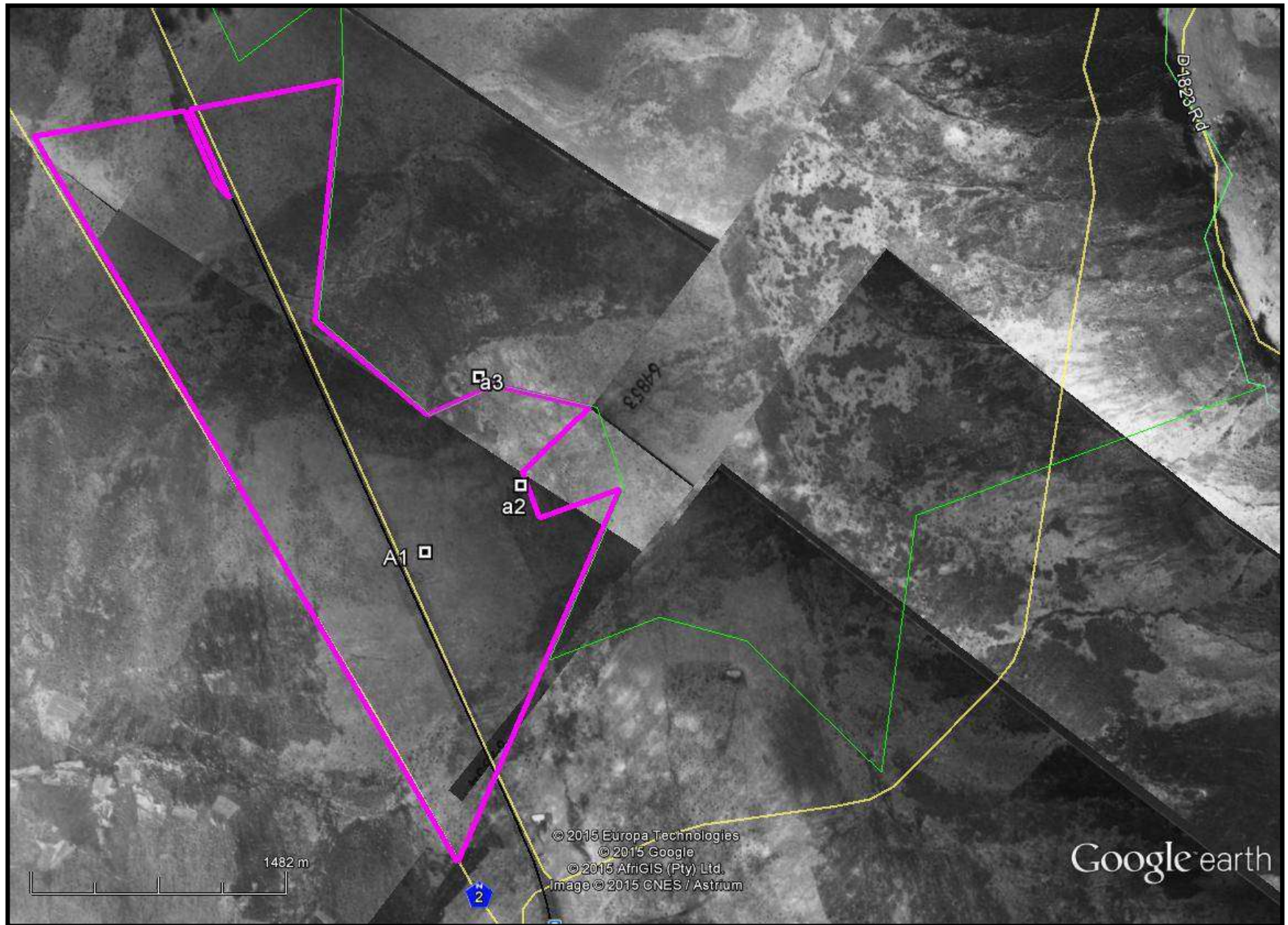
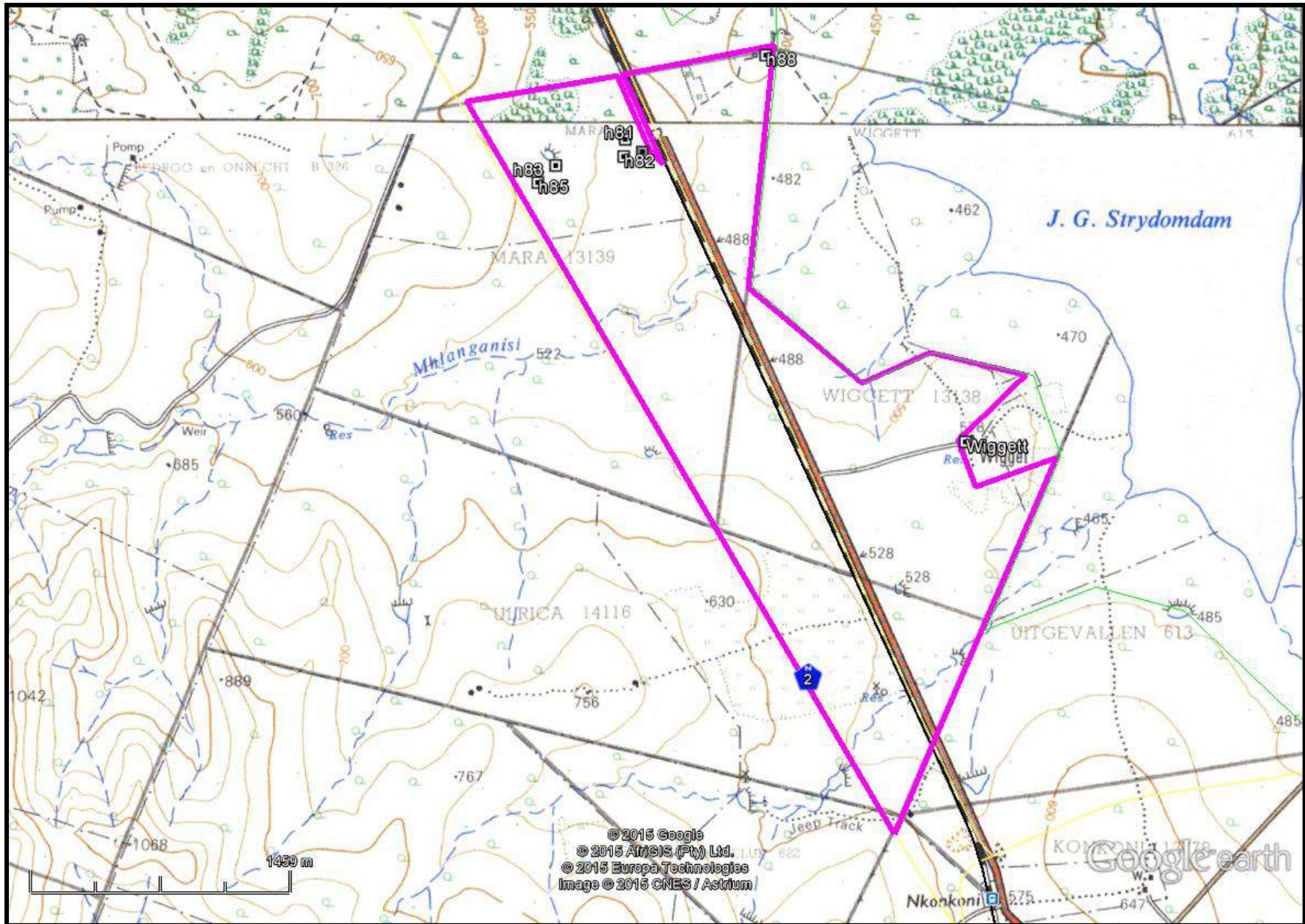


FIG. 8: STUDY AREA IN 1950 (top) and 1969



## FIELD SURVEY

The field survey was undertaken in May 2015. In some areas, the visibility was poor due to dense bush or grasslands. This tended to be restricted to the lower lying areas. The tops of the hills, where most of the sites occurred, had good visibility. All of the sites identified from the desktop were visited during the survey. The northern part of the study area had several *Euphorbia ingens*, while the southern area only had four. These are relatively old plants. *Euphorbia ingens* has often been linked with Zulu graves and were used as grave markers. The most famous *Euphorbia ingens* as a grave marker would be that of King Dingiswayo, at Oyengweni, Heatonville.

I recorded all old *Euphorbia ingens* as potential gravesites, especially if there are Iron Age, or Historical Period, artefacts nearby. The sites are summarised in Table 3 and shown in figure 9. The northern section of the study area had a cluster of *E. ingens* in a defined area. These were grouped as one site (MKU06) but were recorded with a GPS individually. Not every *E. ingens* was photographed.

The entire area is littered with Early Stone Age (ESA), Middle Stone Age (MSA) and Late Stone Age (LSA) tools. These tools are exposed on the surface, especially in areas with little vegetation. The stone tools cover the entire range of stone tool types recorded in KZN. The occurrence of the tools are noted, however they are not recorded as a site, as the entire valley would then need to be viewed as a single site. The tools are in a secondary context and are of low significance. Several figures in the report include some of the stone tools.

General views of the study area are shown in Figure 9.

Table 3 lists the sites locations and their significance. Fig. 10 shows the location of these sites.

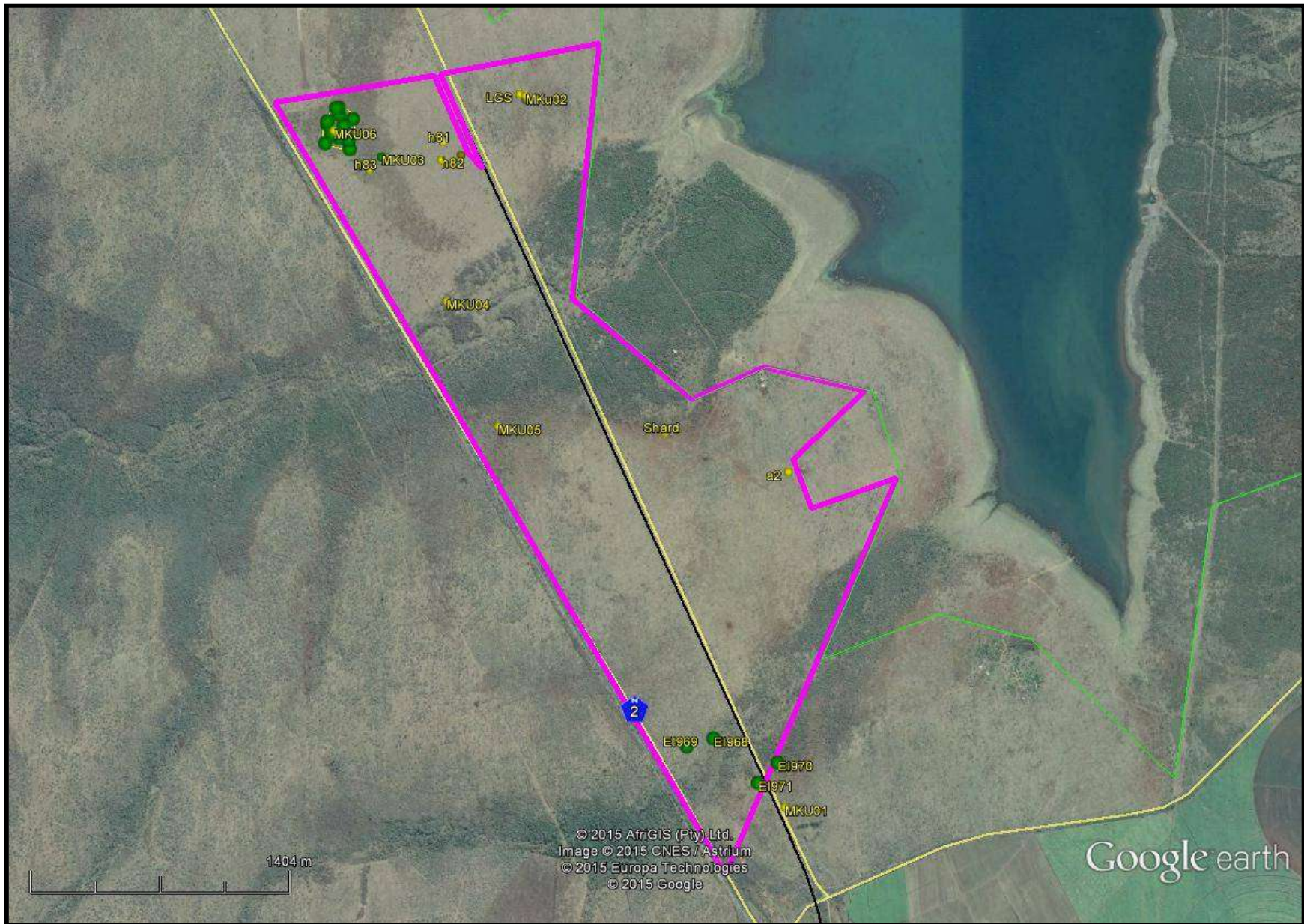
TABLE 3: SUMMARY AND LOCATION OF RECORDED HERITAGE SITES

name	latitude	longitude	description	significance
a2	-27.517955859	31.978903989	Building	Low
EI 969	-27.531627975	31.973171979	<i>E. ingens</i> x2	High
EI 970	-27.532452000	31.978297010	<i>E. ingens</i>	High
EI 971	-27.533449997	31.977189104	<i>E. ingens</i>	High
EI968	-27.531245006	31.974680973	<i>E. ingens</i>	High
h80	-27.502145998	31.960473240	Settlement	Low/High
h81	-27.501489221	31.959463430	Settlement	Low/High
h82a	-27.502392012	31.959370759	Settlement	Low/High
h82b	-27.502658023	31.958540026	Middle of site Settlement Edge of site	Low/High
h83	-27.502883601	31.955352946	Settlement	Low/High
MKU01	-27.534657028	31.978696994	<i>E. ingens</i> & LIA	High
MKU02	-27.499161250	31.964090521	Settlement	Low
MKU02 GR?	-27.499373993	31.964105023	<i>E. ingens</i>	High
MKU03	-27.502272036	31.956026964	Settlement & <i>E. ingens</i>	High
MKU03B	-27.501873979	31.955617005	<i>E. ingens</i>	High
MKU04	-27.509425990	31.959659010	Settlement	Low
MKU05	-27.515681991	31.962561999	Settlement	Low
MKU06	-27.500955492	31.953348824	Settlement	High
MKU06 GR2?	-27.500576042	31.952943010	Settlement	High
MKU06 GR3?	-27.500618035	31.952846032	Settlement	High
MKU06 WP 955	-27.501423033	31.954181017	<i>E. ingens</i>	High
MKU06 WP 956	-27.501872974	31.954244971	<i>E. ingens</i>	High
MKU06 WP 957	-27.501305016	31.953616999	<i>E. ingens</i>	High
MKU06 WP 958	-27.501127990	31.953251967	<i>E. ingens</i>	High
MKU06 WP 959	-27.501126984	31.953253979	<i>E. ingens</i>	High
MKU06 WP 960	-27.501586983	31.952882996	<i>E. ingens</i>	High
MKU06 WP 961	-27.500659022	31.953012999	<i>E. ingens</i>	High
MKU06 WP 962	-27.500498006	31.952990033	<i>E. ingens</i>	High
MKU06 WP 963	-27.499828963	31.953482972	<i>E. ingens</i>	High
MKU06 WP 964	-27.499826029	31.953630997	<i>E. ingens</i>	High
MKU06 WP 965	-27.500134986	31.953644995	<i>E. ingens</i>	High
MKU06 WP 966	-27.500373032	31.954411017	<i>E. ingens</i>	High
MKU06 WP 967	-27.500682995	31.953913970	<i>E. ingens</i>	High
MKU06 WP954	-27.501403000	31.954173977	<i>E. ingens</i>	High
Shard	-27.515977034	31.971965991	Isolated pottery shard	Low

FIG. 9: VIEWS OF THE STUDY AREA



FIG. 10: LOCATION OF RECORDED SITES



## A2

A2 is situated on the eastern border of the study area. The site forms part of the Farm Wigget. The main farm building would occur outside of the study area and it was not surveyed – there is a lodge in the general area now. The reservoir from the 1969 topographical occurs in the study area. The reservoir is made from Coronation bricks. Early to mid 20<sup>th</sup> century artefacts were observed between the reservoir and the area designated as “a2’ on the 1937 aerial photograph. Fig. 11 shows these features and artefacts.

**Significance:** The site is of low significance.

**Mitigation:** No mitigation is required.

**SAHRA Rating:** 3C

**FIG. 11: RESERVOIR AND ARTEFACTS AT A2**





## H80

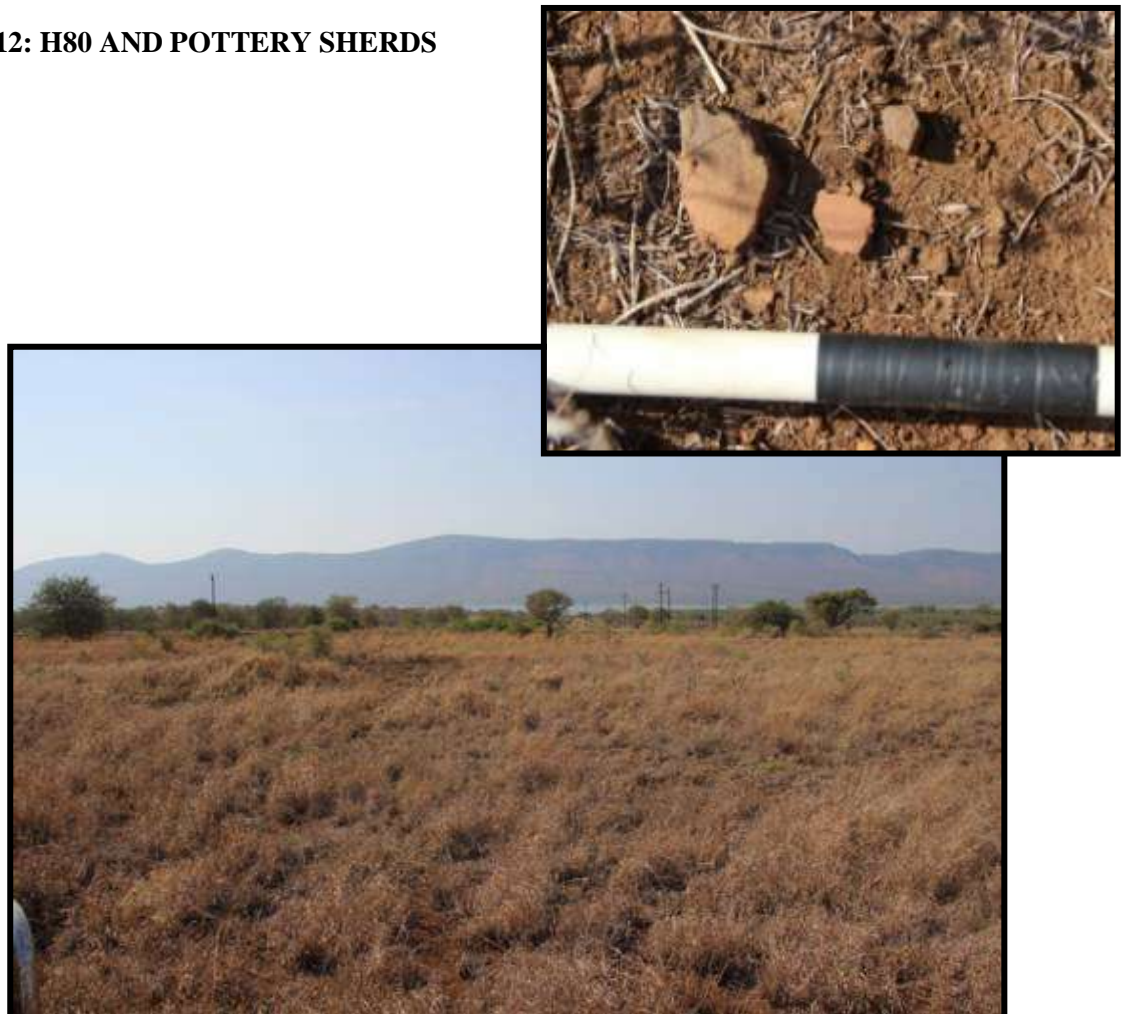
H80 occurs in the northwest section of the study area and was identified from the 1969 topographical map. The site is a recent settlement, near the top of the hill, in grasslands. Only a few sherds were visible in a cleared area (fig. 12). The site probably has human graves, but these were not visible due to the vegetation and/or burial method.

**Significance:** The site in general is of low significance. If human graves occur, then the site is of high significance.

**Mitigation:** The area should be marked as being sensitive for potential human graves.

**SAHRA Rating:** 3A for graves, 3C in general

FIG. 12: H80 AND POTTERY SHERDS



## H81

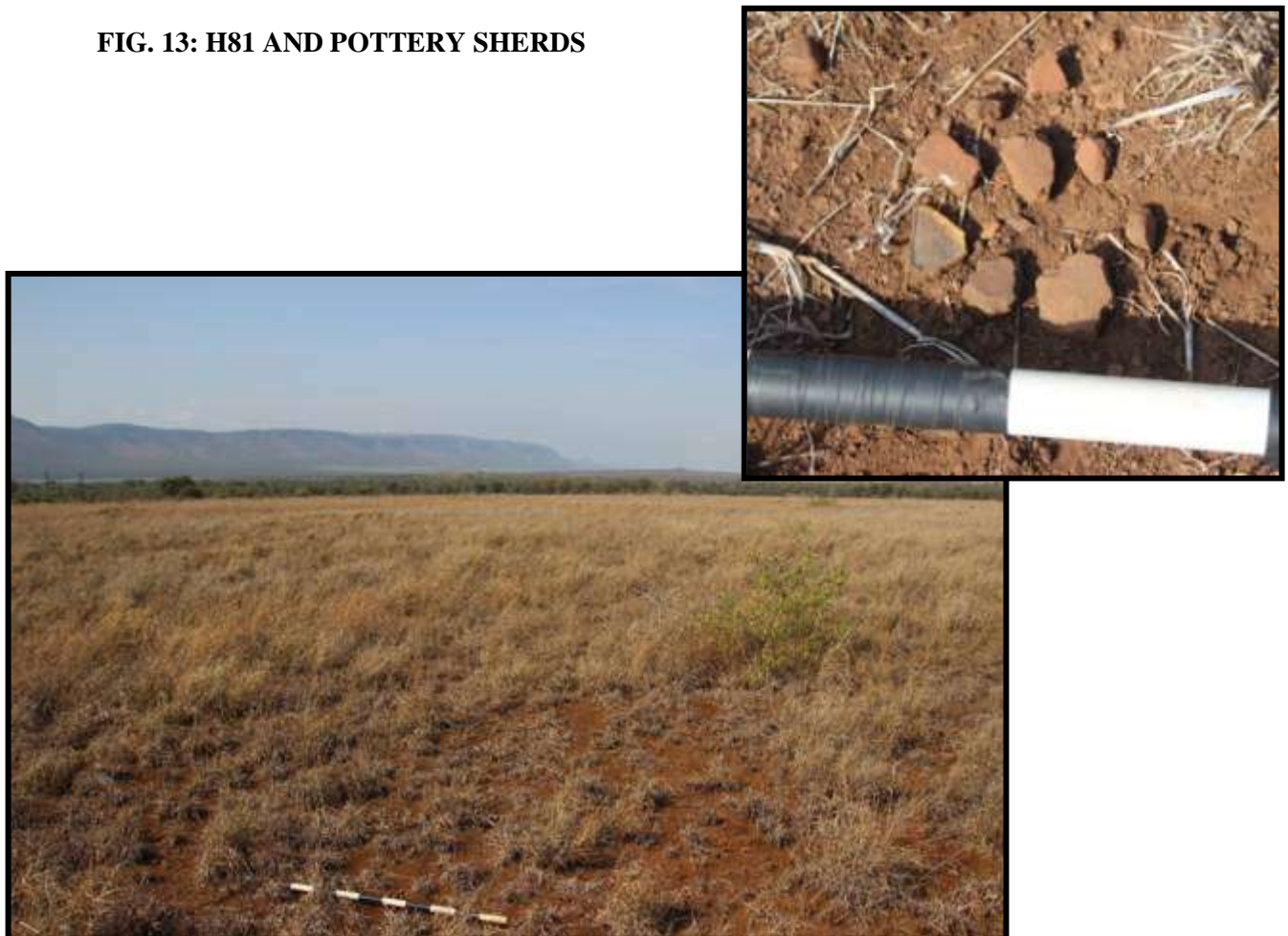
H81 occurs in the northwest section of the study area and was identified from the 1969 topographical map. The site is a recent settlement near the top of the hill, in grasslands. Only a few sherds were visible in a cleared area (fig. 13). The site probably has human graves, but these were not visible due to the vegetation and/or burial method.

**Significance:** The site in general is of low significance. If human graves occur, then the site is of high significance.

**Mitigation:** The area should be marked as being sensitive for potential human graves.

**SAHRA Rating:** 3A for graves, 3C in general

**FIG. 13: H81 AND POTTERY SHERDS**



## H82

H82 occurs in the northwest section of the study area and was identified from the 1969 topographical map. The site is a recent settlement near the top of the hill, in grasslands. The site extends for over 100m in length. Pottery sherds from several vessels were noted over the length of the site. In addition, upper and lower grinding stones were observed, as well as a broken metal alloy object (fig. 14). The site probably has human graves, but these were not visible due to the vegetation and/or burial method.

**Significance:** The site in general is of low significance. If human graves occur, then the site is of high significance.

**Mitigation:** The area should be marked as being sensitive for potential human graves.

**SAHRA Rating:** 3A for graves, 3C in general

**FIG. 14: ARTEFACTS AT H82**



### H83

H83 occurs in the northwest section of the study area and was identified from the 1969 topographical map. The site is a recent settlement halfway down the hill. Three different grinding stone fragments remain in a cleared area near a dam (fig. 15). The grinding stones could relate to H83 or an older site. The site probably has human graves, but these were not visible due to the vegetation and/or burial method.

**Significance:** The site in general is of low significance. If human graves occur, then the site is of high significance.

**Mitigation:** The area should be marked as being sensitive for potential human graves.

**SAHRA Rating:** 3A for graves, 3C in general

**FIG. 15: LOWER GRINDING STONES AT H83**



## MKU01

MKU01 is located at the southern end and just outside of the study area. It probably extends into the study area and was thus recorded. The site is an ephemeral scatter of pottery sherds, a sorghum lower grinding stone, an upper grinding stone (not for sorghum), and general stone tools. There is an *E. ingens* nearby the artefacts and this could relate to a LIA, or Historical Period (HP) grave. Fig. 16 shows these artefacts and tree.

**Significance:** The artefacts are of low significance, while the tree should be treated as a grave until proven otherwise.

**Mitigation:** A 20m buffer should be placed around the *E. ingens*.

**SAHRA Rating:** 3A

**FIG. 16: E. INGENS AND ARTEFACTS AT MKU01**



## **MKU02**

MKU02 is located in the northeastern section of the study area halfway up a hill. The site consists of a scatter of artefacts and a possible grave. The artefacts consist of various upper and lower grinding stones and pottery sherds. The possible grave consists of a concentration of stones slightly downhill from the main scatter of artefacts. This could be a natural feature, but should be treated as a grave until proven otherwise. Fig. 17 shows these features and artefacts.

**Significance:** The possible grave is of high significance until proven otherwise.

**Mitigation:** A 20m buffer should be placed around the possible grave.

**SAHRA Rating:** 3A

## **MKU03**

MKU03 is situated halfway up the hill in the northwestern section of the study area, between H82 and H83. The site consists of an old *E. ingens*, undecorated pottery sherds and an array of ESA (including a chopper), MSA and LSA stone tools. The pottery sherds could date to the LIA or HP.

**Significance:** The possible grave is of high significance until proven otherwise.

**Mitigation:** A 20m buffer should be placed around the *E. ingens* and it should be treated as a grave until proven otherwise.

**SAHRA Rating:** 3A

FIG. 17: ARTEFACTS AND POSSIBLE GRAVE AT MKU02

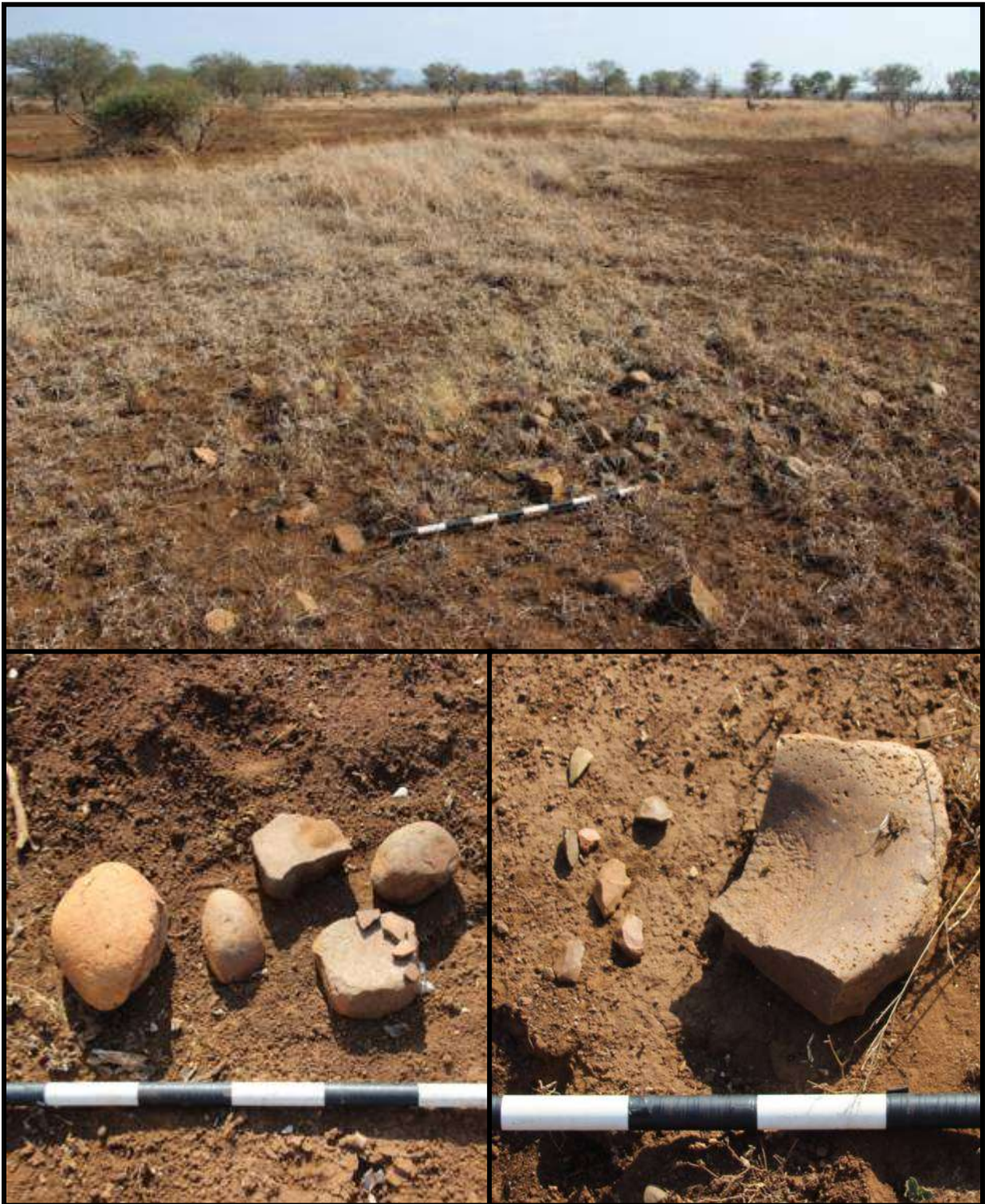
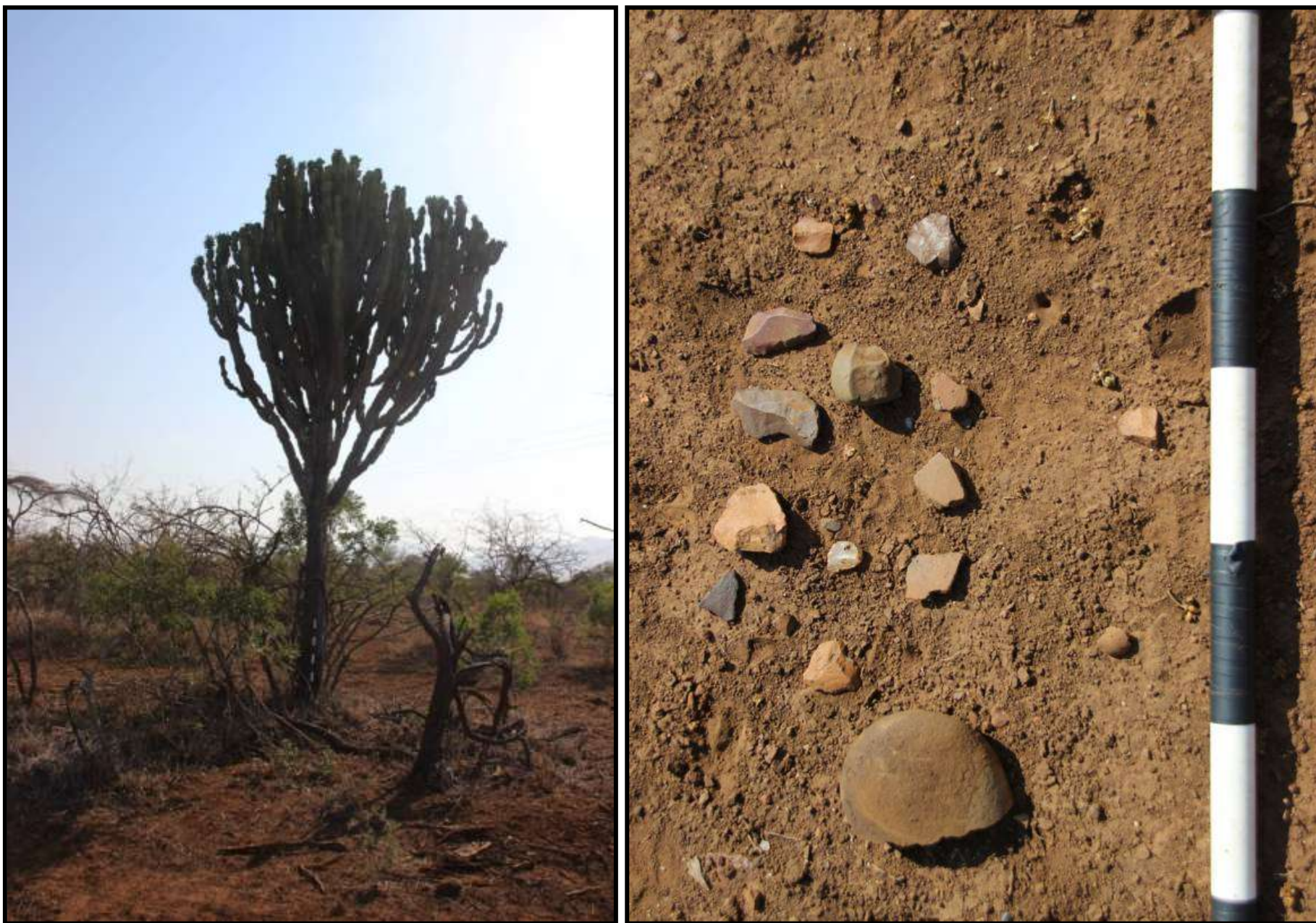


FIG. 18: E. INGENS AND ARTEFACTS AT MKU03





#### **MKU04**

MKU04 is located at the base of the hill on the plain just above the Mhlanganisi River. The site is not a site *per se*, rather an area where raw material for stone tools are readily available and more exposed than other areas in the sand. It occurs along the entire section above the river. A few stone tools were observed, including cores, but it is not a quarry site. Fig. 19 shows the general area. A similar raw material source area occurs on a lower hill in the southwestern part of the study area (S27.528564, E31.970310).

**Significance:** The area is of low significance

**Mitigation:** No mitigation is required.

**SAHRA Rating:** 3C

#### **MKU05**

MKU05 is located on the 500m south of the Mhlanganisi River in a less vegetated area. The site consists of a scatter of daga floor pieces, pottery sherds and upper and lower grinding stone fragments over an area of ~100m. One of the daga floor pieces appears to have a mat impression on it. The impressions are mostly in a horizontal formation. These are not pottery decorations. No graves were observed; however, they may occur as a subsurface feature.

**Significance:** The site is of low significance.

**Mitigation:** No mitigation is currently required; however, the area should be noted as being sensitive for possible human graves.

**SAHRA Rating:** 3C

**FIG. 19: GENERAL SCATTER OF RAW MATERIALS FOR STONE TOOLS**



FIG. 20: ARTEFACTS AT MKU05



## **MKU06**

MKU06 is located in the northwestern corner of the study area, on the top of the hill. The site consists of a cluster of fourteen, old *E. ingens*. Most of the *E. ingens* are associated with lower and/or grinding stones and occasionally pottery sherds. There are MSA and LSA stone tools all over the hill and some of the upper grinding stones may be associated with the Stone Age material. The furthest distance between the *E. ingens* is ~200m. All of the *E. ingens* are large and relatively old (older than 50 years). The one *E. ingens* has two loose, or scattered, stone cairns nearby it to the west and north (fig. 21). There are two concentrations of stones in an area that is relatively clear of large stones. I would suggest that these are treated as potential graves. These cairns are not the result of field clearance.

**Significance:** The two possible graves are of high significance until proven otherwise.

**Mitigation:** A 20m buffer should be placed around each of the *E. ingens* and they should be treated as a grave until proven otherwise.

**SAHRA Rating:** 3A

## **EI968 – EI971**

Four other *E. ingens* were noted during the survey. These occurred at the southern section of the study area and not on the hills. All four trees were associated with grinding stones and were relatively old. One site had two trees growing beside each other (fig. 22).

**Significance:** These should be treated as possible graves and thus have high significance.

**Mitigation:** A 20m buffer should be placed around each of the *E. ingens* and they should be treated as a grave until proven otherwise.

**SAHRA Rating:** 3A

**FIG. 21: EUPHORBIA INGENS AND POSSIBLE GRAVES AT MKU06**



**FIG. 22: EUPHORBIA INGENS AT EI969**



### **MANAGEMENT PLAN**

The Stone Age stone tool scatters are of low significance and in a secondary lag deposit. They occur all over the Mkuze area and as such do not constitute a site, but part of a continual general scatter of artefacts. No permit is required for these types of scatters.

None of the *Euphorbia ingens* may be removed unless the project is prepared to determine whether they do indeed mark graves. This would involve a lengthy and expensive grave relocation or removal process. Alternatively, the trees should be treated as graves and clearly demarcated by having a 20m buffer placed around them, preferably by fencing. This means that the cluster around MKU06 will probably not be cultivated. This also applies for the *E. ingens* at MKU01, MKU03, EI968, EI969, EI970, and EI971.

The recent historical sites identified from the topographical maps, i.e. h80 – h85, and h88) should have a 50m – 100m sensitivity radius placed around them for possible human remains. That means that while the development may occur in the area, there is a possibility that human remains may be exposed. The same applies for MKU02, MKU03, and MKU05

If any human remains are exposed during the course of irrigation pipeline excavations and/or cultivation then all activity needs to stop immediately in that area. The SAPS and Amafa KZN need to be informed, as well as the contracted archaeologist who would be able to make a more immediate and informed opinion.

A permit from Amafa KwaZulu-Natal will be required if the following sites are affected:

- MKU01
- KMU02
- MKU05

MKU04 is not a site per se but a natural raw material source. MKU03 is a scatter of artefacts and an *E. ingens* that will be protected. The reservoir at 'a2' is already demolished and the associated midden is too ephemeral to warrant being called a site; rather an occurrence of a few artefacts.

MKU06 should not be affected; however the project does have the option of testing if these are graves and approaching Amafa KZN to have the potential the remains exhumed. This can be a lengthy and expensive process.

## PALAEONTOLOGY

The area is coded blue on the SAHRIS Palaeontological sensitivity map and thus of low Palaeontological sensitivity. No desktop or fieldwork is required; however, if any fossils are uncovered then this needs to be reported to Amafa KZN. A Palaeontological Impact Assessment was undertaken Millstead (2014) for the area just south and west of this study area. The report found the area to be part of the Jurassic Letaba Formation and thus unfossiliferous.

## CONCLUSION

A heritage survey was undertaken for the Zamokuhle Trust commercial agriculture project. The project consists of converting the existing land to sugar cane farming.

Twelve heritage sites were noted from a field survey. Only one of these sites was not associated with a possible grave. Seven sites are associated with *Euphorbia ingens* that were historically associated with human graves in Kwa-Zulu-Natal. These sites are not to be affected and need to be managed.

Four sites noted on the 1950s – 1960s topographical maps were visited and artefacts were observed. These sites probably have human graves associated with the settlements. Three Late Iron Age, or Historical Period, sites were recorded. While these are of low significance, they could have human graves below the surface. These sites need to be noted as sensitive for the possible occurrence of human remains, and do not require buffering from agricultural activity.

The Stone Age sequence of KwaZulu-Natal is well represented in the study area. However, it is in a secondary open lag deposit and of no significance.



## REFERENCES

Millstead, B. 2014. Desktop Palaeontological Heritage Assessment Report on the Site of a Proposed Solar Power Production Facility Known as the Senekal 1 Solar Energy Facility on the Remaining Extent of the Farm Iselworth 772HU, KwaZulu-Natal Province. Prepared for Heritage Consultants and Archaeological Consulting CC.

Professional Grave Solutions. 2012. Pongola–Candover 132kV power line, upgrades to the Pongola Substation and Candover switching station, development of the Golela 132/22 kV substation

Van der Walt, J. 2014 Proposed Construction Of The 5MW Senekal 1 Solar Energy Facility near Mkuze, Kwazulu Natal. For Savannah Environmental Pty (Ltd).

**APPENDIX A  
SITE RECORD FORMS**

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM****SITE CATEGORY:**

<b>Stone Age</b>	ESA:	x	MSA	x	ESA	x	ISA	
<b>Rock Art</b>	Paintings		Engravings		Other			
<b>Iron Age</b>	EIA:		LIA	x	IAI			
<b>Historical</b>	Historical Period:	x	Recent Past (last 60 yrs):	x				

Recorder's Site No.: MKU01 – 06, EI01-

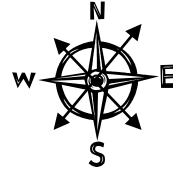
Official Name:

Local Name:

Map Sheet:

GPS reading: see Table 3 of report

Altitude:

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION**

From Mkuze, drive north along N2 for 10.4km. to the P522-1 (Jozini) turnoff. Turn right and drive for 554m, and then turn left to the dirt road that runs parallel with the railway. This is the original N2. Pass through the security checkpoint. From here-on use the GPS as there are no roads or specific tracks to the sites, just changeable tracks.

**SITE DESCRIPTION:**

Type of Site: Open

Merits conservation: only sites with possible graves

Threats: Yes

What threats: sugar cane farming

**RECORDING:**

Digital pictures #: yes

Tracings :

Drawings:

Recorder/Informant: Name: Gavin Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 18/5/2015

Owner: Zamokuhle Trust

References: none

**DESCRIPTION OF SITE AND ARTEFACTUAL CONTENT.**

Diameter:

Length:

Width:

Depth

Height

See report for details