

**HERITAGE SURVEY OF THE PROPOSED P176
CAUSEWAY UPGRADES, INKOSI LANGALIBALELE
LOCAL MUNICIPALITY, KZN**

FOR HANSLAB ENVIRONMENTAL CONSULTANTS

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EXECUTIVE SUMMARY

The Department of Transport is currently addressing the needs of previously disadvantaged rural areas by providing service delivery by means of infrastructure development to ensure the safety of road users. DoT proposes to upgrade and construct three causeways on the P176 associated with the current road network

Hanslab Environmental Services contracted Umlando to undertake the HIA for the causeway. A 50m radius around the causeway was inspected. Only two isolated MSA tools were noted.

The proposed causeway will not affect sensitive palaeontological deposits.

No further HIA is required.

TABLE OF CONTENT

EXECUTIVE SUMMARY	2
INTRODUCTION	5
KWAZULU NATAL AMAFA AND RESEARCH INSTITUTE, ACT 05, 2018	11
METHOD	13
Defining significance.....	14
RESULTS	16
DESKTOP STUDY	16
PALAEONTOLOGICAL SENSITIVITY	25
FIELD SURVEY.....	26
MANAGEMENT PLAN	30
CONCLUSION.....	30
REFERENCES	30
EXPERIENCE OF THE HERITAGE CONSULTANT	31
DECLARATION OF INDEPENDENCE.....	31

TABLE OF FIGURES

FIG. 1 GENERAL LOCATION OF THE PROPOSED DEVELOPMENT	6
FIG. 2A: AERIAL OVERVIEW OF THE PROPOSED P176 KWABOVU CAUSEWAY	7
FIG. 2B: AERIAL OVERVIEW OF THE PROPOSED P176 KWAMOTA CAUSEWAY	8
FIG. 2C: AERIAL OVERVIEW OF THE PROPOSED P176 KWASENTOPMBI CAUSEWAY	9
FIG. 3: TOPOGRAPHICAL MAP OF THE NORTHERN SECTION OF THE PROPOSED	10
FIG. 4: LOCATION OF KNOWN HERITAGE SITES IN THE GENERAL AREA	17
FIG. 5A: WELTEVREEDEN (1851)	18
FIG. 5B: MINA 63521851)	19
FIG. 5C: BLAAUW KRANS(1851)	20
FIG. 6A: LOCATION OF P176 KWASENTOMBI IN 1937.....	21
FIG. 6B: LOCATION OF P176 KWAMOTA CAUSEWAY IN 1937	22
FIG. 6C: LOCATION OF P176 KWAMOTA CAUSEWAY IN 1937	23
FIG. 7: LOCATION OF THE CAUSEWAYS IN 1972	24
FIG. 8: PALAEONTOLOGICAL SENSITIVITY MAP	25
FIG. 9: EXISTING CAUSEWAY AT KWASENTOMBI CAUSEWAY.....	27
FIG. 10: EXISTING CAUSEWAY AT KWAMOTA.....	27
FIG. 11: EXISTING CAUSEWAY AT KWABOVU	28
FIG. 12: RUINS ATE HOPEWELL	29

Abbreviations

HP	Historical Period
IIA	Indeterminate Iron Age
LIA	Late Iron Age
EIA	Early Iron Age
ISA	Indeterminate Stone Age
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
HIA	Heritage Impact Assessment
PIA	Palaeontological Impact Assessment

INTRODUCTION

The Department of Transport (Applicant) is currently addressing the needs of previously disadvantaged rural areas by providing service delivery by means of infrastructure development to ensure the safety of road users.

The Applicant proposes to construct the following structures associated with the road network. The construction is as follows for the P176: :

- Km 5.1 over the Mngwenya River
 - **Structure** = Low-level Bridge (12no. 5m spans, 2no. abutments and 11no. piers)
 - **Length** = 60m **Width** = 10m
 - **Location:** 28°53'58.04"S; 30°05'05.51"E
- Km 8.0 over the Mngwenya River
 - **Structure** = Low-level Bridge (15no. 5m spans, 2no. abutments and 14no. piers)
 - **Length** = 75m **Width** = 10m
 - **Location:** 28°55'07.47"S; 30°05'57.94"E
- Km 10.6 over the Mngwenya River
 - **Structure** = Low-level Bridge (10no. 5m spans, 2no. abutments and 9no. piers)
 - **Length** = 50m **Width** = 10m
 - **Location:** 28°56'20.07"S; 30°06'24.56"E

Hanslab Environmental Consultants contracted Umlando to undertake the heritage survey of the two causeways.

FIG. 1 GENERAL LOCATION OF THE PROPOSED DEVELOPMENT

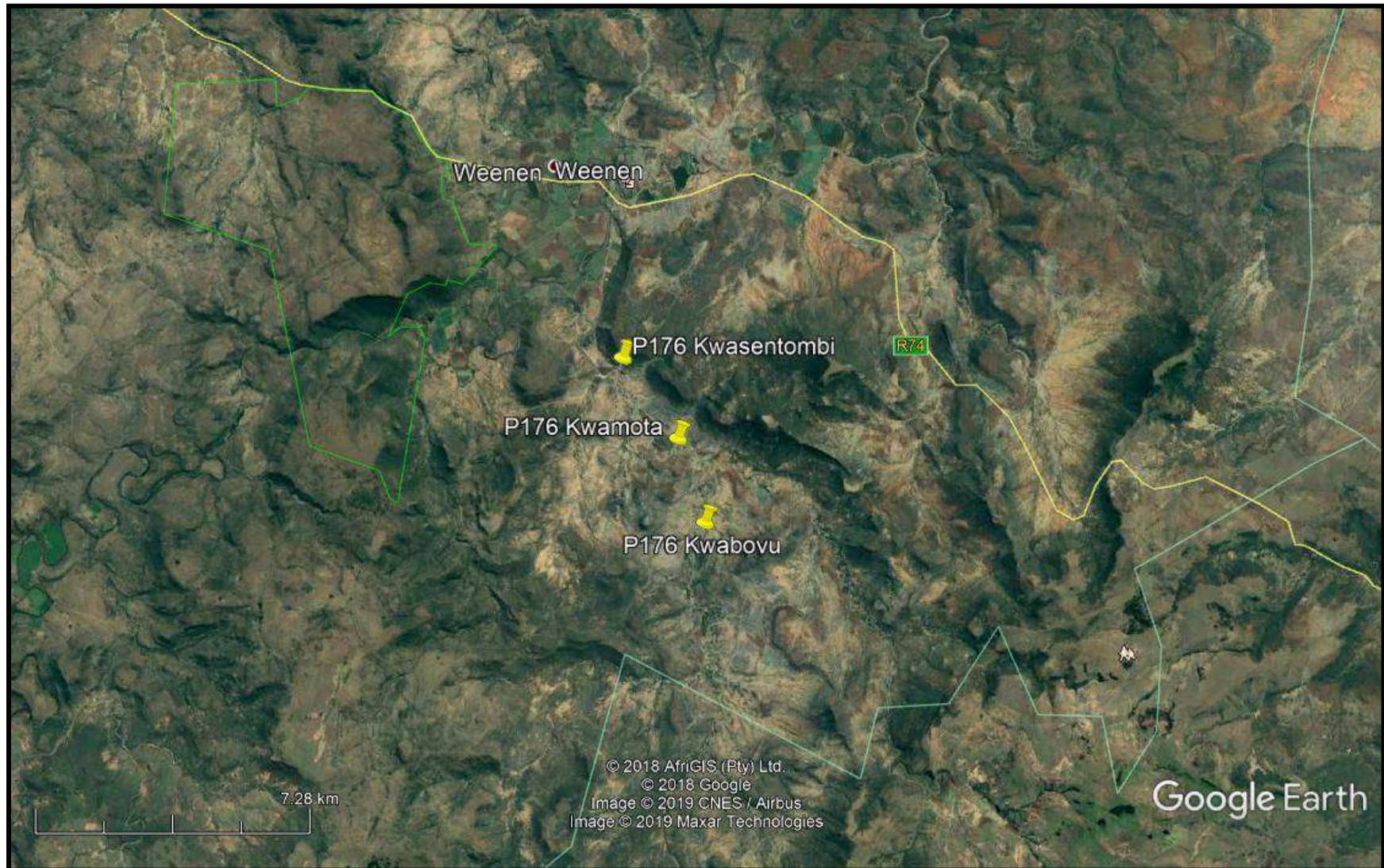


FIG. 2A: AERIAL OVERVIEW OF THE PROPOSED P176 KWABOVU CAUSEWAY



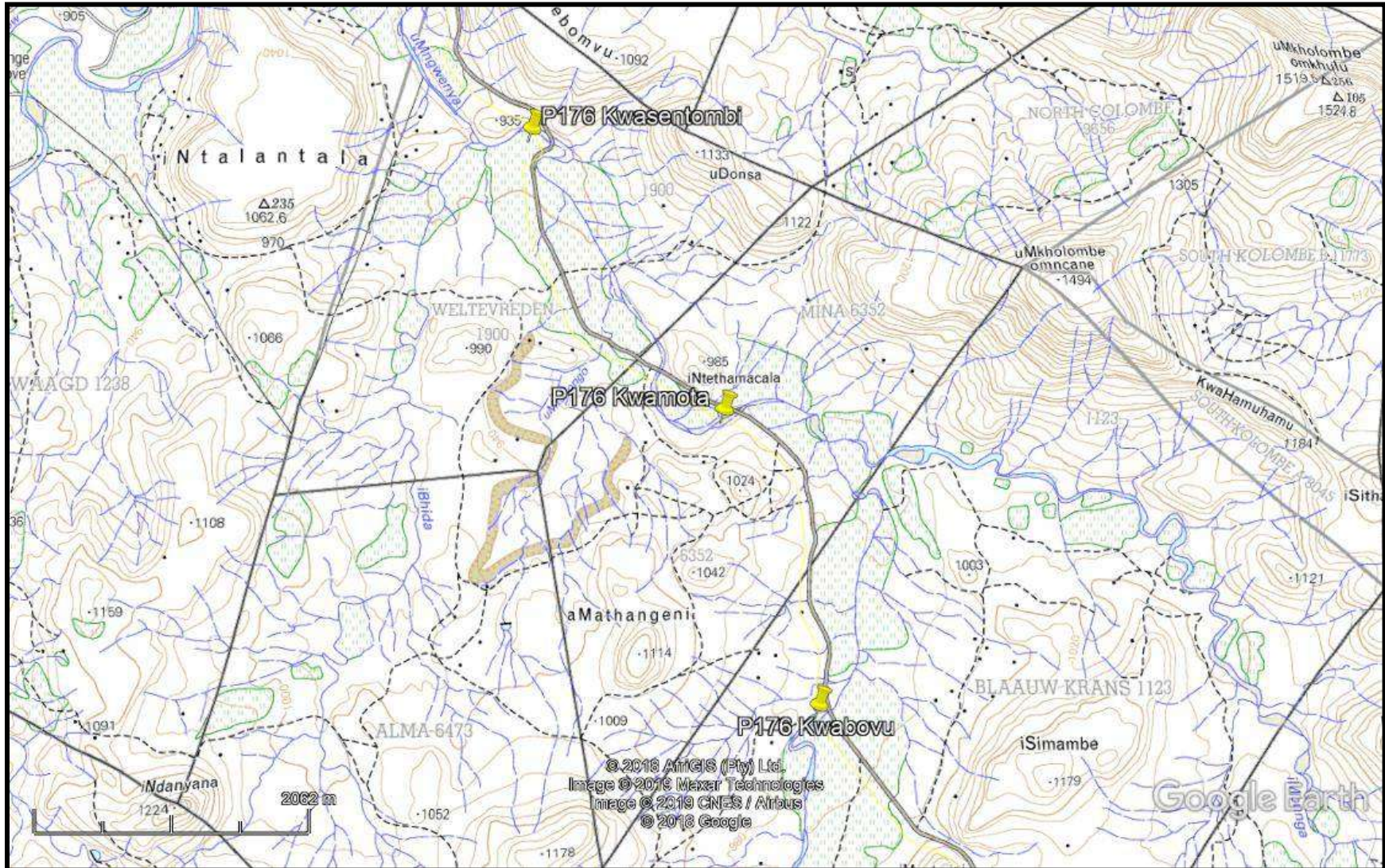
FIG. 2B: AERIAL OVERVIEW OF THE PROPOSED P176 KWAMOTA CAUSEWAY



FIG. 2C: AERIAL OVERVIEW OF THE PROPOSED P176 KWASENTOMPI CAUSEWAY



FIG. 3: TOPOGRAPHICAL MAP OF THE NORTHERN SECTION OF THE PROPOSED



KWAZULU NATAL AMAFA AND RESEARCH INSTITUTE, ACT 05, 2018

“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.”

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 1st and 2nd 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.

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. No known sites occur in the study areas; however, fig. 4 shows that the general area has a high concentration of archaeological sites. These sites cover the last 1.5 million years of southern African archaeology.

Fig.'s 5a-c indicates that the Farms Blaauw Krans, Mina and Weltevreedden were formerly surveyed in 1851. No buildings are shown on the map, but farm occupation would have happened shortly thereafter.

FIG. 4: LOCATION OF KNOWN HERITAGE SITES IN THE GENERAL AREA

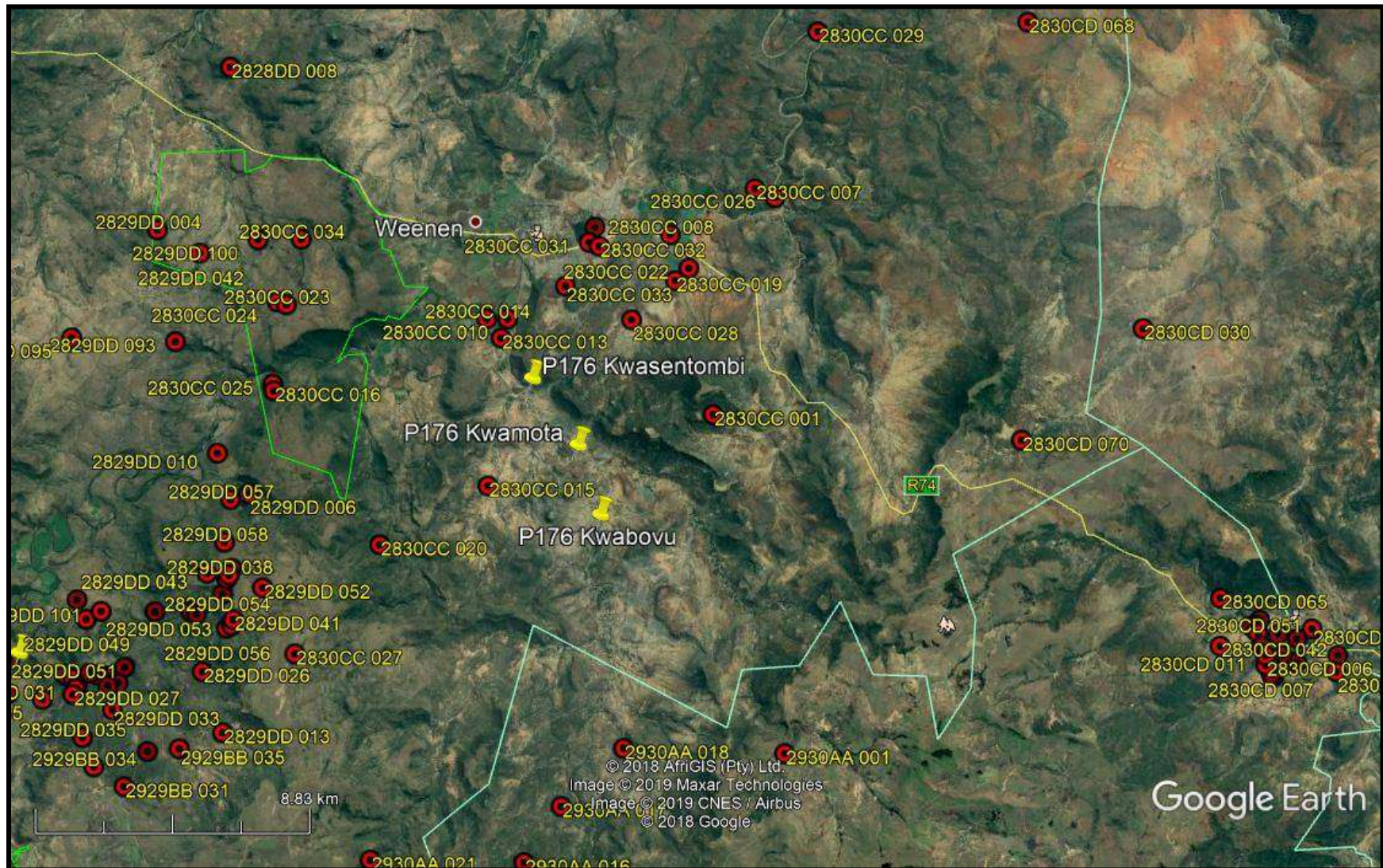


FIG. 5A: WELTEVREEDEN (1851)

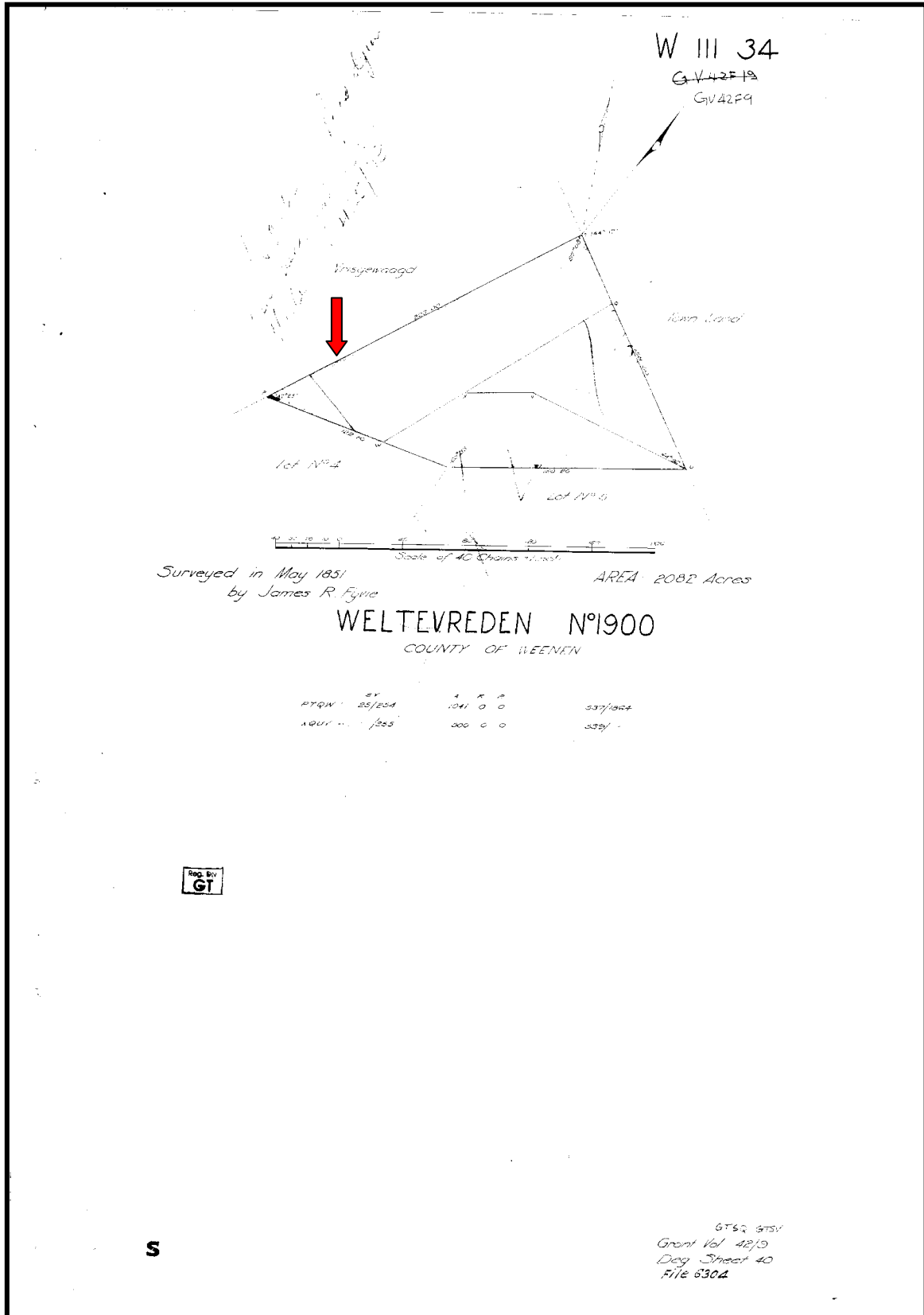


FIG. 5B: MINA 63521851)

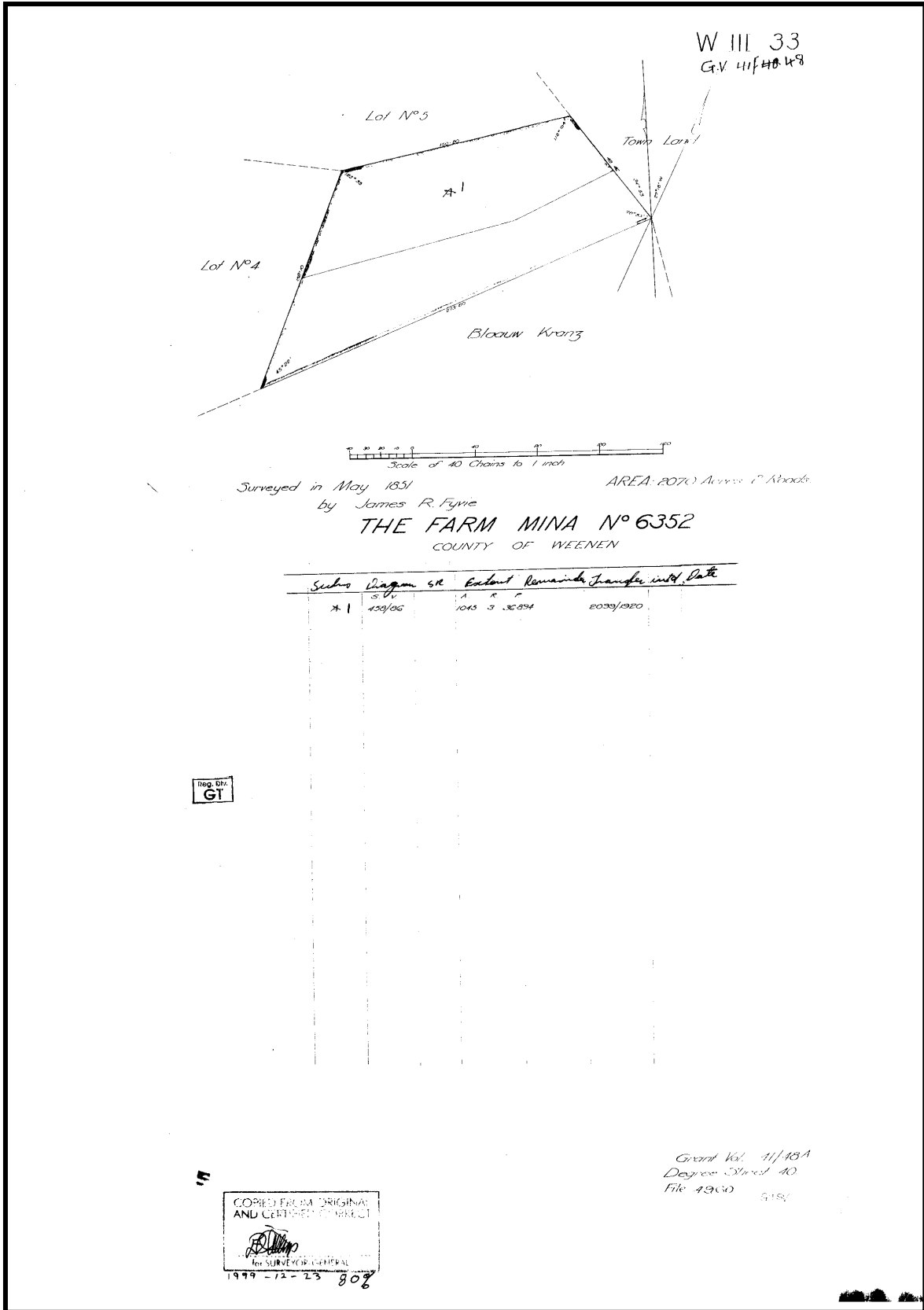


FIG. 5C: BLAAUW KRANS(1851)

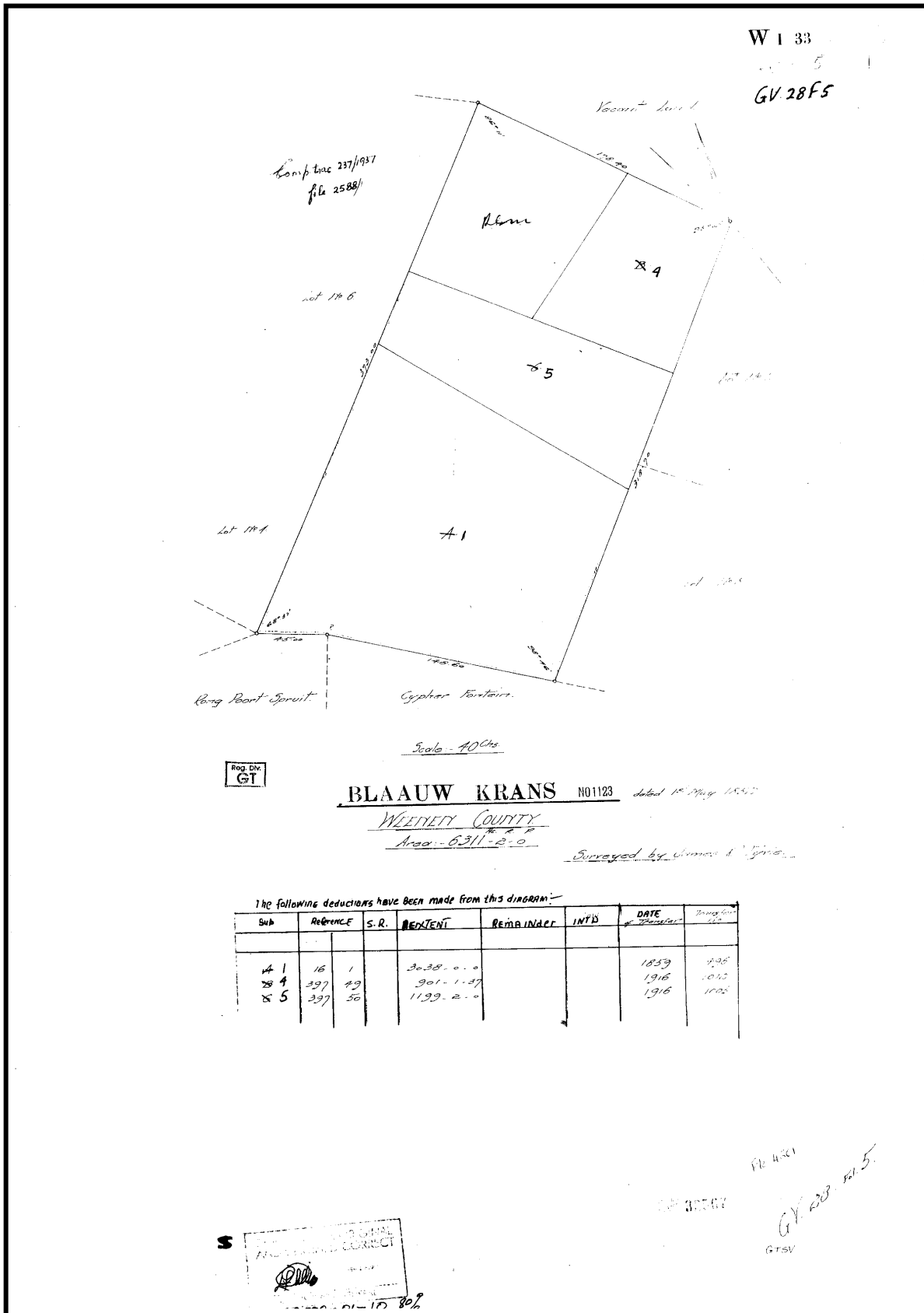


FIG. 6A: LOCATION OF P176 KWASENTOMBI IN 1937



FIG. 6B: LOCATION OF P176 KWAMOTA CAUSEWAY IN 1937



FIG. 6C: LOCATION OF P176 KWAMOTA CAUSEWAY IN 1937

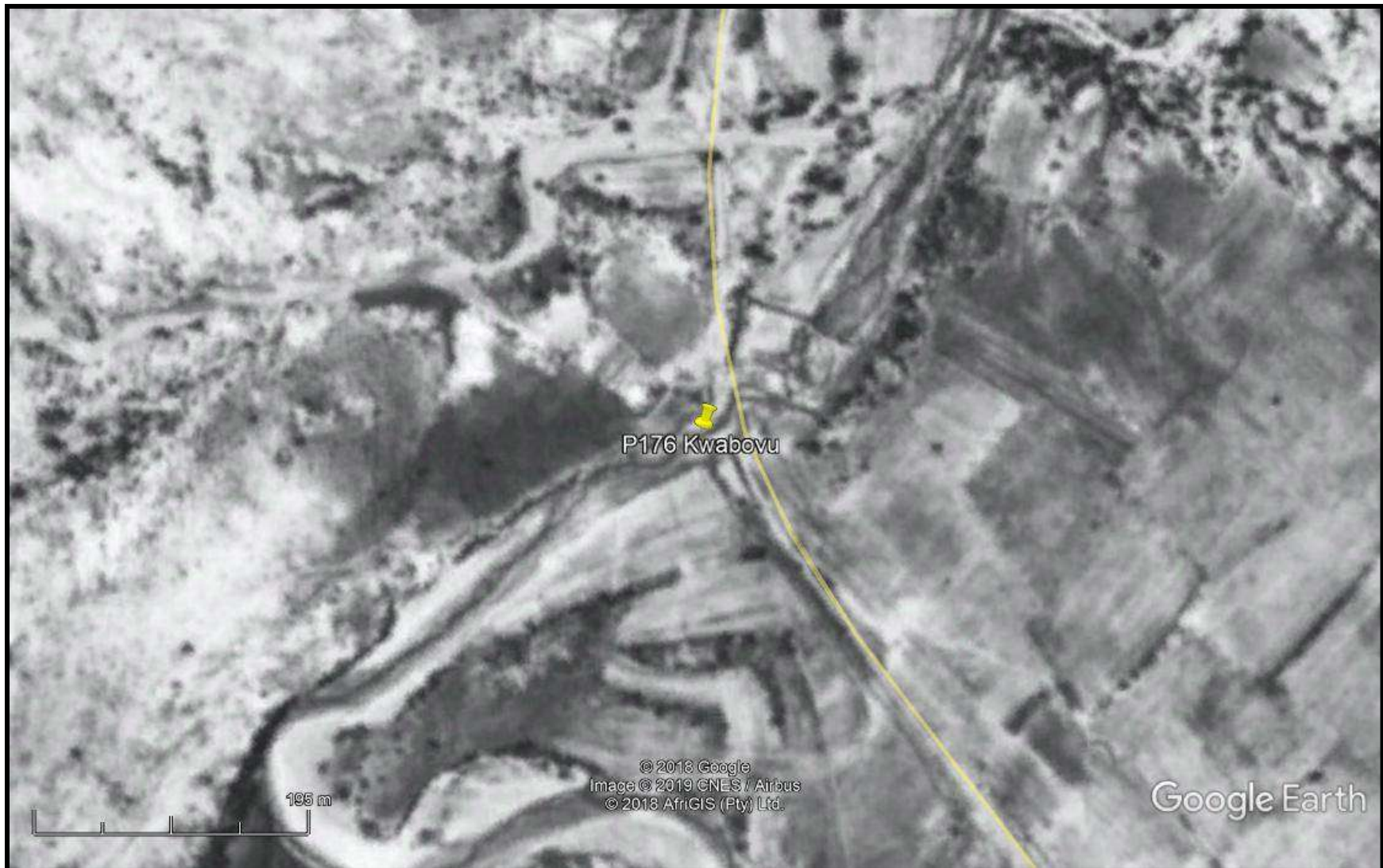
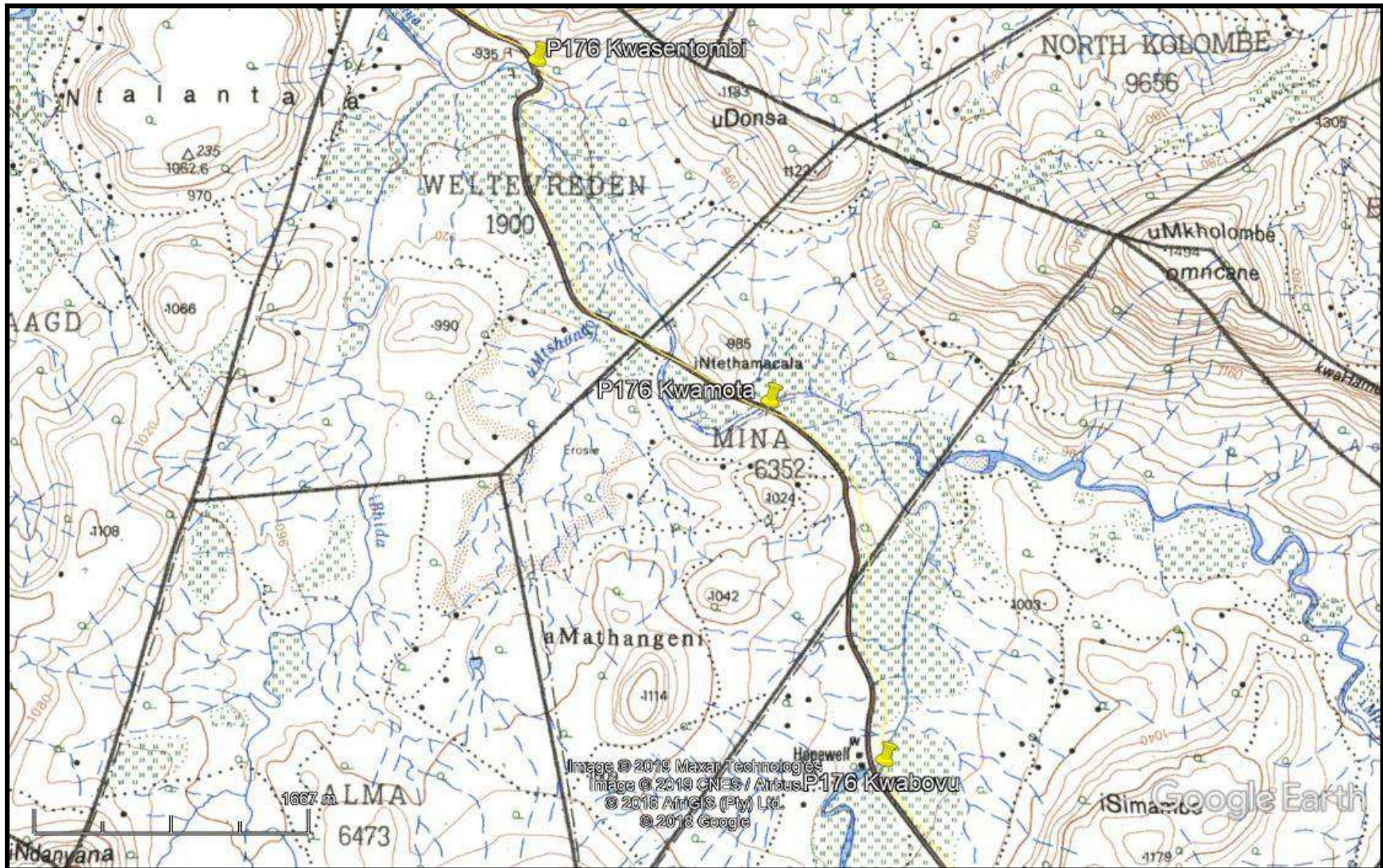


FIG. 7: LOCATION OF THE CAUSEWAYS IN 1972



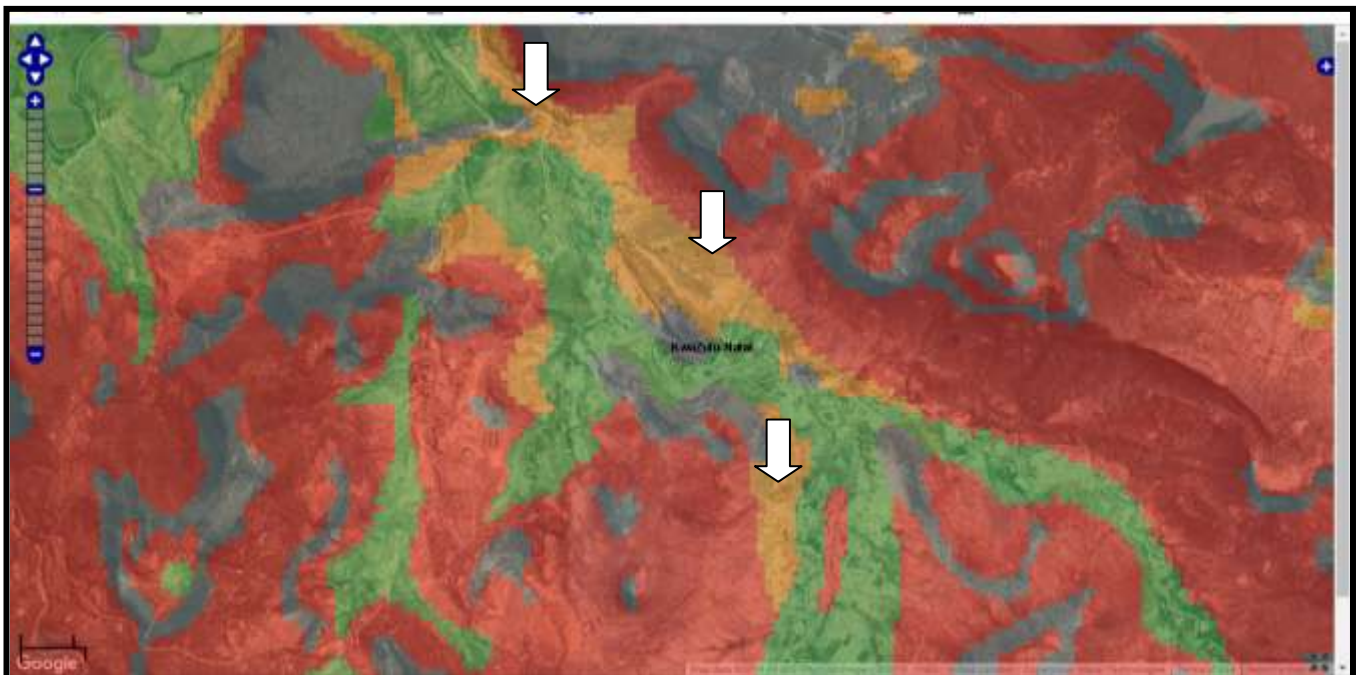
The 1937 aerial photographs indicate that the P176 was established, but that there was probably no causeway (fig.'s 6a-c). The 1972 topographical map does not state if there is a bridge or causeway at the three points (fig.'s 7a-c).

The 1972 topographical map does indicate that the Farm Hopewell buildings occur near the KwaBovu causeway. Hopewell may occur on the 1937 map, but it is unclear (fig. 7c).

PALAEONTOLOGICAL SENSITIVITY

Fig. 8 shows the palaeontological sensitivity for the three causeways. The causeways are in areas of high to very high palaeontological sensitivity. However, the type of construction (fig. 9 – 11) for the causeways will not affect unweathered palaeontological strata. No further palaeontological mitigation is required.

FIG. 8: PALAEONTOLOGICAL SENSITIVITY MAP



FIELD SURVEY

The field survey was undertaken on 9 October 2019. The area had very good ground visibility due to the end of the winter season. The areas 50m around the causeways were surveyed for potential sites. The current proposed causeways are shown in fig.'s 9 – 11.

All causeways are built up above the ground and have minimal excavations. All causeways require no further mitigation, provided they do not extend beyond the current site plan and do not include any borrow pits and./or quarries.

KwaBovu has ruins 50m northwest of the proposed causeway (28°56'19.77"S 30° 6'22.81"E). These ruins belong to the farm buildings Hopewell (see fig. 12). Hopewell is not obvious on the 1937 maps (although it is possible), but it is noted on the 1972 topographical map.

Only the foundation floors of Hopewell still remain. Artefacts do occur around the ruins, and these indicate a 20th century occupation. The causeway upgrade will not affect the area around Hopewell and thus no further mitigation is required.

No further mitigation will be required for these three causeways provided that there are no quarries or borrow pits to be used for backfilling as has occurred at some of the existing causeways. Otherwise a PIA desktop and/or survey will be required

FIG. 9: EXISTING CAUSEWAY AT KWASENTOMBI CAUSEWAY



FIG. 10: EXISTING CAUSEWAY AT KWAMOTA



FIG. 11: EXISTING CAUSEWAY AT KWABOVU



FIG. 12: RUINS ATE HOPEWELL



MANAGEMENT PLAN

The causeways on the P176 require no further mitigation, provided they do not extend beyond the current sizes, nor access quarries and/or borrow pits.

Comments on the final plans for the causeway can be made at a desktop level.

CONCLUSION

A heritage survey was undertaken for the upgrade of three causeways on the P176, south of Weenen, KZN. The current causeways probably post date 1972. The proposed causeways will not affect historical buildings. The proposed causeways will not affect sensitive unweathered palaeontological layers.

No further mitigation is required.

REFERENCES

2830CC Weenen 1972, 1996
152_027_76359
152_028_76372
GV28FS
GV42F9
GV4f49

EXPERIENCE OF THE HERITAGE CONSULTANT

Gavin Anderson has a M. Phil (in archaeology and social psychology) degree from the University of Cape Town. Gavin has been working as a professional archaeologist and heritage impact assessor since 1995. He joined the Association of Professional Archaeologists of Southern Africa in 1998 when it was formed. Gavin is rated as a Principle Investigator with expertise status in Rock Art, Stone Age and Iron Age studies. In addition to this, he was worked on both West and East Coast shell middens, Anglo-Boer War sites, and Historical Period sites.

DECLARATION OF INDEPENDENCE

I, Gavin Anderson, declare that I am an independent specialist consultant and have no financial, personal or other interest in the proposed development, nor the developers or any of their subsidiaries, apart from fair remuneration for work performed in the delivery of heritage assessment services. There are no circumstances that compromise the objectivity of my performing such work.



Gavin Anderson
Archaeologist/Heritage Impact Assessor