

**HERITAGE SURVEY OF THE N9 SECTION 7 FROM  
MIDDELBURG (km 0) TO CARLTON HEIGHTS (km 29)**

**FOR COASTAL ENVIRONMENTAL SERVICES**

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## INTRODUCTION

Umlando was contracted by Coastal Environmental Services to undertake the heritage survey of the proposed N9 rehabilitation from Middelburg to Carlton Heights, Eastern Cape. The length of the road rehabilitation is ~24km, and it will occur within the existing road servitude, with one possible exception.

The impacts will be:

- The proposed new surfaced carriageway width for the N9 is 12.4m (2 x 3.7 lanes and 2 x 2.5m shoulders). The new formation width between shoulder break points with guardrails will then be a minimum of 14.0m at the bridge and culvert structures.
- The required minimum clear width between parapets for underpass/river bridges is 12.4m for the proposed new carriage width.
- The horizontal clearance for new overpass bridges will have to be a minimum of 22.4m up to a desirable maximum of 26.0m
- The required minimum vertical clearance for new overpass bridges is 5.2m, while it has to be an absolute minimum of 4.9m for existing overpass bridges (and for road underpass bridges).
- Some bridges will be destroyed and rebuilt.
- One quarry may be extended
- One borrow pit may be re-used

The section of the N9 is located north of Middelburg (fig.'s 1 – 3). The road rehabilitation will occur within the existing road reserve and thus have little impact on archaeological and historical sites, as this area is already very disturbed. However, the road will affect on potential palaeontological sites that occur in the road reserve. In addition to this, the borrow pit and quarry may have heritage sites. Some of the bridges are older than 60 years and are thus protected by the NHRA. Two archaeological sites, two historical structures, and palaeontologically sensitive areas were noted during the survey

FIG. 1 GENERAL LOCATION OF THE PROPOSED N9 REHABILITATION SECTION

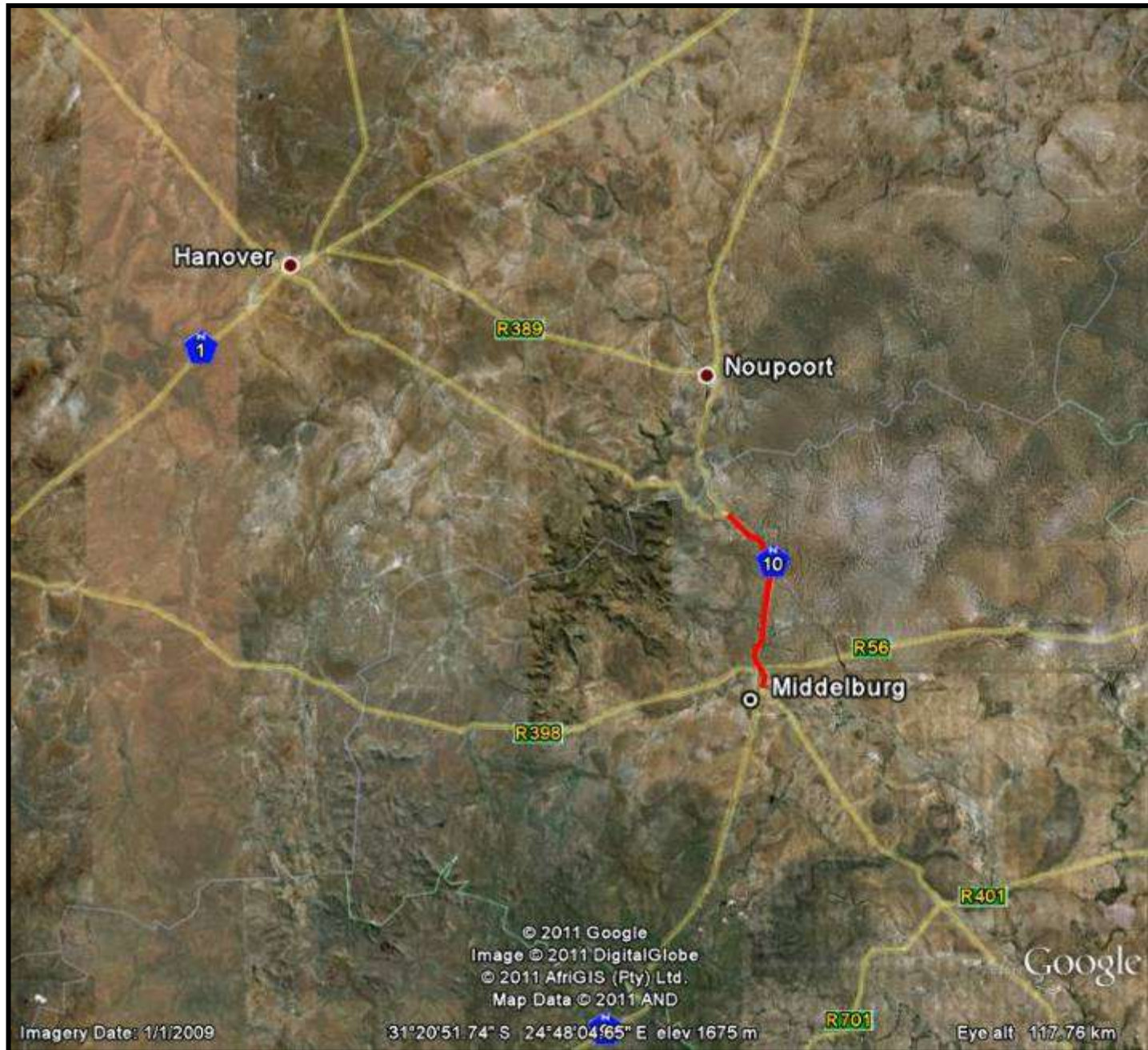


FIG. 2A: AERIAL OVERVIEW OF THE NORTHERN SECTION OF THE PROPOSED ROAD REHABILITATION

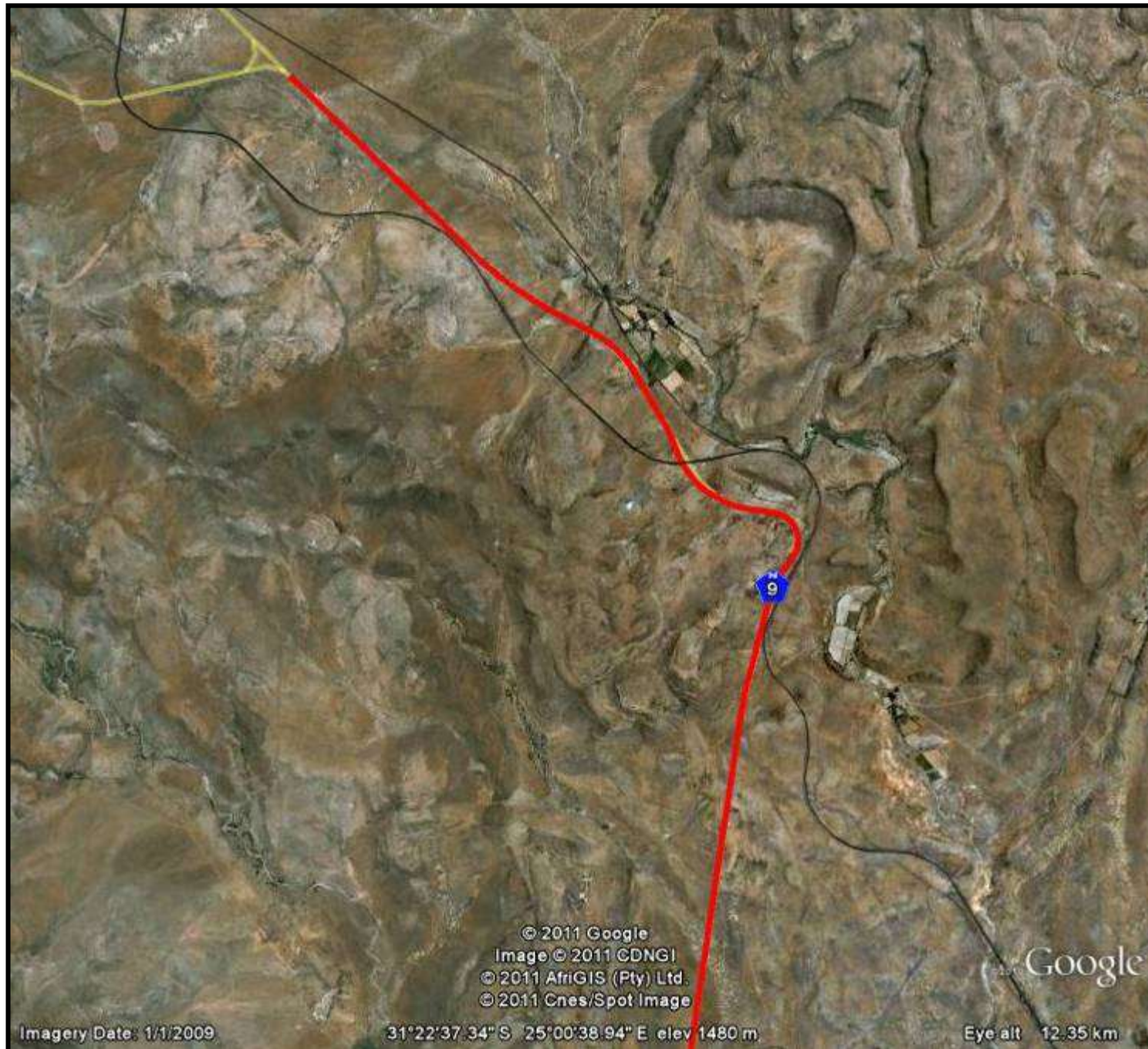


FIG. 2B: AERIAL OVERVIEW OF THE SOUTHERN SECTION OF THE PROPOSED ROAD REHABILITATION

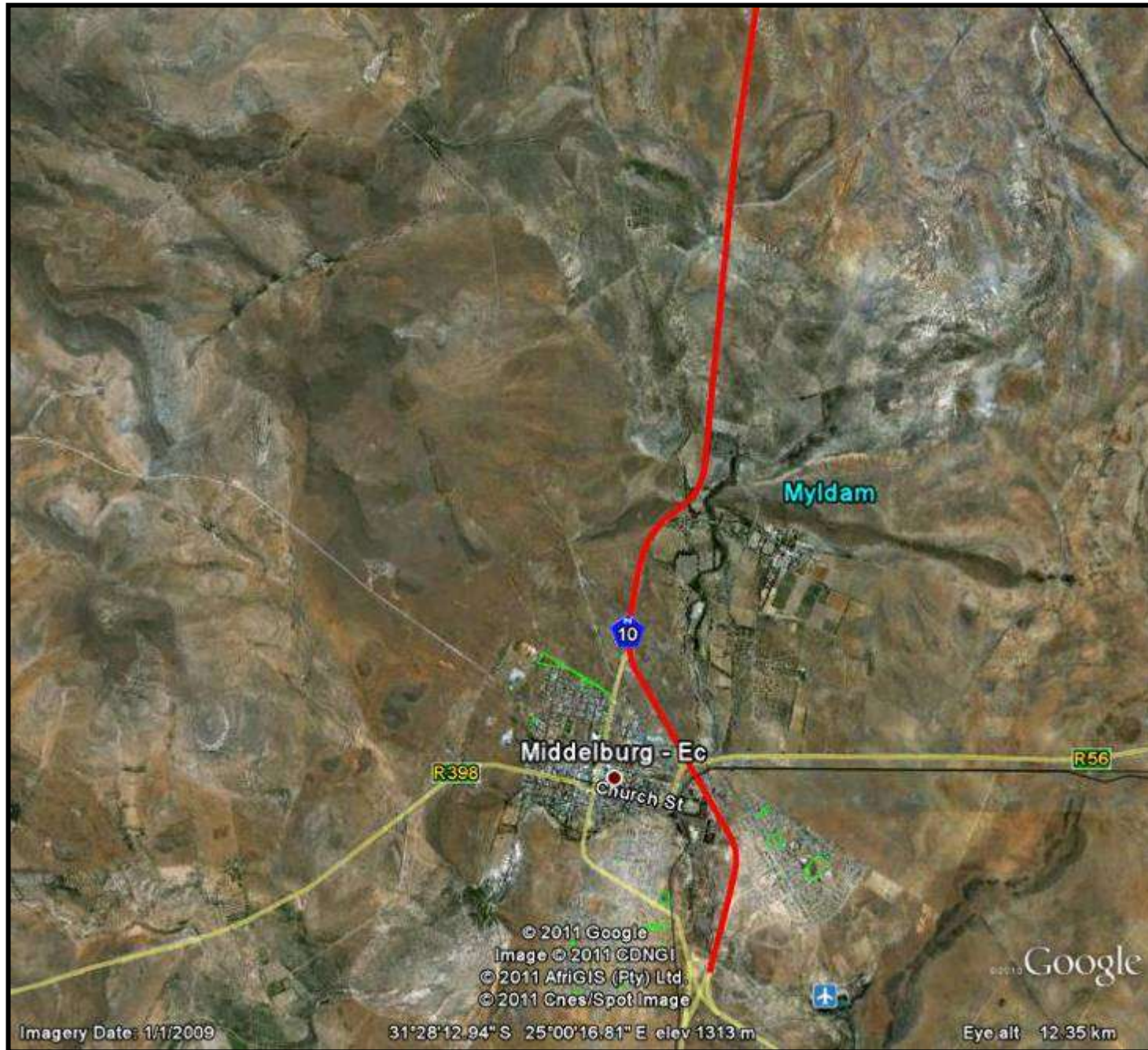


FIG. 3A: 2000 TOPOGRAPHICAL MAP OF THE NORTHERN SECTION OF THE PROPOSED ROAD REHABILITATION

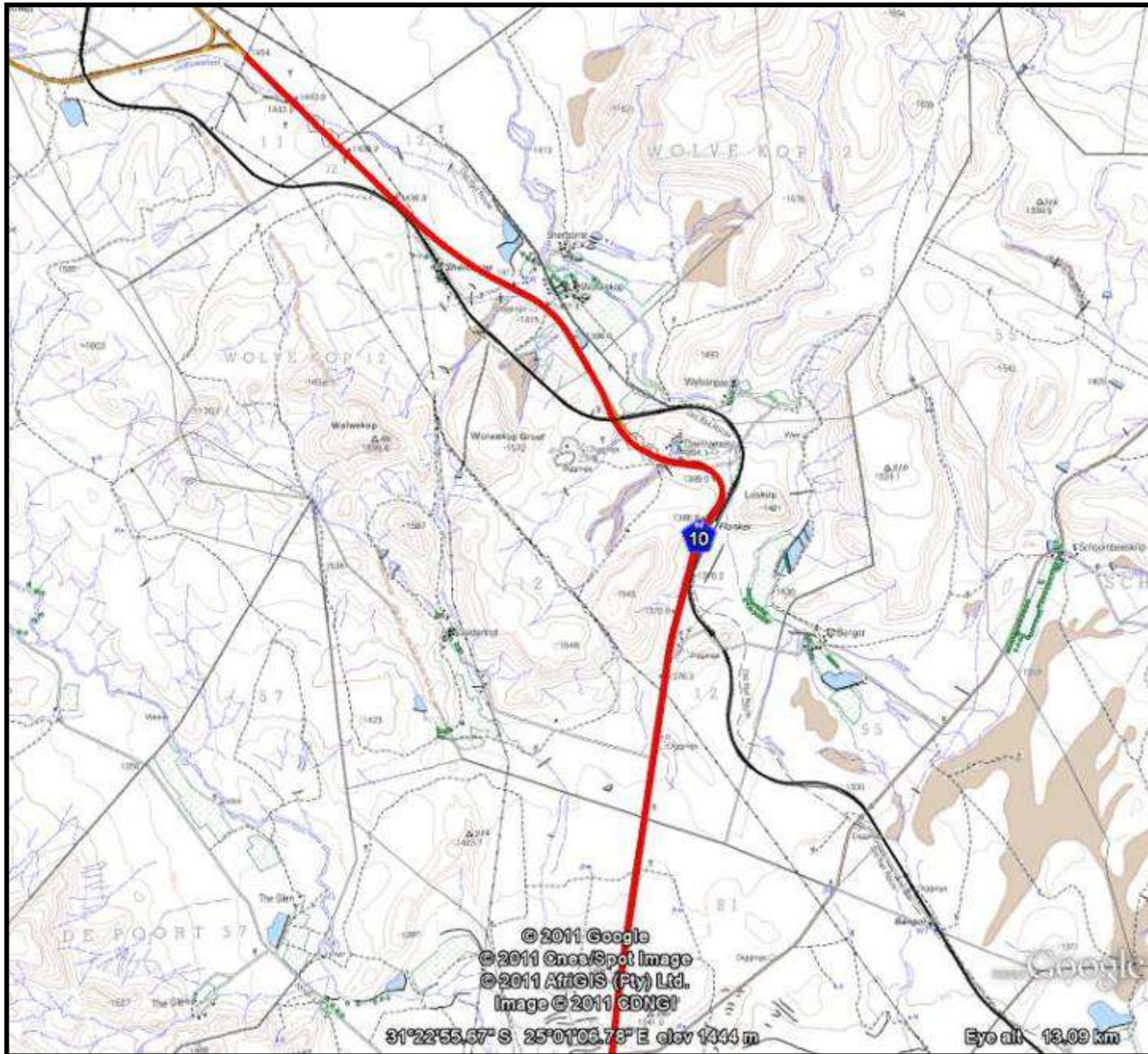
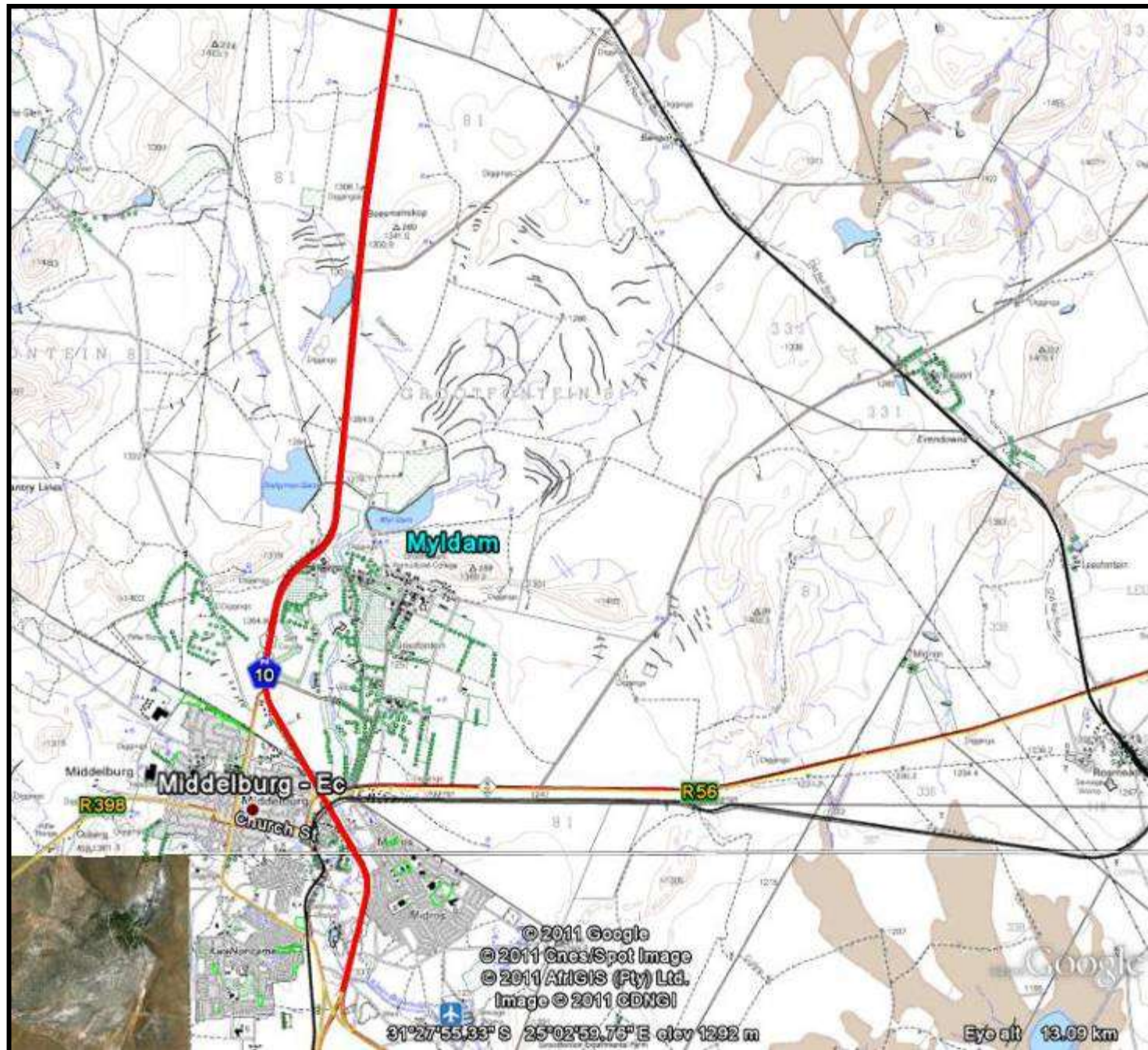




FIG. 3B: 2000 TOPOGRAPHICAL MAP OF THE SOUTHERN SECTION OF THE PROPOSED ROAD REHABILITATION



## NATIONAL HERITAGE RESOURCES ACT OF 1999

The National Heritage Resources Act of 1999 (pp 12-14) protects a variety of heritage resources. These resources are defined as follows:

1. “For the purposes of this Act, those heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations must be considered part of the national estate and fall within the sphere of operations of heritage resources authorities.
2. Without limiting the generality of subsection (1), the national estate may include—
  - 2.1. Places, buildings, structures and equipment of cultural significance;
  - 2.2. Places to which oral traditions are attached or which are associated with living heritage;
  - 2.3. Historical settlements and townscapes;
  - 2.4. Landscapes and natural features of cultural significance;
  - 2.5. Geological sites of scientific or cultural importance;
  - 2.6. Archaeological and palaeontological sites;
  - 2.7. Graves and burial grounds, including—
    - 2.7.1. Ancestral graves;
    - 2.7.2. Royal graves and graves of traditional leaders;
    - 2.7.3. Graves of victims of conflict;
    - 2.7.4. Graves of individuals designated by the Minister by notice in the Gazette;
    - 2.7.5. Historical graves and cemeteries; and
    - 2.7.6. Other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
3. Sites of significance relating to the history of slavery in South Africa;

4. Movable objects, including—
  - 4.1. Objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
    - 4.1.1. Objects to which oral traditions are attached or which are associated with living heritage;
    - 4.1.2. Ethnographic art and objects;
    - 4.1.3. Military objects;
    - 4.1.4. objects of decorative or fine art;
    - 4.1.5. Objects of scientific or technological interest; and
    - 4.1.6. books, records, documents, photographic positives and negatives, graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1(xiv) of the National Archives of South Africa Act, 1996 (Act No. 43 of 1996).
5. Without limiting the generality of subsections (1) and (2), a place or object is to be considered part of the national estate if it has cultural significance or other special value because of—
  - 5.1. Its importance in the community, or pattern of South Africa's history;
  - 5.2. Its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
  - 5.3. Its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
  - 5.4. Its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
  - 5.5. Its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
  - 5.6. Its importance in demonstrating a high degree of creative or technical achievement at a particular period;
  - 5.7. Its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;

- 5.8. Its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- 5.9. sites of significance relating to the history of slavery in South Africa”

## **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 graves. We also consult SAHRA’s Google Earth map indicating the locations of previous archaeological surveys. 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**

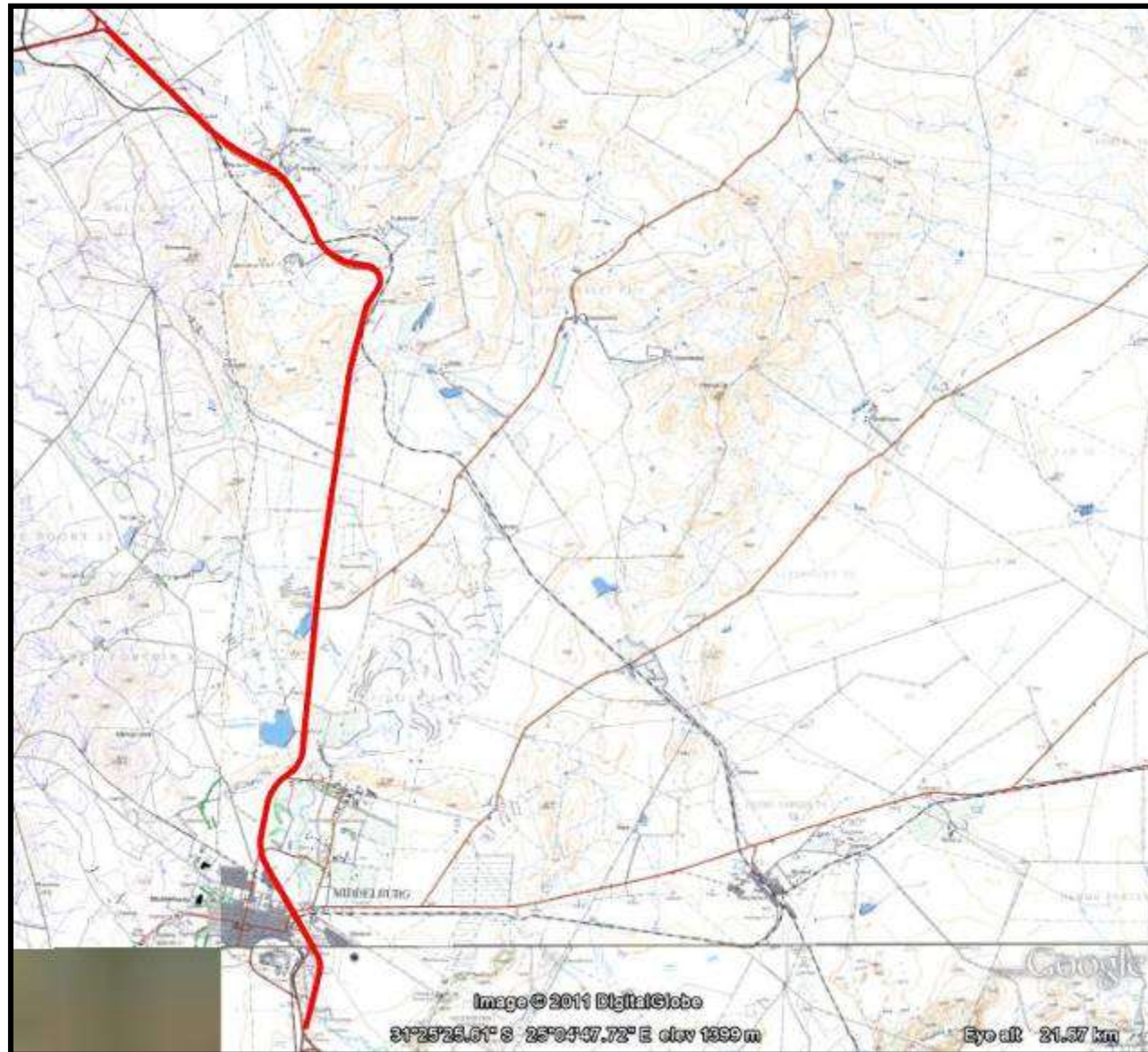
### **DESKTOP STUDY**

The desktop study noted that a small part of the northern section of this area was covered in a previous survey (Nel 2008). Nel noted that historical buildings occur in the area as well as a potential for rock art and stone tools.

An analysis of early 1:50 000 maps was undertaken (fig. 4). These maps did not show any features that may have occurred in the road reserve or proposed quarries and borrow pits. Several farm buildings do occur in the general area; however, they will not be affected.

The initial work undertaken by Arcuss Gibb provided dates for each structure along the line, as well as their structural integrity. This was used to note which structures would require permits from SAHRA, if the structures were to be altered or destroyed.

FIG. 4: LOCATION OF THE ROAD UPGRADE ON OLDER TOPOGRAPHICAL MAPS<sup>1</sup>



<sup>1</sup> 3125CA Tafelberg (1949), 3125AC Middelburg (1973), 3124BD Carlton (2001)



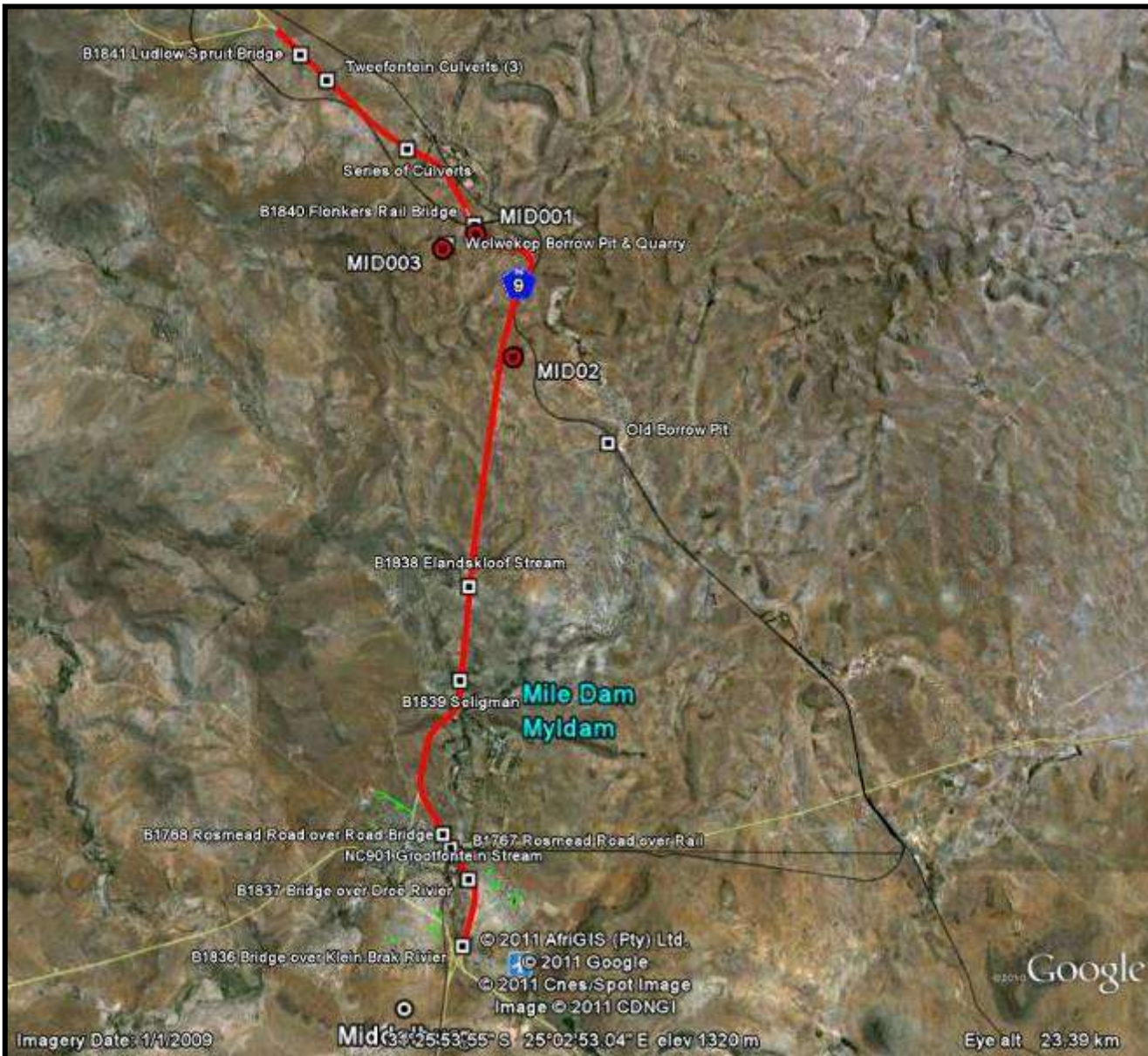
## FIELD SURVEY

The list of sites recorded during the survey are summarised in Table 1. Figure 5 shows the locality of these sites.

**TABLE 1: SITE DESCRIPTION FOR THE ROAD REHABILITATION**

Name	Description	South	East	Will be affected	Mitigation required
MID01	LSA scatter	S31 22 19.3	E25 01 22.7	Possible	Sample
MID02	LSA scatter	S31 23 46.9	E25 01 53.8	Possible	Sample
PAL1	Palaeontologically Sensitive	S31 21 31.6	E25 00 49.0	Possible	PIA
PAL2	Palaeontologically Sensitive	S31 22 23.5	E25 01 30.7	Yes	PIA
Rosmead Road Bridge	Bridge	S31 29 37.7	E25 01 00.7	Yes	None
Klein Brak Rivier Bridge	Bridge	S31 30 48.0	E25 01 10.6	Yes	None
Droë Rivier Bridge	Bridge	S31 30 00.2	E25 01 15.8	Yes	None
Elandskloof Stream Bridge	Bridge	S31 26 30.5	E25 01 16.3	Yes	None
Seligman Bridge	Bridge	S31 27 37.6	E25 01 08.7	Yes	Architectural input
Flonkers Rail Bridge	Bridge	S31 22 13.3	E25 01 21.3	Yes	None
Ludlow Spruit Bridge	Bridge	S31 20 14.6	E24 59 00.2	Yes	Architectural input
Culverts 1	Culvert	S31 20 30.9	E24 59 18.9	Yes	None
Culverts 2	Culvert	S31 21 19.7	E25 00 25.4	Yes	None
Grootfontein Stream Culvert	Bridge	S31 29 27.8	E25 00 54.3	Yes	None
Old Borrow Pit		S31 24 48.0	E25 03 12.6	Possible	PIA and/or sampling
Tweefontein Culverts	Culvert	S31 20 30.9	E24 59 18.9	Yes	None
Wolwekop Quarry	Quarry/LSA	S31 22 28.3	E25 00 57.0	Possible	None

FIG. 5: LOCATIONS OF RECORDED SITES (MAP 1)



## **MID01**

MID01 is located to the south of the Flonkers Rail Bridge. The site occurs on the edge of a small rock outcrop overlooking a stream (fig. 6). More artefacts may occur further uphill. No artefacts were observed on the adjacent hills.

The site consists of a scatter of stone tools mostly made on hornfels. The tools consist of:

- Flakes
- Utilised flakes
- Cores
- One large scraper (probably duckbill scraper) (fig. 7).
- chunks

The site is a standard Late Stone Age site, however the occurrence of a duckbilled scraper allows for a tentative date of 12000 - 7000 years ago (See Deacon 1982; Parkington 1986, Mitchel 1989; Bosman 2005). This would relate to the old 'Smithfield Culture', the Oakhurst Complex or the Albany Complex. A more detailed sample study would need to be undertaken to determine the age of the site.

A proposed road deviation will directly affect the site (fig. 8).

Significance: The site is of low significance as it is a scatter of stone tools in an open area. However, the occurrence of the scraper and utilised flakes makes the site of low-medium significance, especially when the impact will occur over the entire scatter.

Mitigation: The site should be systematically sampled

FIG.6 LOCATION OF MID01



FIG. 7 LARGE END SCRAPER<sup>2</sup>



<sup>2</sup> Length = 10cm

FIG. 8: POSSIBLE ROAD REROUTE AND LCOATION OF MID01



## MID02

MID02 is located above the old borrow pit (fig. 9). The site consists of scatters of LSA tools (fig. 10), of which all appear to be on hornfels. The tools occur mostly on the top of the hill and along the gentle slope to the borrow pit. A few tools were observed along the track to the borrow pit.

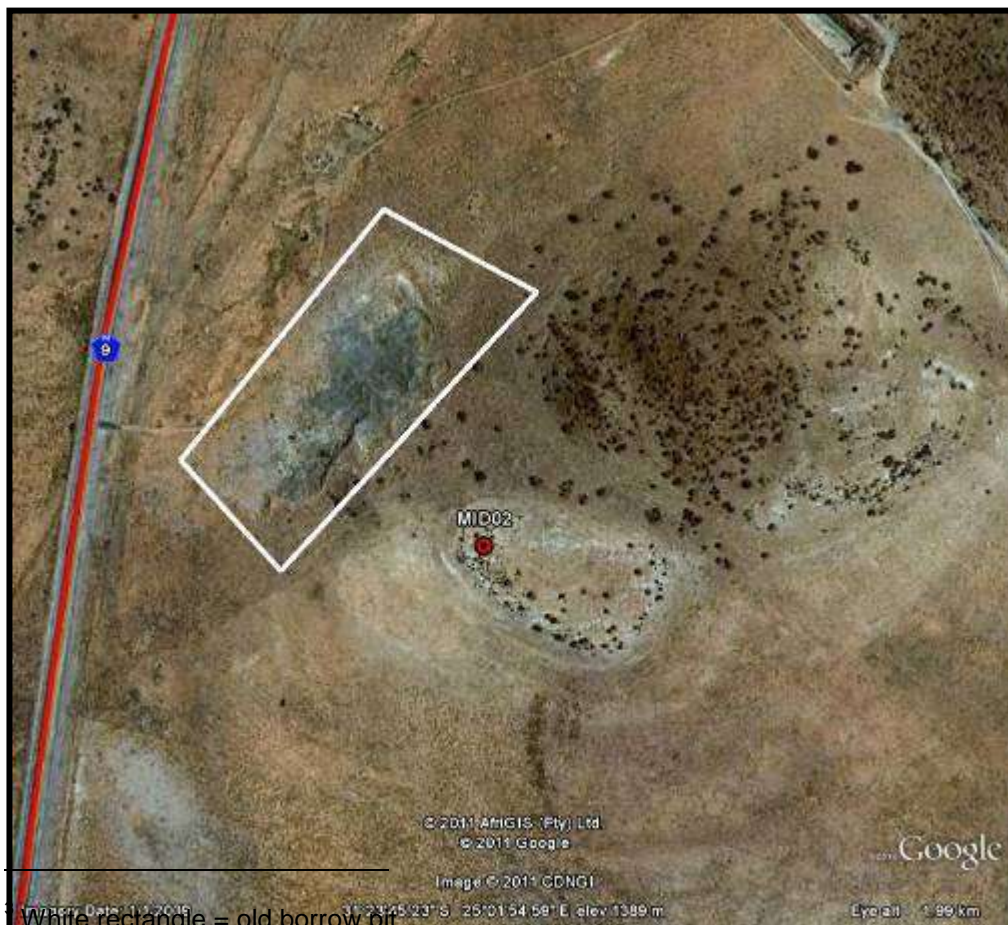
The tools consist of:

- Flakes
- Utilised flakes
- Small end scraper
- Adze
- Irregular cores

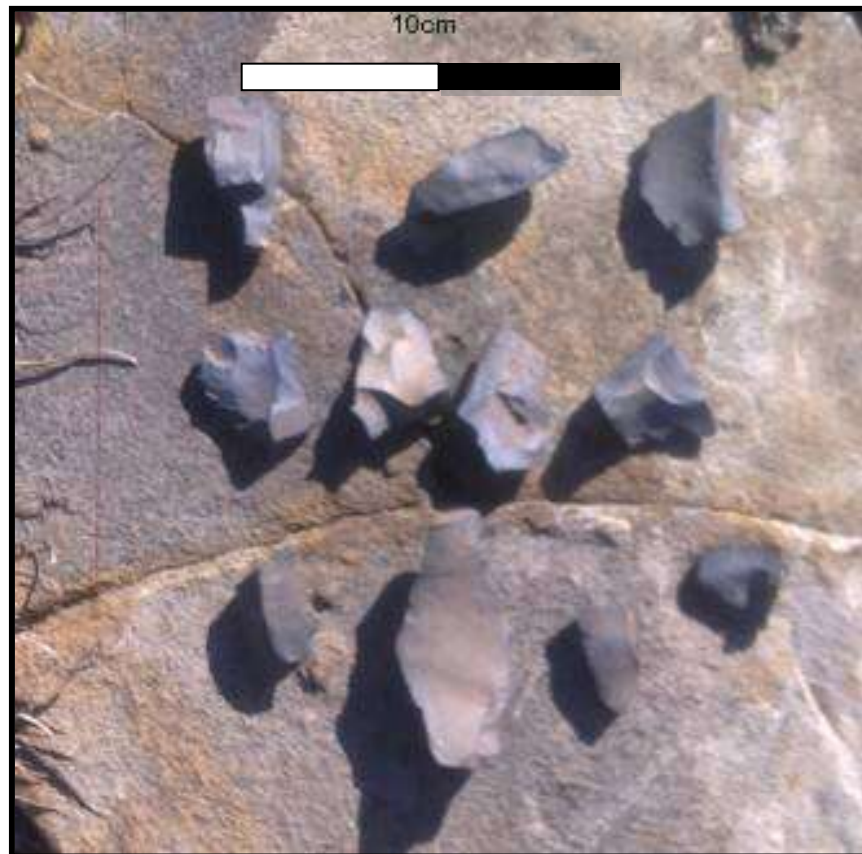
Significance: The site is of low significance. However, the scatter is over a large area and may have research value.

Mitigation: If the area is to be disturbed, the stone tools should be systematically sampled.

**FIG. 9: LOCATION OF MID02 IN REACTION TO THE OLD BORROW PIT<sup>3</sup>**



**FIG. 10: STONE TOOLS FROM MID02**



**PAL01**

PAL01 occurs within the road reserve and is likely to be affected by the increased road width (fig. 11). The site consists of several mudstone layers and is a palaeontological sensitive area.

Significance: The significance needs to be assessed by a palaeontologist.

Mitigation: to be determined

**PAL2**

PAL02 occurs within the road reserve and is likely to be affected by the increased road width and/or road re-alignment (fig. 12). The site consists of several mudstone layers and is a palaeontologically sensitive area.

Significance: The significance needs to be assessed by a palaeontologist.

Mitigation: to be determined

**FIG. 11: LOCATION OF PAL01**





**FIG. 11: LOCATION OF PAL02**



### **Rosmead Road over Rail Bridge**

Rosmead Road Bridge is a rail underpass bridge that was built in 1961<sup>4</sup>. It consists of a single 6.1m long simply supported span on closed abutments. The bridge appeared to be in a fair condition. There were no major defects visible.

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<sup>4</sup> All comments regarding the age and status of the bridges are directly quoted from the Arcus Gibb Final Inspection Report.

Significance: Significance for this bridge will require specialist architect input

Mitigation: The bridge is not older than 60 years and thus does not require a demolition permit from SAHRA if it is to be damaged or altered.

### **Rosmead Road Grade Separation Bridge**

The road underpass bridge was built in 1961. It is 33.2m long and consists of 3 continuous spans, 8.3m, 16.6m and 8.3m, supported on wall-type piers and spill-through abutments (fig. 12).

Significance: Significance for this bridge will require specialist architect input

Mitigation: The bridge is not older than 60 years and thus does not require a demolition permit from SAHRA if it is to be damaged or altered.

**FIG. 12: ROSMEAD ROAD GRADE SEPARATION BRIDGE**



### **Klein Brak Rivier Bridge**

The river bridge was built in 1965. It is 72m long and consists of 5 x 14.4m long simply supported spans on closed abutments and wall-type piers (fig. 13). The bridge appeared to be in a fair condition. There were no major defects visible.

Significance: Significance for this bridge will require specialist architect input

Mitigation: The bridge is not older than 60 years and thus does not require a demolition permit from SAHRA if it is to be damaged or altered.

**FIG. 13: KLEIN BRAK RIVER BRIDGE**



### **Droë Rivier Bridge**

The river (and combined underpass) bridge was built in 1964. It is 29m long and consists of 2 x 14.5m long simply supported spans on closed abutments and wall-type piers (fig. 14). The bridge appeared to be in a fair condition. There were no major defects visible apart from one damaged guardrail post.

A cemetery, older than 60 years, occurs ~35m to the west of the bridge. The cemetery is clearly demarcated and fenced.

Significance: Significance for this bridge will require specialist architect input

Mitigation: The bridge is not older than 60 years and thus does not require a demolition permit from SAHRA if it is to be damaged or altered.

**FIG. 14: DROË RIVER BRIDGE**



### **Elandskloof Stream Bridge**

The river bridge was built probably originally in 1953 or earlier and subsequently lengthened (fig. 15). It is 38.9m long and consists of 9 spans, 6 x 4.9m length of simply supported and 3 x 3.2m length continuous, on closed abutments and wall-type piers. It appears that the 3 x 3.2m spans had been built originally and that the bridge had later been lengthened by the addition of the 6 x 4.9m spans. There are some small random cracks in the deck soffits together with one large concrete spall at the edge of the soffit of the first deck due to rusted reinforcement. The fixing of the parapets to the sides of the deck slabs has loosened in places.

Significance: Significance for this bridge will require specialist architect input

Mitigation: The bridge is 58 years old and thus technically does not require a demolition permit from SAHRA if it is to be damaged or altered. SAHRA Built Environment will need to state if a permit is required.

**FIG. 15: ELANDSKLOOF STREAM BRIDGE**



### Seligman Bridge

The river bridge was built in 1941. It is 21.3m long and consists of 4 x 5.3m spans with two 10.6m continuous deck sections on closed abutments and wall-type piers (fig. 16). The parapets have suffered impact damage and some of the post connections are loose. The bridge deck soffits have widespread cracking, longitudinal and transverse.

Significance: Significance for this bridge will require specialist architect input

Mitigation: The bridge is older than 60 years and thus requires a demolition permit from SAHRA if it is to be damaged or altered.

**FIG. 16 SELIGMAN BRIDGE: EAST & WEST VIEW**



### **Flonkers Rail Bridge**

The rail overpass bridge was built 1959 (fig. 17). It consists of a single 14.6m long simply supported span on closed abutments (extended for a future rail track). The soffit of the bottom slab is substantially cracked and spalled due to rusted reinforcement and impact damage. Spalling of concrete is also visible on the sides of the upright section where reinforcement has rusted.

Significance: Significance for this bridge will require specialist architect input

Mitigation: The bridge is not older than 60 years and thus does not require a demolition permit from SAHRA if it is to be damaged or altered.

**FIG. 17: FLONKERS RAIL BRIDGE**



### Ludlow Spruit Bridge

The river bridge was built in 1940. It is 24.4m long and consists of 2 x 12.2m simply supported spans, measured along the length of the road, 6.1m perpendicular to the abutments, on closed abutments and a wall-type pier (fig. 18). The bridge has steel posts/railings with double guardrails, attached to the outside of the headwalls. Some minor cracking is evident in the abutment walls and deck soffits. Embankment erosion is evident.

Significance: Significance for this bridge will require specialist architect input

Mitigation: The bridge is older than 60 years and thus requires a demolition permit from SAHRA if it is to be damaged or altered.

**FIG. 18: LUDLOW SPRUIT BRIDGE: EAST & WEST VIEW**





## **Culverts**

All of the culverts appear to have been built in 1993. They are of various lengths and sizes.

Significance: Significance for the culverts will require specialist architect input

Mitigation: The culverts are not older than 60 years and thus do not require a demolition permit from SAHRA if it is to be damaged or altered.

## **Old Borrow Pit**

This borrow pit is located near MID02. The borrow pit has been used before and may be extended (fig. 19). The access road to the borrow pit has a few isolated stone tools. The deposit will need to be assessed by a palaeontologist.

Significance: The borrow pit has no heritage significance.

Mitigation: No mitigation is currently required, unless the borrow pit is extended. If MID02 is affected then some sampling should be required.

## **Wolwekop Quarry (MID03)**

The Wolwekop quarry has been in use for sometime although it is now abandoned (fig. 20). All of the buildings indicate that the quarry is not over 60 years in age. The entire hill has been severely disturbed. Three Late Stone Age stone tools were observed on the hill. Thus the area would have been an archaeological site in the past (hence it being called MID03). Only this specific hill was surveyed (fig. 21). If the quarry extends beyond this hill, then it will need to be surveyed.

Significance: The site is of low significance.

Mitigation: No further mitigation is required.

**FIG. 19: OLD BORROW PIT**



### **Wolwekop Quarry (MID03)**

The Wolwekop quarry has been in use for sometime although it is now abandoned (fig. 20). All of the buildings indicate that the quarry is not over 60 years in age. The entire hill has been severely disturbed. Three Late Stone Age stone tools were observed on the hill. Thus the area would have been an archaeological site in the past (hence it being called MID03). Only this specific hill was surveyed (fig. 21). If the quarry extends beyond this hill, then it will need to be surveyed.

Significance: The site is of low significance.

Mitigation: No further mitigation is required.

**FIG. 20: WOLWEKOP QUARRY**



**FIG. 21: SURVEYED AREA OF WOLWEKOP QUARRY**



## MANAGEMENT PLAN

Four sites are affected that are protected by the National Heritage Resources Act (NHRA): MID01, MID02, Ludlow Spruit Bridge, and the Seligman Bridge.

The two Late Stone Age sites will need to be sampled if affected. SANRAL will also need to apply for a permit to destroy or damage these sites.

The two bridges, which are older than 60 years, are automatically protected by the NHRA. If these bridges are to be modified in any manner, or destroyed and rebuilt, then a permit will be required. SANRAL will need to apply to SAHRA Built Environment department for a specific permit.

## CONCLUSION

A Phase 1 heritage impact assessment was undertaken for a section of the N9 road rehabilitation program. The road occurs mostly to the north of Middelburg, Eastern Cape. The road will be widened in places, and several culverts and bridges will be replaced and/or refurbished. One section of the road may be realigned for about 1km. One quarry and one borrow pit was also assessed.

The heritage survey recorded three archaeological sites, noted two areas of palaeontological sensitivity, and two bridges that are over 60 years in age. The archaeological sites date to the Late Stone Age and are open scatters. Two of these scatters have good examples of stone tools and would need to be sampled if impacted by the road. SANRAL will need to apply for a permit for each of these sites if they affected.

The palaeontological survey will occur as a separate report, however sensitive areas were noted during the survey and I suggested that a Phase 1 palaeontological survey is undertaken, as opposed to a Phase 0.

Two bridges are older than 60 years and thus need SAHRA's Built Environment approval to be destroyed. One bridge is 58 years old and is technically not protected; however, I believe this should be submitted for approval as well.

## REFERENCES

- Bousman, C.B., 2005 *Journal of Anthropological Archaeology* **24**: 193 – 226
- Deacon, J. 1982. *The Later Stone Age in the Southern Cape*, South Africa. PhD Thesis, UCT
- Humphreys, A.J.B and Thackeray, A.I. 1983. Ghaap and Ghariep: later Stone Age Studies in the Northern Cape. *The South African Archaeological Society Monograph Series 2*. Cape Town
- Nel, J. 2008. Transnet Freight Line EIA, Eastern Cape and Northern Cape. Prepared for Environmental Resource Management Southern Africa.
- Mitchell, P.J. 1989. Archaeology in Lesotho. *The Digging Stick Volume 6*
- Parkington, J.E.P., 1986. In GN Bailey (Ed) **Stone-Age prehistory: studies in memory of Charles McBurney**. Cambridge: Cambridge University Press.

**APPENDIX A  
SITE RECORD FOMS**

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM**



**SITE CATEGORY:** (X where applicable)

Stone Age: X (LSA)

Iron Age:

Iron Age

Historical Period:

Recorder's Site No.: MID01

Official Name: Wolwekop Groef 1572

Local Name: N/A

Map Sheet: 3125AC Middelburg

GPS reading: 31°22'19.30"S 25° 1'22.70"E

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From Middelburg travel north along the N9. After ~ 10km, the road dos a sharp turn to the left. Stop at the 1<sup>st</sup> road entrance on left, just before the Fonkers Rail Bridge. The site occurs from the fence down to the small stream.

**SITE DESCRIPTION:**

Type of Site: Open

Merits conservation: yes

Threats: Yes:

What threats: Possible road deviation

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 09/08/2011

Owner: private

**Description of site and artefactual content.**

The site consists of a scatter of stone tools mostly made on hornfels. The tools consist of:

- Flakes
- Utilised flakes
- Cores
- 1 large scraper (probably duckbill scraper)
- chunks

**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM**



**SITE CATEGORY:** (X where applicable)

Stone Age:

Iron Age:

Historical Period:

Recorder's Site No.: MID02

Official Name: Wolwekop Groef 1572

Local Name: N/A

Map Sheet: 3125AC Middelburg

GPS reading: 31°23'46.90"S 25° 1'53.80"E

**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From Middelburg, travel north along the N9 for ~8km (just before the bend in the road and where railway comes close to the road on the right hand side. Site occurs on the small hill above the old borrow pit.

**SITE DESCRIPTION:**

Type of Site: Open Scatter

Merits conservation: yes - sample

Threats: Yes

What threats: Possible extension of borrow pit

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 10/08/2011

**Description of site and artefactual content.**

The site consists of scatters of LSA tools, of which all appear to be on hornfels. The tools occur mostly on the top of the hill and along the gentle slope to the borrow pit. A few tools were observed along the track to the borrow pit.

The tools consist of:

- Flakes
- Utilised flakes
- Small end scraper
- Adze
- Irregular cores



**UMLANDO ARCHAEOLOGICAL SITE RECORD FORM**

**SITE CATEGORY:** (X where applicable)

Stone Age:

Iron Age:

Historical Period:

Recorder's Site No.: MID03

Official Name: Wolwekop Groef 1572

Local Name: N/A

Map Sheet: 3125AC Middelburg

GPS reading: 31°22'30.48"S 25° 0'55.37"E



**DIRECTIONS TO SITE: SKETCH OR DESCRIPTION.**

From Middelburg travel north along the N9. After ~10km the road dos a sharp turn to the left. Stop at the 1<sup>st</sup> road entrance on left, just before the Fonkers Rail Bridge. There is a gate for the Wolwekop Quarry. Follow the road to the quarry. The site is where this hill used to occur.

**SITE DESCRIPTION:**

Type of Site: Open

Merits conservation: No

Threats: Yes

What threats: Quarry

**RECORDING:**

Graphic record: Yes

Digital pictures: x

Tracings :

Re-drawings:

Recorder/Informant: Name: Gavin and Louise Anderson

Address: PO Box 102532, Meerensee, 3901

Date: 10/08/2011

**Description of site and artefactual content.**

Site consists of a few LSA flakes. The quarry has removed most of the site. The flakes are on hornfels and quartzite.