

# ARCHAEOLOGICAL IMPACT ASSESSMENT THE PROPOSED KUBOES WASTE SITE NORTHERN CAPE

Prepared for:

**Bvi Consulting Engineers**

Att: Mr Winston Cloete

P O Box 683

Springbok

8240

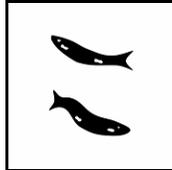
Tel: 027 712 9990/7

Email: [Winston@bvinam.co.za](mailto:Winston@bvinam.co.za)

On behalf of:

**Richtersveld Municipality**

By



Jonathan Kaplan

**Agency for Cultural Resource Management**

5 Stuart Road

Rondebosch

7306

Ph/Fax: 021 685 7589

Cellular: 082 321 0172

Email: [acrm@wcaces.co.za](mailto:acrm@wcaces.co.za)

**AUGUST  
2011**

## **Executive summary**

The Agency for Cultural Resource Management (ACRM) was commissioned by Bvi Consulting Engineers to conduct an Archaeological Impact Assessment (AIA) for the proposed construction of a waste refuse facility at Kuboes in the Richtersveld region of the Northern Cape.

Kuboes is a small village located about 55 kms north east of Alexander Bay and about 135 kms from Port Nolloth on the Namaqualand coast.

The proposed 5.9 ha site for the waste facility is located on the left hand side of the road, about 1 km before the village.

In terms of Section 38 (1) (c) of the National Heritage Resources Act 1999 (Act 25 of 1999), an Archaeological Impact Assessment (AIA) of the proposed project is required if the footprint area of the proposed development is more than 5000 m<sup>2</sup>.

The aim of the archaeological study is to locate and map heritage sites or remains that may potentially be impacted by the proposed development, to assess the significance of the potential impacts and to propose measures to mitigate any impacts.

A field study took place in which the following observations were made:

Twenty-four stone implements were documented in the footprint area for the proposed waste site. The tools are dominated by Later Stone Age flakes and chunks, but several Middle Stone Age flakes, and one Early Stone Age bifacial handaxe were also found.

Unlike at Sandrift (about 20 kms further to the north), where the raw material known as chalcedony was available (washing down the Orange River from higher levels upstream), no chalcedony tools were found on the proposed site and all the implements are in locally available quartzite and quartz. No formal tools were found, but one miscellaneous upper grindstone was recorded. No organic remains such as pottery, bone or ostrich eggshell was found. The tools are spread very randomly and unevenly over the surrounding landscape. The affected environment is characterised by extensive sheet wash and erosion where most of the top soils have washed away, creating several drainage channels and deeper dongas.

The small numbers and the isolated and disturbed context in which they were found mean that the remains have been rated as having low archaeological significance.

The AIA has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to proposed development activities.

With regard to the proposed construction of a waste refuse facility at Kuboes, the following recommendations are made:

1. The project is deemed to be viable.
2. No archaeological mitigation is required.
3. Should any unmarked human remains, or features such as buried ostrich eggshell caches be exposed or uncovered during excavations and bulk earthworks these must immediately be reported to the South African Heritage Resources Agency (Ms Mariagrazia Galimberti 021 4624502). Burials must not be disturbed until inspected by the archaeologist and will have to be removed by an archaeologist under a permit issued by SAHRA.

## Table of Contents

|  | Page |
|--|------|
| Executive summary                                | 1    |
| 1. INTRODUCTION                                  | 4    |
| 2. TERMS OF REFERENCE                            | 6    |
| 3. DESCRIPTION OF THE AFFECTED ENVIRONMENT       | 6    |
| 4. STUDY APPROACH                                | 9    |
| 4.1 Method of survey                             | 9    |
| 4.2 Constraints and limitations                  | 9    |
| 4.3 Identification of potential risks            | 9    |
| 4.4 Results of the desk top study                | 9    |
| 5. RESULTS OF THE SURVEY                         | 10   |
| 5.1 The proposed waste site                      | 10   |
| 5.1.1 Significance of the archaeological remains | 10   |
| 5.2 The proposed access road                     | 10   |
| 6. PREDICTED IMPACTS                             | 12   |
| 7. CONCLUSION                                    | 12   |
| 8. RECOMMENDATIONS                               | 12   |
| 9. REFERENCES                                    | 13   |
| Appendix   |      |

## 1. INTRODUCTION

Bvi Consulting Engineers, on behalf of the Richtersveld Municipality, commissioned the Agency for Cultural Resource Management (ACRM) to conduct an Archaeological Impact Assessment (AIA) for the proposed construction of a waste refuse facility at Kuboes in the Richtersveld region of the Northern Cape (Figures 1 & 2).

The proposed project entails the following:

- Construction of a waste refuse facility
- Installation of security fencing around the facility
- Construction of a  $\pm 0.2$  km long gravel access road

The footprint area for the proposed waste site is 5.9 ha.

The proposed activity is to be located on Portion 4 of Farm Richtersveld 11, Namaqualand.

Trenches (4m - 5m wide and 2m - 3m deep) will be excavated in which general waste will be disposed. After a trench has reached its capacity it will be closed off by covering it with a final layer of soil and a new trench will be opened up.

In terms of Section 38 (1) (c) of the National Heritage Resources Act 1999 (Act 25 of 1999), an AIA of the proposed development is required if the development footprint area is more than 5000 m<sup>2</sup>. This is to determine if the area contains heritage sites and to take the necessary steps to ensure that they are not damaged or destroyed during development.

ACRM has been instructed to undertake a baseline study in order to locate and map archaeological sites or remains that may potentially be impacted by the proposed development, to assess the significance of the potential impacts and to propose measures to mitigate any impacts.

The AIA forms part of the Environmental Basic Assessment process that is being undertaken by independent environmental consultants, Enviro-Logic cc.



Figure 1. Locality Map: Regional context

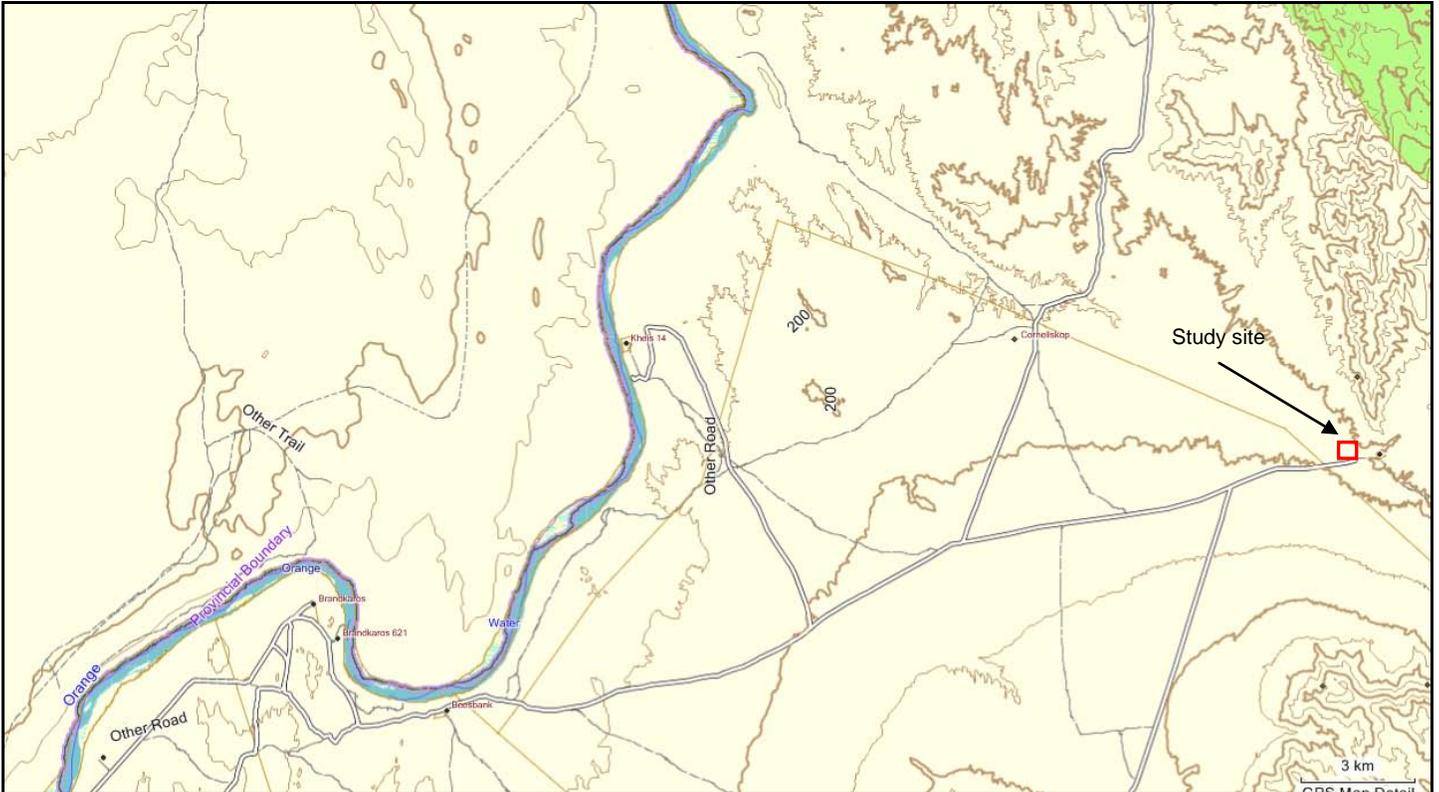


Figure 2. Locality Map: Local context

## **2. TERMS OF REFERENCE**

The terms of reference for the archaeological study were to:

- Determine whether there are likely to be any archaeological resources that may be impacted by the proposed construction of the waste site;
- To identify and map archaeological resources that may be impacted by the proposed development;
- To assess the sensitivity and conservation significance of archaeological resources affected by the proposed development;
- To assess the significance of any impacts resulting from the proposed development, and
- To identify measures to protect and maintain any valuable archaeological sites that may be impacted by the proposed development

## **3. DESCRIPTION OF THE AFFECTED ENVIRONMENT**

An aerial photograph indicating the site layout for the proposed Kuboes waste facility is illustrated in Figure 3.

Kuboes is a small Nama village located 55 kms north east of Alexander Bay and about 135 kms from Port Nolloth on the Namaqualand coast. The proposed site for the waste facility is located on the left hand side of the road, about 1 km before the village.

The proposed waste refuse site is located directly alongside the footprint area for the proposed Kuboes oxidation ponds for which an AIA has also been done (Kaplan2011a).

The proposed site comprises a series of heavily eroded and sheet washed terraces cut through by several small streams and deeper drainage channels and dongas (Figures 4-6).

Most of the top soil on the proposed site has been washed away exposing hard compact and eroded surfaces. Sporadic vegetation and succulent ground cover occurs in places. There are no significant landscape features on the proposed site. Surrounding land use is mainly marginal stock grazing.





Figure 4. View of the site facing north east



Figure 5. View of the site facing north east



Figure 6. View of the site facing south west.

## **4. STUDY APPROACH**

### **4.1 Method of survey**

A survey of the proposed footprint area for the waste refuse site was undertaken on the 3<sup>rd</sup> August, 2011 and a number of archaeological observations were made.

A desk top study was also done.

All archaeological remains documented during the study have been mapped using a hand-held Garmin Oregon 300 GPS unit set on the map datum WGS 84.

### **4.2 Constraints and limitations**

There were no constraints or limitations associated with the study. Archaeological visibility over the area was very good.

### **4.3 Identification of potential risks**

There are no archaeological risks associated with proposed construction of the Kuboes waste site.

It is very unlikely, but unmarked human remains and ostrich eggshell caches may be uncovered or exposed during excavations of the waste trenches.

### **4.4 Results of the desk top study**

The Richtersveld is a vast and arid region in the Northern Cape and because of its remoteness very little archaeological research or work has been done in the area. Most of the work that has been done has been in, or near the floodplain of the Orange River, where scatters of Early, Middle and Later Stone Age tools have been documented at Koeskop (west of Sandrift), Bloeddrift, Nxodap, Jakkalsberg and Sendelingsdrift (Halkett 1999). Petroglyphs (or rock engravings) have also been recorded at Bloeddrift and Sendelingsdrift (Halkett 1999). Some of the engravings depict aspects of colonial life while others are more enigmatic and probably date to the last 2000 years. Dispersed scatters of Early, Middle and Later Stone Age tools have recently been documented at Sandrift (Kaplan 2011b, c in prep).

Archaeological excavations have also been done on a 300 year old Herder (or pastoralist) campsite near Bloeddrift about 20 kms further to the north east (from Sandrift) (Smith *et al* 2001). Spatially discreet hearths were excavated generating large numbers of quartz and other stone pieces, bone chips, pottery, ostrich eggshell fragments and beads. Similar spatial features and cultural debris were documented further north at Jakkalsberg near Sendelingsdrift (Wadley 1997).

Jakkalsberg N and Jakkalsberg L (at Sendelingsdrift) are two LSA sites with large assemblages of lithics and bead manufacturing debris, including engraved ostrich eggshells and flask mouth fragments that have been dated to about 3500 years ago (Orton & Halkett 2010). The assemblages at Jakkalsberg are interesting in that they include types of tools uncommon in South Africa, but are more frequently found through much of central and southern Africa, such as triangles, trapezia and denticulates.

At Kuboes, low density scatters of mainly Later Stone Age implements have been documented alongside the proposed site, in an area that has been identified for a proposed oxidation pond (Kaplan 2011a). Halkett (1999) also reports that rock engravings have been documented on dolerite slabs in the floodplain of the Annis River which flows through the village. Several traditional graves (stone piled cairns) occur alongside the road.

## **5. RESULTS OF THE SURVEY**

A Google aerial photograph indicating the waypoints of archaeological occurrences documented during the study is illustrated in Figures 12 and 13 in the Appendix.

A spreadsheet of the waypoints and description of the archaeological finds is presented in Table 1 in the Appendix.

### **5.1 The proposed waste site**

18 archaeological occurrences, numbering 24 stone implements were documented in the footprint area for the proposed waste site (refer to Table 1 in the Appendix).

The tools are dominated by Later Stone Age elements but at least three Middle Stone Age flakes (244, 254 & 255) and an Early Stone Age handaxe (246) was also found. The handaxe was found half buried in a donga/drainage channel. Most of the tools comprise unmodified flakes and chunks, but one large quartzite core (243) and one possible miscellaneous upper grindstone (240) was also found. Most of the tools were found on the heavily eroded and sheet washed slopes where the top soils have been washed away. A very thin scatter (251) of flakes, chunks and a smashed cobble were found on these sheet washed slopes. These remains are no longer in-situ.

Unlike at Sandrift (about 20 kms further to the north), where chalcedony was available (washing down the Orange River from higher levels upstream), no chalcedony tools were found on the footprint area for the proposed Kuboes waste site and the majority of the tools are in quartzite, with a few implements also in quartz.

No organic remains such as pottery, bone or ostrich eggshell was found.

A collection of some of the tools documented during the study and the context in which they were found is illustrated in Figures 7-11.

#### **5.1.1 Significance of the archaeological remains**

The small numbers and the isolated and disturbed context in which they were found mean that the remains have been rated as having low archaeological significance.

### **5.2 The proposed access road**

No archaeological remains were found in the proposed 0.2 km long gravel access road.



Figure 7. 243. Scale is in cm



Figure 10. Context in which the finds were found



Figure 8. 246. Scale is in cm



Figure 11. Arrow indicates upper grindstone (240) and the context in which the find was made



Figure 9. 254. Scale is in cm

## **6. PREDICTED IMPACTS**

The impact of the proposed construction of the Kuboes waste site on important archaeological remains is rated as being low.

## **7. CONCLUSION**

The Archaeological Impact Assessment has identified no significant impacts to pre-colonial archaeological material that will need to be mitigated prior to proposed development activities.

## **8. RECOMMENDATIONS**

With regard to the proposed construction of a waste refuse site at Kuboes in the Northern Cape, the following recommendations are made:

1. The project is deemed to be viable.
2. No archaeological mitigation is required.
3. Should any unmarked human remains, or features such as buried ostrich eggshell caches be exposed or uncovered during excavations and bulk earthworks these must immediately be reported to the South African Heritage Resources Agency (Ms Mariagrazia Galimberti 021 4624502). Burials must not be removed until inspected by the archaeologist and will have to be removed by an archaeologist under a permit issued by SAHRA.

## 9. REFERENCES

Halkett, D. 1999. A Phase 1 Archaeological Impact Assessment of heritage resources in the Trans Hex Diamond Concession, Richtersveld. Report prepared for Trans Hex Group Ltd. Archaeology Contracts Office, University of Cape Town.

Kaplan, J. 2011a. Archaeological Impact Assessment proposed Kuboes oxidation ponds and sewerage pipeline. Report prepared for Bvi Consulting Engineers. ACRM Cape Town.

Kaplan, J. 2011b in prep. Archaeological Impact Assessment proposed Sandrift waste refuse site, Northern Cape. Report prepared for Bvi Consulting Engineers. ACRM Cape Town.

Kaplan, J. 2011c. Archaeological Impact Assessment proposed Sandrift oxidation ponds and sewer pipeline, Northern Cape. Report prepared for Bvi Consulting Engineers. ACRM Cape Town.

Orton, J. & Halkett, D. 2010. Stone tools, beads and a river: Two Holocene Microlithic sites at Jakkalsberg in the northwestern Richtersveld, Northern Cape, South Africa. *South African Archaeological Bulletin* 65:13-25.

Smith, A.B., Halkett, D., Hart, T. & Mutti, B. 2001. Spatial patterning, cultural identity and site integrity on open sites: evidence from Bloeddrift 23, a pre-colonial herder camp in the Richtersveld, Northern Cape Province, South Africa. *South African Archaeological Bulletin* 56:23-33

Webley, L. 1997. Jakkalsberg A and B: the cultural material from two pastoralist sites in the Richtersveld, Northern Cape. *South African Field Archaeology* 6:3-19.

## Appendix

| Name of site | Farm Name                                      | Lat/Long              | Finds   |
|--------------|--|-----------------------|---|
|              | Portion 4 of Farm Richtersveld 11, Namaqualand |                       |   |
| 240          |  | S28 26.825 E16 58.558 | Possible upper <b>grindstone</b> (miscellaneous)  |
| 241          |  | S28 26.770 E16 58.590 | Quartzite chunk   |
| 242          |  | S28 26.766 E16 58.602 | Small weathered quartzite chunk   |
| 243          |  | S28 26.829 E16 58.559 | Quartzite <b>core</b>   |
| 244          |  | S28 26.797 E16 58.595 | Weathered <b>MSA</b> triangular quartzite flake   |
| 245          |  | S28 26.789 E16 58.601 | Large quartzite flake in donga  |
| 246          |  | S28 26.781 E16 58.607 | <b>ESA flat bifacial handaxe</b> in drainage ditch  |
| 247          |  | S28 26.817 E16 58.578 | Weathered quartzite flake   |
| 248          |  | S28 26.837 E16 58.584 | X 2 flaked quartzite chunks   |
| 249          |  | S28 26.830 E16 58.631 | Quartzite flake   |
| 250          |  | S28 26.817 E16 58.668 | Quartzite flake   |
| 251          |  | S28 26.793 E16 58.673 | X 2 quartzite flakes, 2 quartz flakes, 1 smashed/flaked quartzite cobble on patch of compact sheet washed red sands |
| 252          |  | S28 26.834 E16 58.604 | X 3 quartzite flakes in drainage channel  |
| 253          |  | S28 26.837 E16 58.583 | Small quartzite flake and chunk   |
| 254          |  | S28 26.818 E16 58.597 | <b>MSA</b> utilized quartzite flake   |
| 255          |  | S28 26.818 E16 58.597 | <b>MSA</b> quartzite flake  |
| 256          |  | S28 26.775 E16 58.629 | Quartzite chunk   |
| 257          |  | S28 26.769 E16 58.631 | Quartzite chunk   |

Table 1. Spreadsheet of waypoints and description of archaeological finds: Proposed Kuboes oxidation ponds

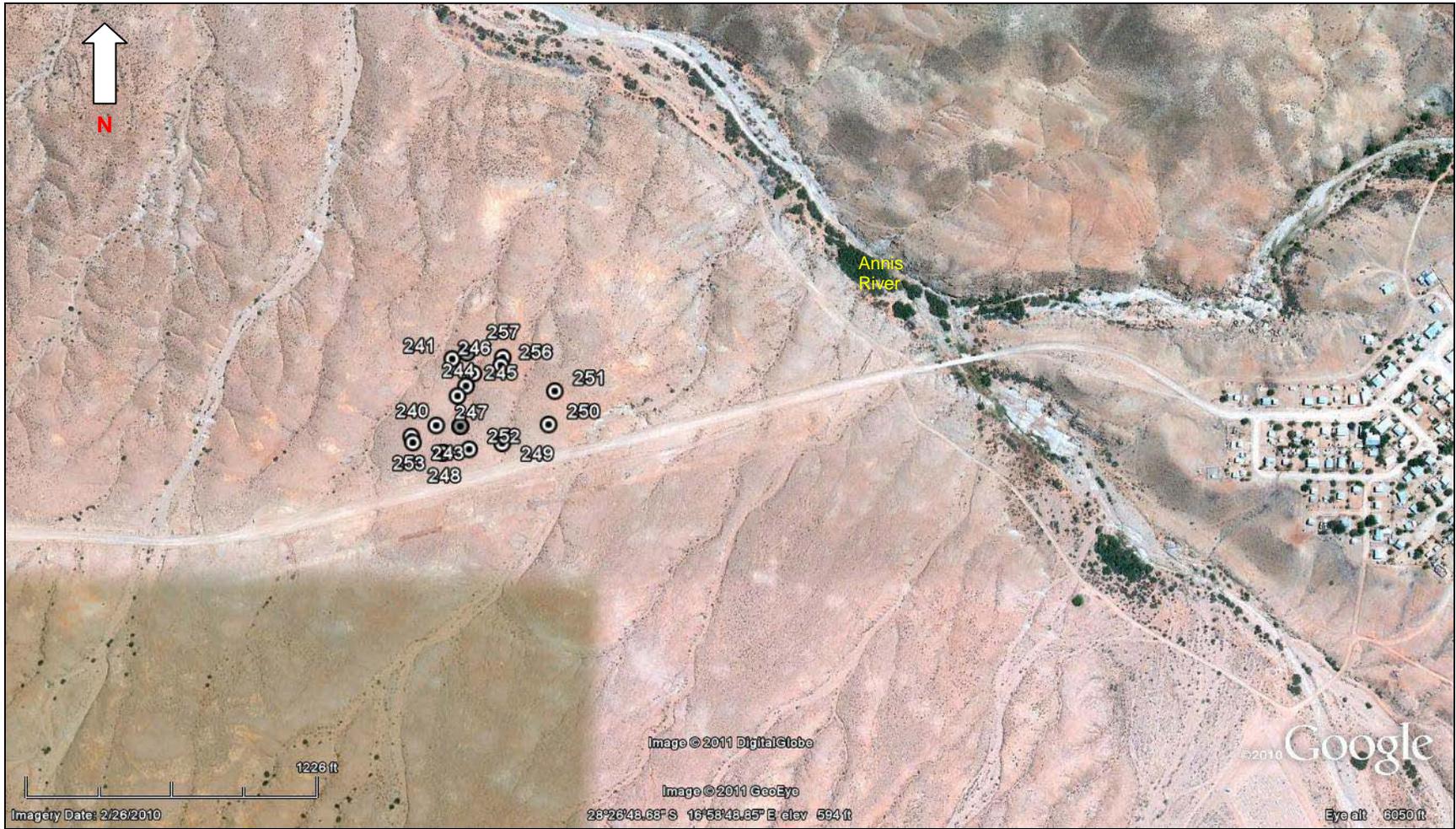


Figure 12. Waypoints of archaeological finds

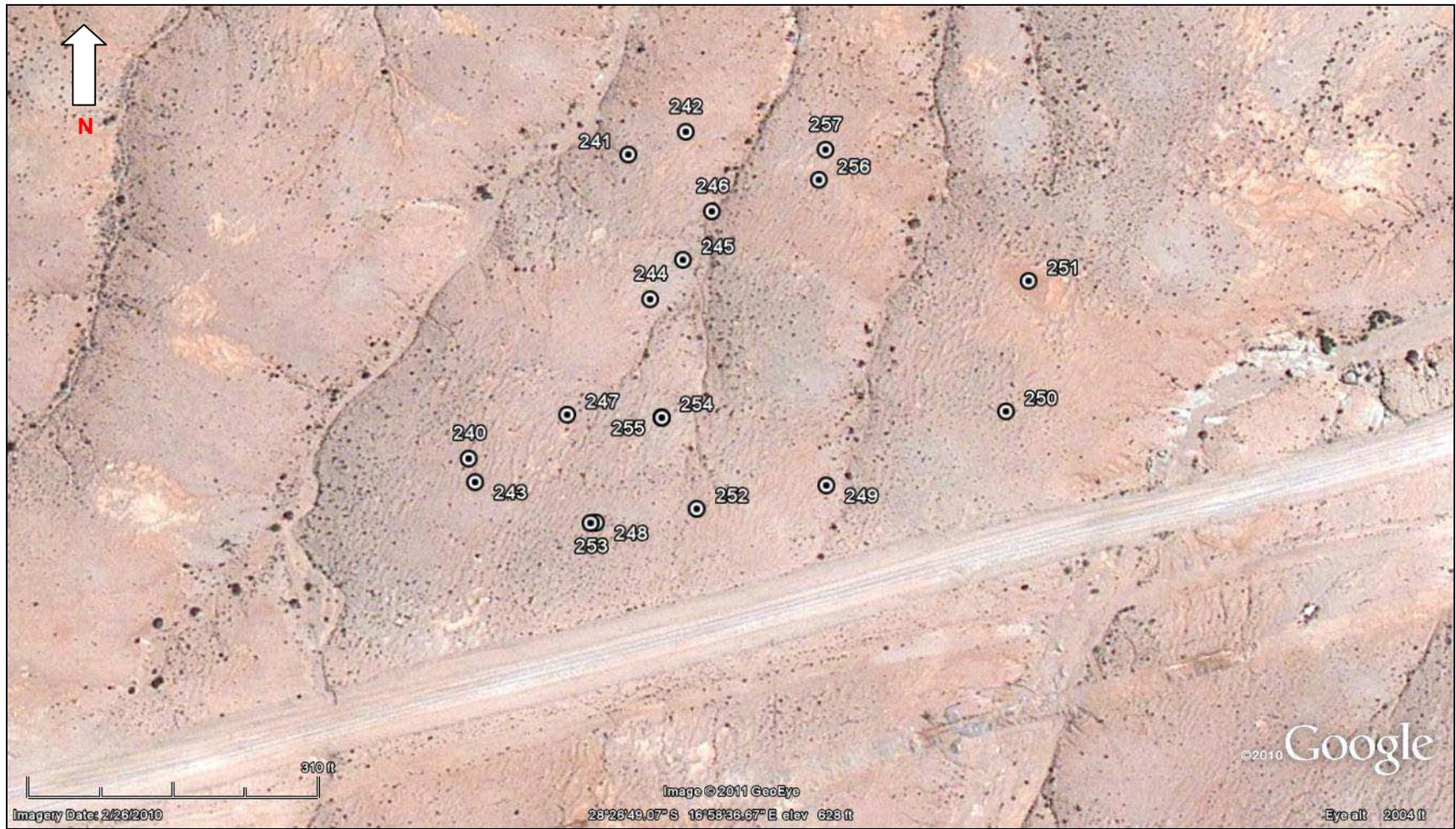


Figure 13. Waypoints of archaeological finds