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Resource Consultants
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**A REPORT ON A PHASE II ARCHAEOLOGICAL MITIGATION OF STONE AGE
SITES AT THE PROPOSED SASOL CSP AND CPV PROJECT NEAR UPINGTON
IN THE NORTHERN CAPE PROVINCE**

For:

WSP ENVIRONMENTAL (PTY) LTD

REPORT: **AE01353V**

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SUMMARY

Archaetnos cc was appointed by WSP Environment and Energy to conduct a cultural heritage study for the proposed SASOL CSP Project during May 2012. This is situated on the farm Van Roois Vley close to Upington in the Northern Cape Province. The project entails the erection of concentrated solar panels for the generation of electricity.

During the Phase I survey 34 sites of historical and archaeological importance was identified. These consist of one site from the Historical Age and 33 Stone Age occurrences. A nearby historical site (the Rebellion tree) and another Stone Age site (rock peckings) were also identified although outside of the area to be affected.

The recommendations made in the phase I report included that a permit be obtained from SAHRA for the collection of a representative sample of Stone Age material from Van Roois Vley, prior to commencement of the development. A report on the findings after analyses of the collected Stone Age material also should be presented to SAHRA.

This report deals with the Phase II study done by Archaetnos, with the assistance of a Principal Investigator for Stone Age, Karen van Ryneveld from Archaeomaps. A permit was issued by SAHRA for this purpose, with **CaseID: 2091**.

The Terms of Reference for the survey were to:

1. Getting an indication of the extent of selected lithic sites identified in the project area.
2. Collecting a representative sample of stone tools on selected sites identified during the project.
3. Using the collected artefacts to determine the age thereof and the Stone Age technology they belong to.
4. Determining the density of the archaeological deposits.
5. Have the artefacts properly curated by a recognized institution, in this case the McGregor Museum in Kimberley.

Of the 33 sites where stone tools were identified, it was decided to sample 11. Since the lithic tools were spread out over a large area per site, this was basically random sampling namely on sites VRV-5, VRV-9, VRV-16, VRV-18, VRV-27, VRV-29 and VRV-30. At sites VRV-31 and VRV-32 shovel test pits (STP's) were also done while at sites VRV-15 and VRV-33 a 1 x 1 m grid was placed in order to sample within the grid. The lithic tools were also mapped *in situ* while in the field.

In short it can be mentioned that stone tools from all three periods of the Stone Age – Early, Middle and Late were identified. The ESA is present at Van Roois Vley, namely at site VRV-16. Site VRV-27 is the only site where only MSA types were collected. All other sites, including ESA Site VRV-16, yielded an LSA admixture to the collection. At Site VRV-27 and all 'mixed' sites MSA types dominate the collections by far.

The LSA component to the collections comprise primarily of macrolithic LSA samples, indicative of an evolving technology, practiced on similar raw material types with little exploration of new raw materials that allowed a more refined technology and by implication significant change in typology. Low sample LSA representation does not allow for a more in depth interpretation.

In general, from a technological point of view, artefacts remain crude with many a sample more indicative of amorphous, informal types resulting in analysis results that may appear to be representative of assemblages comprising the expected collection components, when in fact it doesn't. At the Van Roois Vley collections sub-standard technology seems to have inevitably resulted in poor typology.

Almost half of the artefacts have prepared platforms, an important MSA technological indicator. This shows a notably more advanced technological and typological standard. Provenance and context may explain the absence of the expected micro 'debitage' components from the deposits. All the collection localities are situated in or close to shallow, dry riverbeds with deposits having been exposed to water disturbance. It can reasonably be inferred that the micro 'debitage' have simply been washed away.

Low artefact density coined with secondary contexts poses further questions pertaining to the origin of the deposits: On one hand it can be inferred that the deposits represent the disturbed remainders of assemblages originally deposited at the locales. However, the possibility that these low density deposits are, at least in part, the result of water transport cannot be excluded. The rivers all seem to flow more or less from the north-east where low hills are to be found, outside of the project area. It is possible that these artefacts originated from these hills.

It is concluded that the Phase II archaeological mitigation of Stone Age sites at Van Roois Vley was completed successfully. The collected archaeological material will be deposited and curated by the McGregor Museum in Kimberley, since this is the repository for the Northern Cape.

Since no primary context for these stone tools were identified, the developer should still be on the lookout when construction work on site commence to ensure that such a primary location is not disturbed. Since the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility, care should be taken when work commences that, if any more artifacts are uncovered, a qualified archaeologist be called in to investigate. This basically means stopping all work at that specific point and getting advice from an archaeologist before any work may proceed. Of course a primary find would be of significance and will need further investigation.

Finally it can be stated that the work on site may commence and the sites, as indicated in this and in the Phase I report may be destroyed. A destruction permit, to be issued by SAHRA, may be applied for.

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1. INTRODUCTION

Archaetnos cc was appointed by WSP Environment and Energy to conduct a cultural heritage study for the proposed SASOL CSP Project during May 2012 (see Van Vollenhoven 2012). This is situated on the farm Van Roois Vley close to Upington in the Northern Cape Province. The project entails the erection of concentrated solar panels for the generation of electricity.

During the Phase I survey 34 sites of historical and archaeological importance was identified. These consist of one site from the Historical Age and 33 Stone Age occurrences. A nearby historical site (the Rebellion tree) and another Stone Age site (rock peckings) were also identified although outside of the area to be affected.

The recommendations made in the phase I report were as follows:

- Site number one (historical residential site) may be demolished if the project needs to be expanded. In such a case a permit would be needed from SAHRA. This report is seen as ample mitigation for the site.
- Due to the large number of Stone Age features (site no. 2- 34) and the relative lack of information of Stone Age sites in this area as well as the concentration of thereof in the central surveyed area, it is recommended that a permit be obtained from SAHRA for the collection of a representative sample of Stone Age material from Van Roois Vley, prior to commencement.
- A report on the findings after analyses of the collected Stone Age material should be presented to SAHRA.
- The development may only continue after completion of the Phase II study (collection of Stone Age artifacts).

In their Archaeological Review Comment (ARC) on the Phase I report, the South African Heritage Resources Agency (SAHRA) agreed. WSP again appointed Archaetnos, with the assistance of a Principal Investigator for Stone Age, Karen van Ryneveld from Archaeomaps, to conduct a phase II study. A permit was issued by SAHRA for this purpose, with **CaseID: 2091**. Archaetnos did the field work for this purpose in July 2013, while Archaeomaps did the specialist analysis in August 2013. The final report was completed in September 2013.

2. TERMS OF REFERENCE

The Terms of Reference for the survey were to:

1. Getting an indication of the extent of selected lithic sites in the project area.
2. Collecting a representative sample of stone tools on selected sites identified during the project.
3. Using the collected artefacts to determine the age thereof and the Stone Age technology they belong to.

4. Determining the density of the archaeological deposits.
5. Have the artefacts properly curated by a recognized institution, in this case the McGregor Museum in Kimberley.

3. LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

3.1 The National Heritage Resources Act

According to the above-mentioned act the following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The national estate (see Appendix D) includes the following:

- a. Places, buildings, structures and equipment of cultural significance
- b. Places to which oral traditions are attached or which are associated with living heritage
- c. Historical settlements and townscapes
- d. Landscapes and features of cultural significance
- e. Geological sites of scientific or cultural importance
- f. Archaeological and paleontological importance
- g. Graves and burial grounds
- h. Sites of significance relating to the history of slavery
- i. Movable objects (e.g. archaeological, paleontological, meteorites, geological specimens, military, ethnographic, books etc.)

Archaeology, palaeontology and meteorites

Section 35(4) of this act deals with archaeology, palaeontology and meteorites. The act states that no person may, without a permit issued by the responsible heritage resources authority (national or provincial):

- a. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;

- b. destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- c. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or paleontological material or object, or any meteorite; or
- d. Bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and paleontological material or objects, or use such equipment for the recovery of meteorites.
- e. Alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency (SAHRA). In order to demolish such a site or structure, a destruction permit from SAHRA will also be needed.

4. LOCATION

The area that was surveyed is situated between approximately 30 and 50 km to the north-west of the town of Upington in the Northern Cape Province. It comprises certain portions of the farm Van Roois Vley. It is here where SASOL is planning to construct a CSP and CPV plant a (Figure 1, 2 & 3).

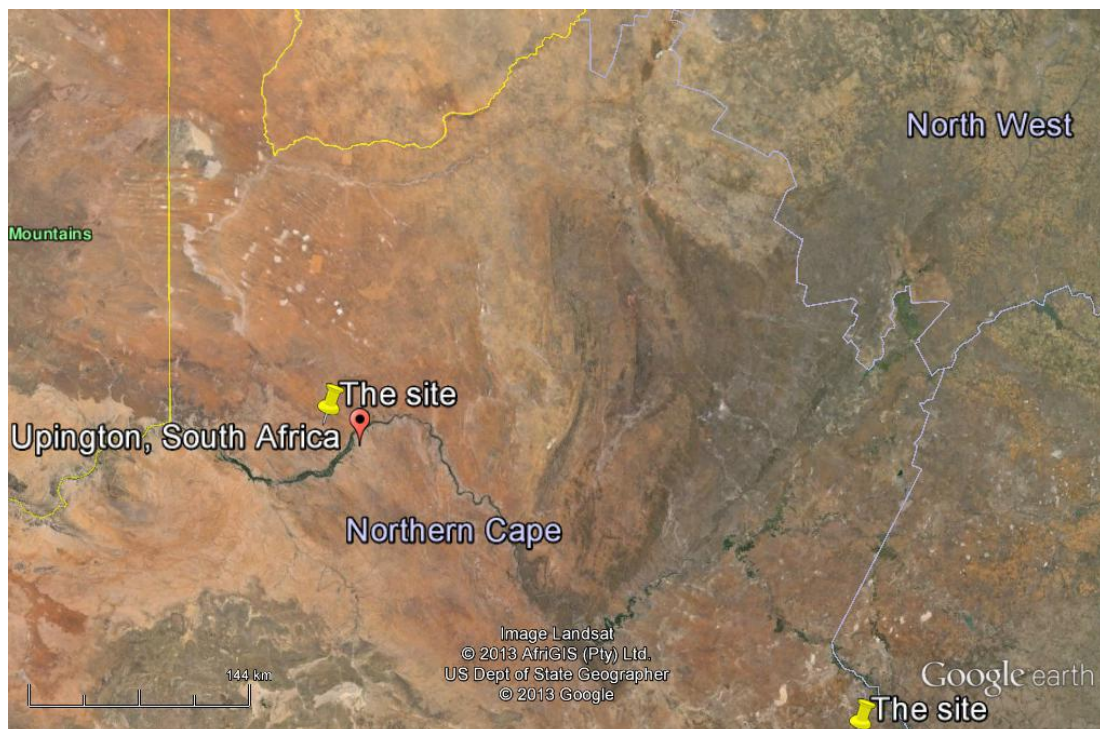


Figure 1: Location of the town of Upington in the Northern Cape Province. North reference is to the top.

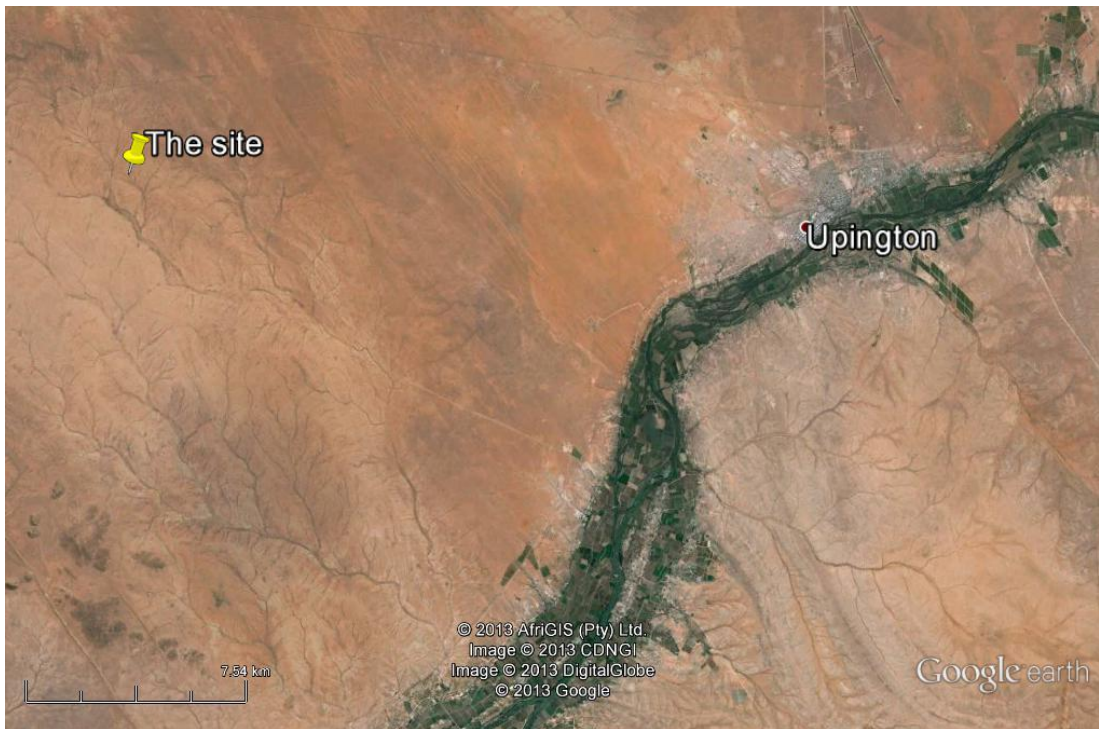


Figure 2: Google image indicating the study area to the north-west of Upington. North reference is to the top.

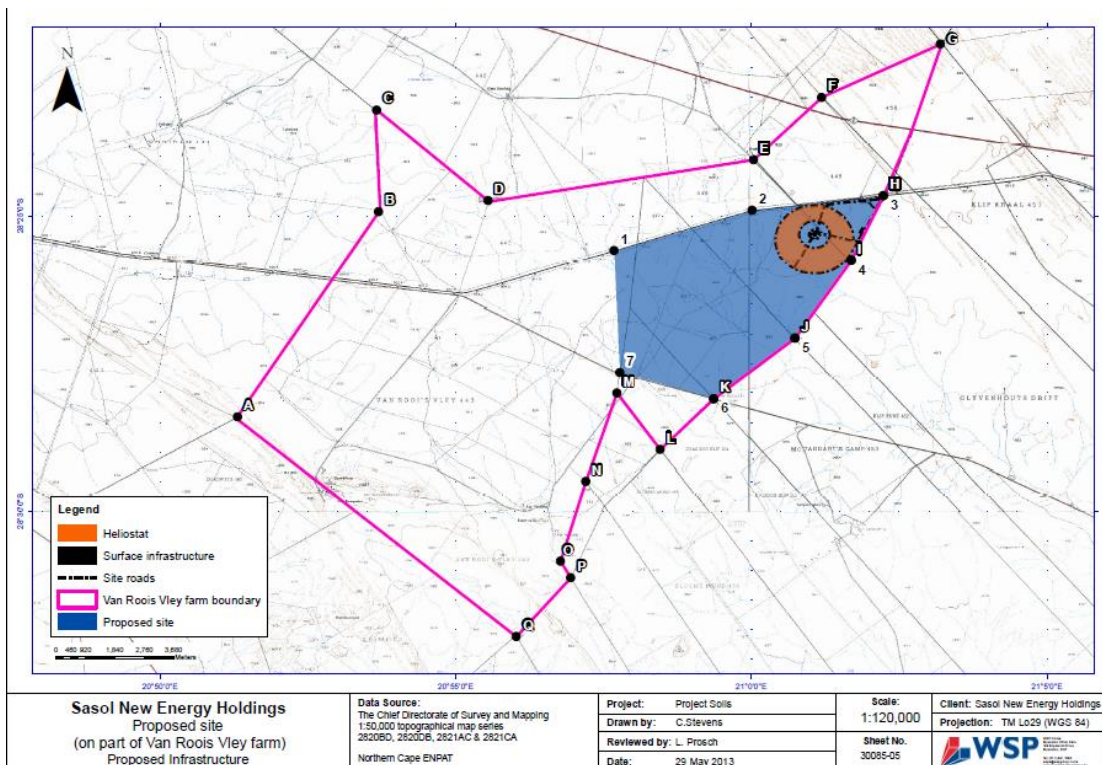


Figure 3: Plan indicating the proposed development.

5. THE ENVIRONMENT

The environment of the area is mostly undisturbed although it is used for sheep farming. The dominant plant species is grass which was reasonably high in certain areas, but in other areas the vegetation cover was less and patches of sand and loose stones are visible.

The natural topography in most of the area is reasonably flat, but in the north-west and just outside of the project boundary, a hill dominates the area resulting in an even slope up to the crest. This area also is very rocky. The stones here are dark in colour and may be of a basaltic origin. However in the flat areas adjacent to the hill the rocks are white coloured and most likely are soft calcrete, which would not have been suitable for the manufacture of stone tools.

Different non-perennial streams runs through the area, but during the time of the survey and collection of artefacts these were no more than sandy river beds. It also does not make much of a difference in the topography.

6. METHODOLOGY

6.1 Survey of literature

A survey of literature was undertaken in order to obtain background information regarding the area. Sources consulted in this regard are indicated in the bibliography.

6.2 Field sampling

Of the 33 sites where stone tools were identified, it was decided to sample 11 (Figure 4-6). These were picked as follows – one site on each of the four borders of the impacted area, one outside of the area and 6 inside of the area to be impacted on:

- Site VRV-5 lies on the southern end of the impacted area and close to a dry river. It seems as if the lithic material is being transferred by the river when it does flow. The rivers in the area are reasonably wide, but shallow and therefore probably carry large quantities of water when it flows. There are hills in the north-west of the farm and the stone tools most likely came from these. Apart for site VRV-27 all the sites are close to water, at least within a stretch of 1,5 km.
- VRV-9 lies on the eastern edge of the area to be impacted on.
- VRV-15 lies on the western edge of the impacted area and close to a dry river bed.

- VRV-16 is close to a dry river bed inside of the impacted area.
- VRV-18 also is in the impacted area and close to a pan which was dry when the tools were sampled, but had a bit of water during the original survey.
- VRV-27 lies just to the south of the area being impacted on.
- VRV-29 is in the centre of the impacted area.
- VRV-30 is on the northern edge of the area to be impacted on.
- VRV-31 also is in the centre of the impacted area and close to a dry river bed.
- VRV-32 also is in the centre.
- VRV-33 also is in the centre.

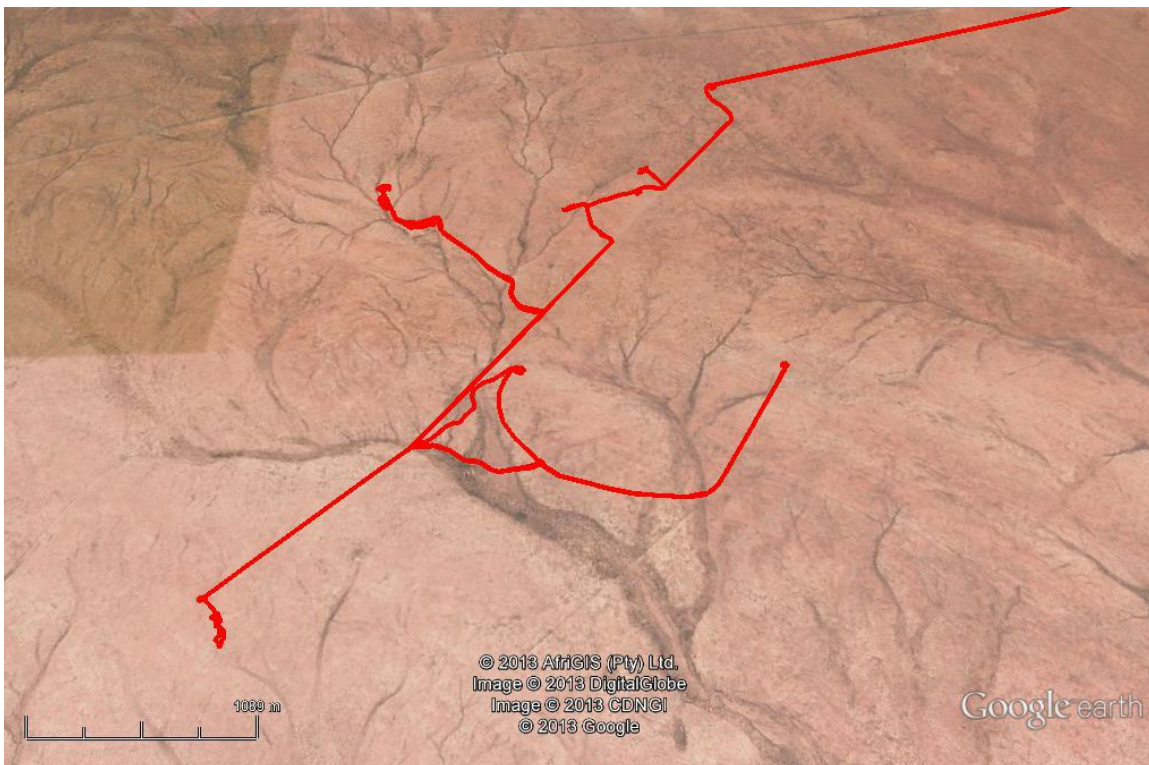


Figure 4: Track route taken while doing the collection of artefacts. North reference is to the top.

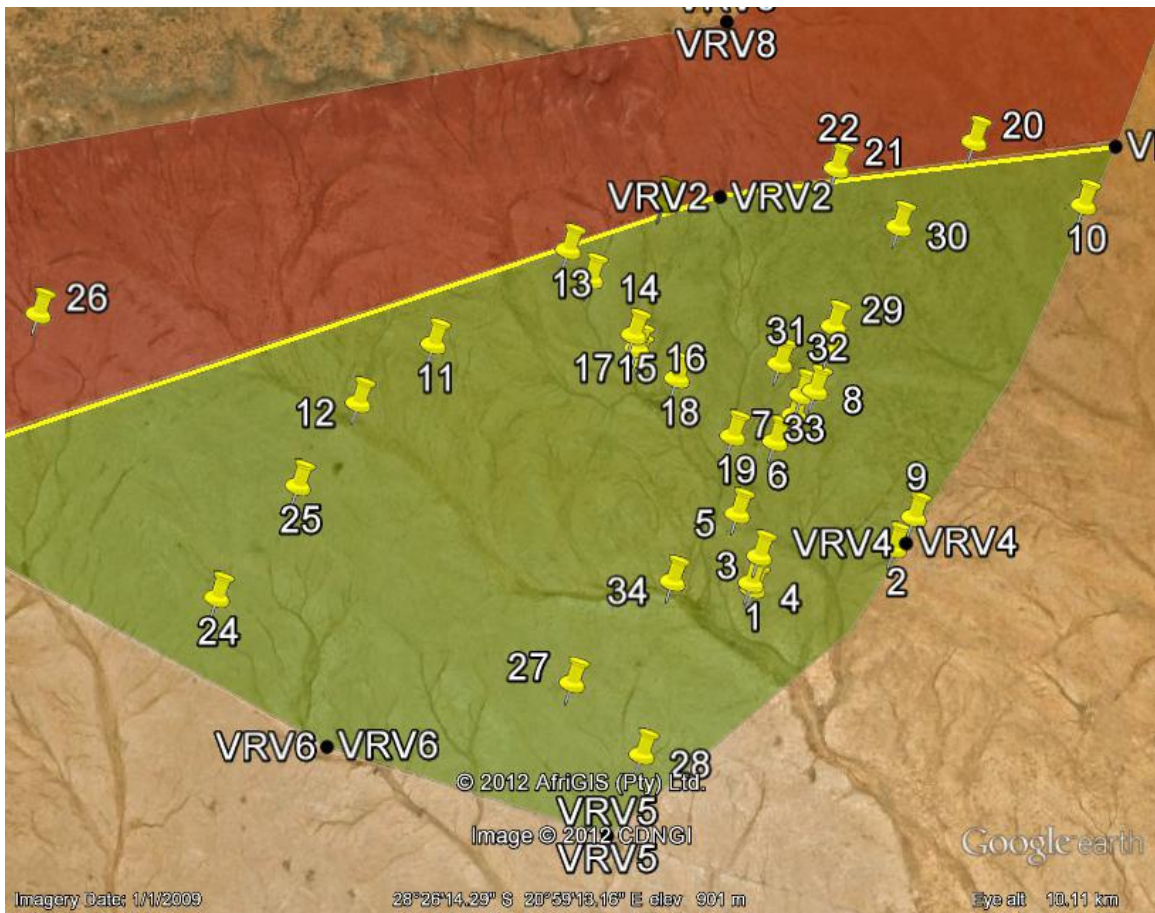


Figure 5: Google image indicating the GPS points of the sites and features found in the surveyed area during the phase I survey. Note the reasonable concentration thereof close to the dry river beds especially in the centre of the area. North reference is to the top.

Key:

- 1 – Historical site
- 2 – 34 – Stone Age occurrences

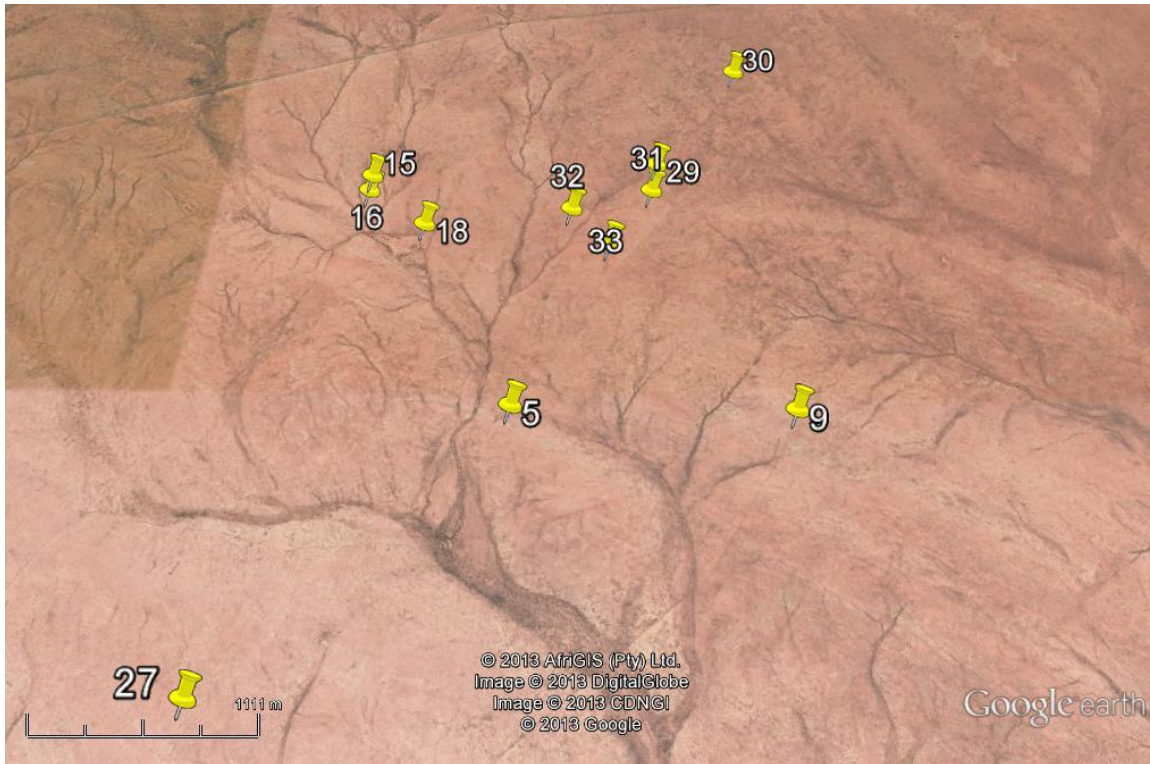


Figure 6: Google image indicating the sites that were mitigated. North reference is to the top.

Since the lithic tools at each of the sites were spread out over a large area, the collection was basically done by a random sampling namely on sites VRV-5, VRV-9, VRV-16, VRV-18, VRV-27, VRV-29 and VRV-30.

At sites VRV-31 and VRV-32 shovel test pits (STP's) were also done, but it was clear that there was no stratigraphy here and that artefacts were simply lying on the surface (see Figure 16 and 18). Therefore no further STP's was done at other sites and random sampling was also done here. Conditions at the other sites were the same and it is therefore assumed that the stratigraphy at these were also the same.

At sites VRV-15 and VRV-33 a 1 x 1 m grid was used in order to sample within the grid (see Figure 9 and 20). A few additional stone tools were randomly sampled around these.

6.3 Analysis and Documentation

Karen van Ryneveld who is accredited as a Principal Investigator (PI) for the Stone Age, did the analyses and photographic documentation of the sampled stone tools. Her report is attached to this one (Appendix A).

The lithic tools were also mapped *in situ* while in the field. These were located via GPS on a Google background. The location of the specific sampled stone artefacts on site is also indicated (Figure 7-8, 10-15, 17, 19 and 21).

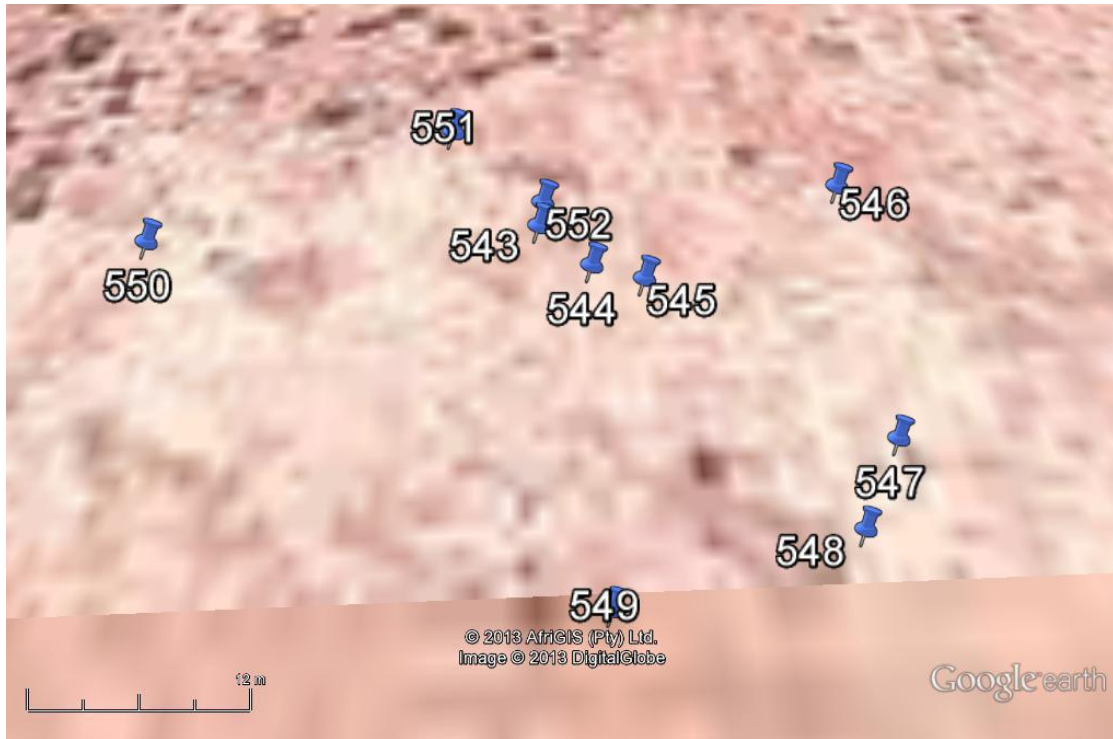


Figure 7: VRV-5

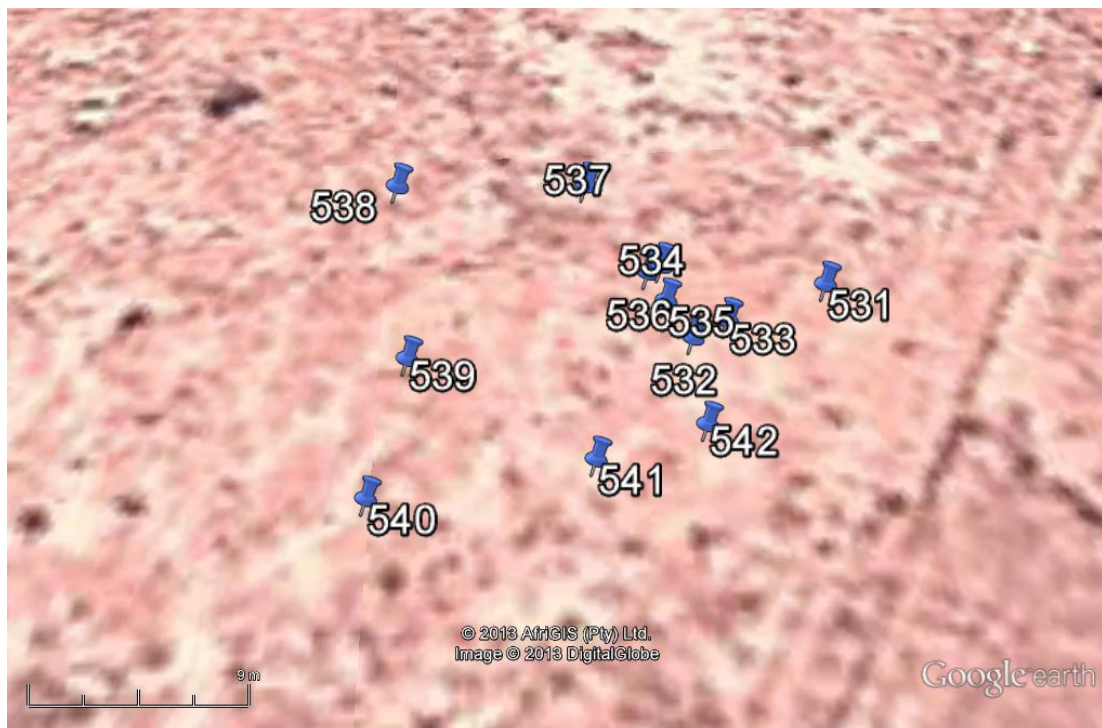


Figure 8: VRV-9



Figure 9: 1 x 1 m grid at VRV-15 before collection of lithic artefacts.

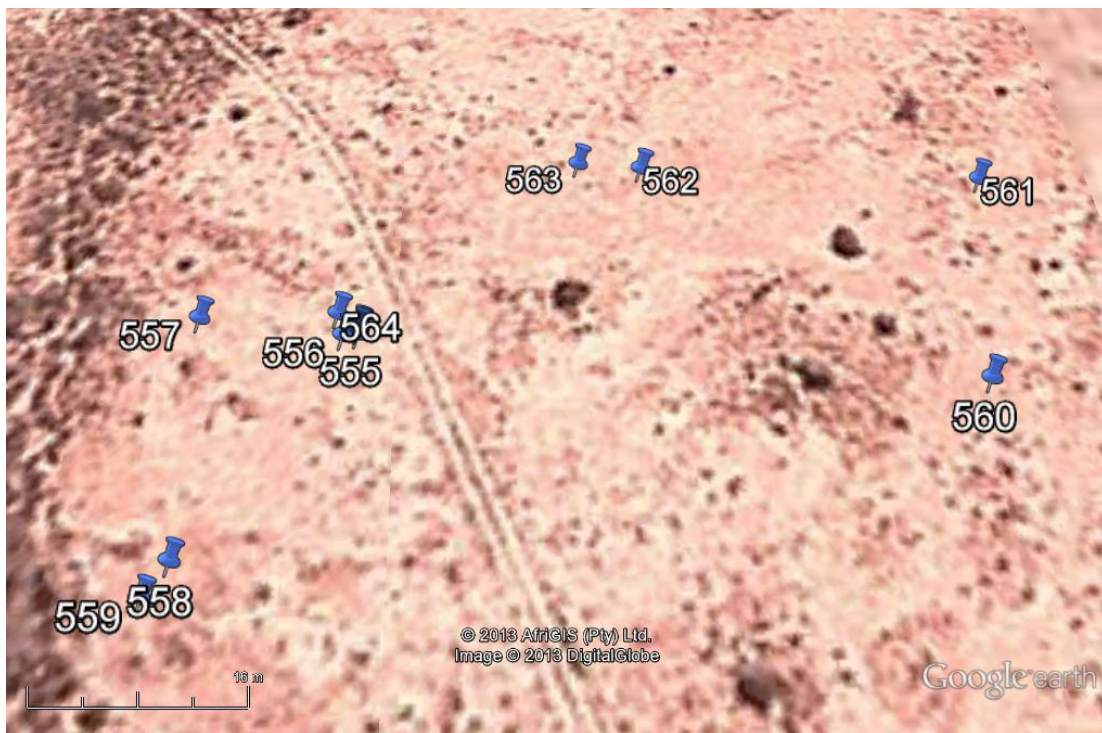


Figure 10: VRV-15

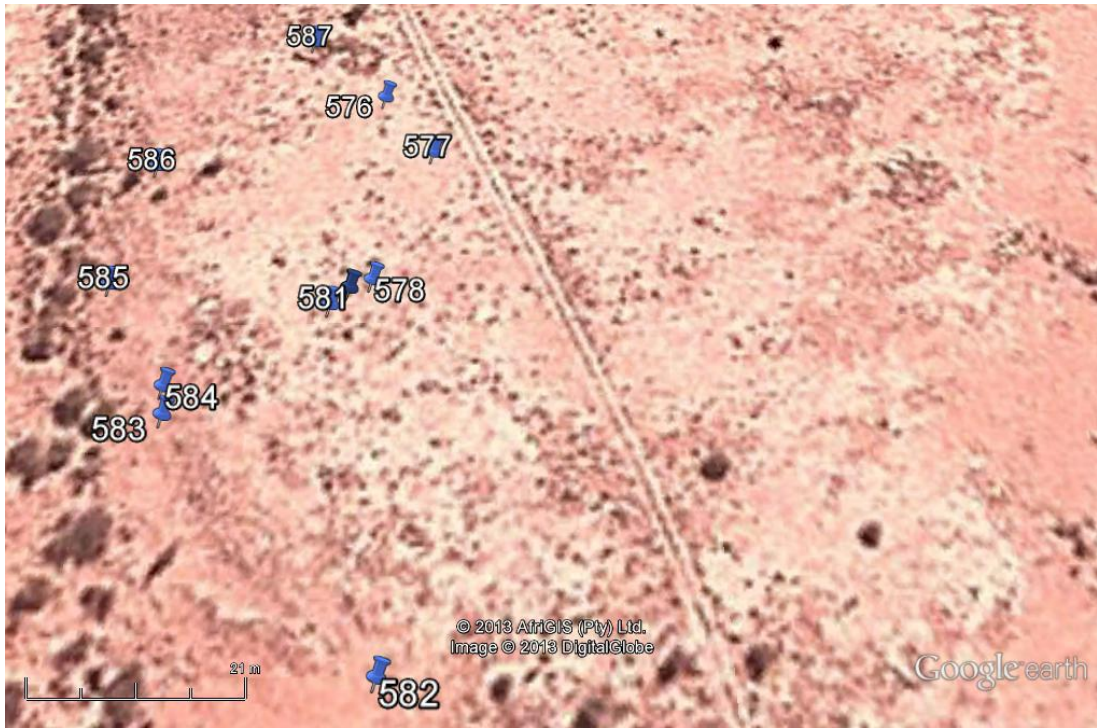


Figure 11: VRV-16



Figure 12: VRV-18

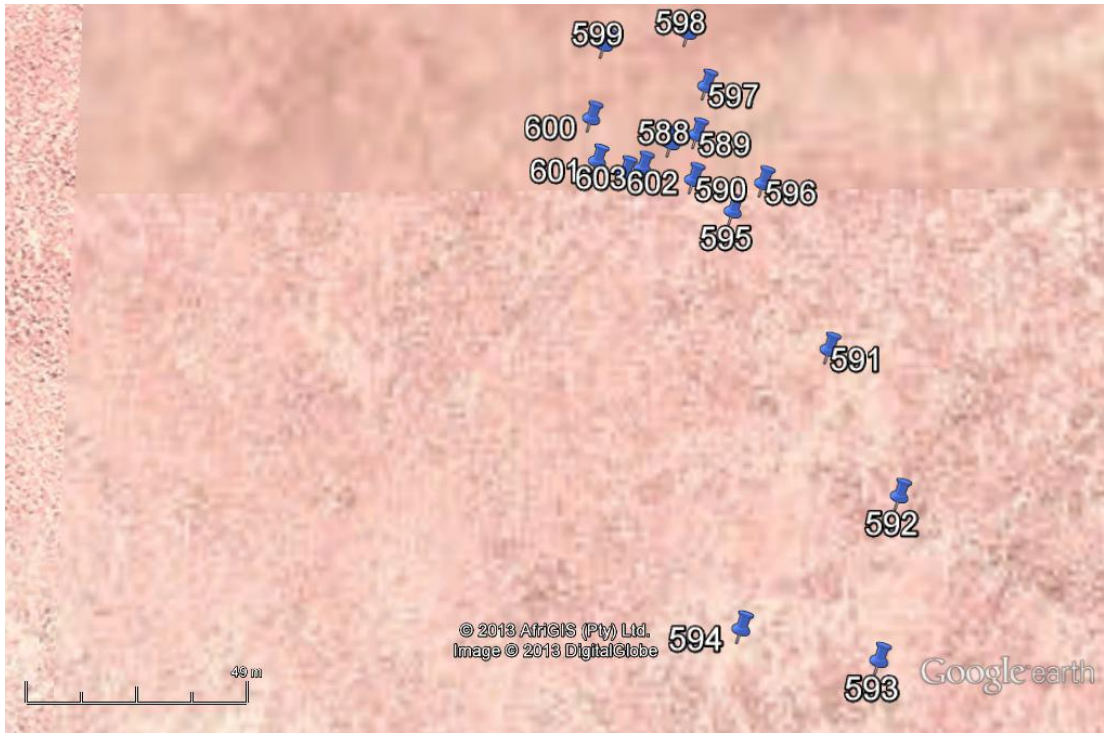


Figure 13: VRV-27

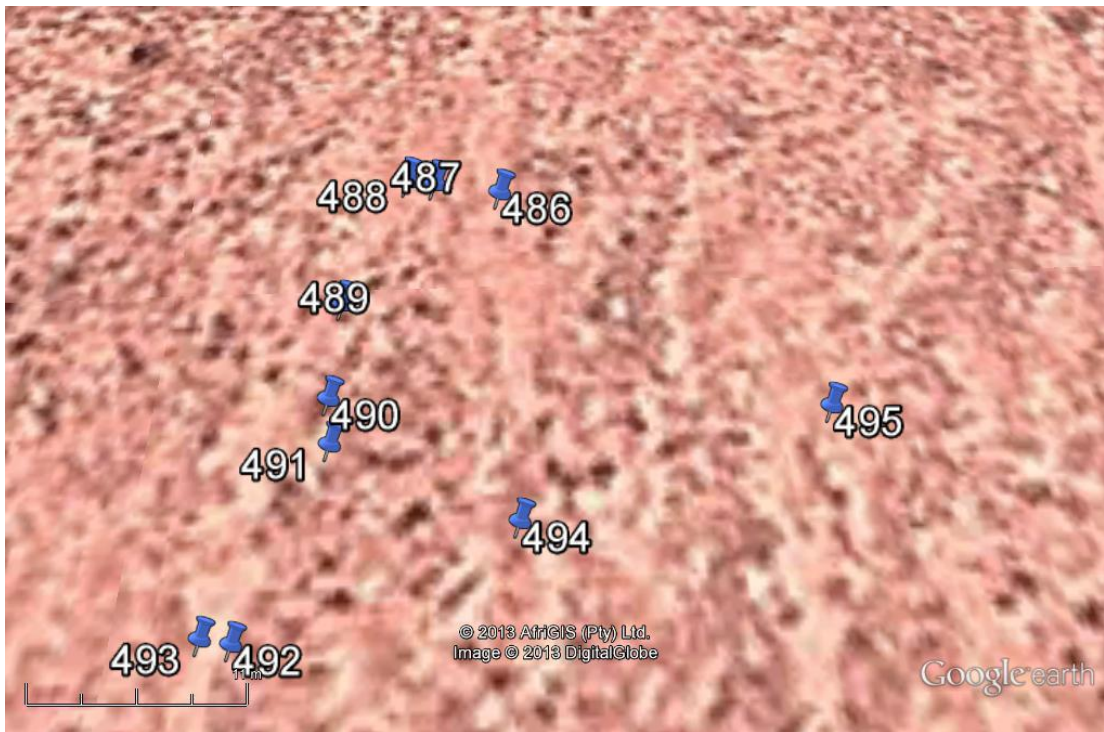


Figure 14: VRV-29

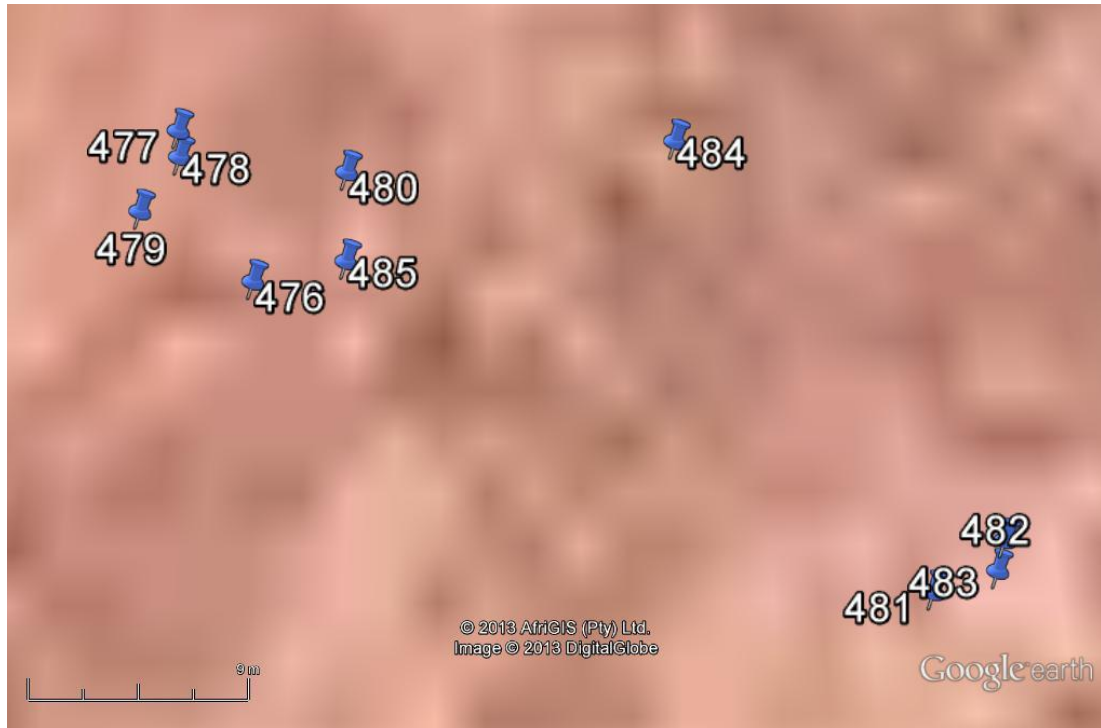


Figure 15: VRV-30



Figure 16: STP at VRV-31.

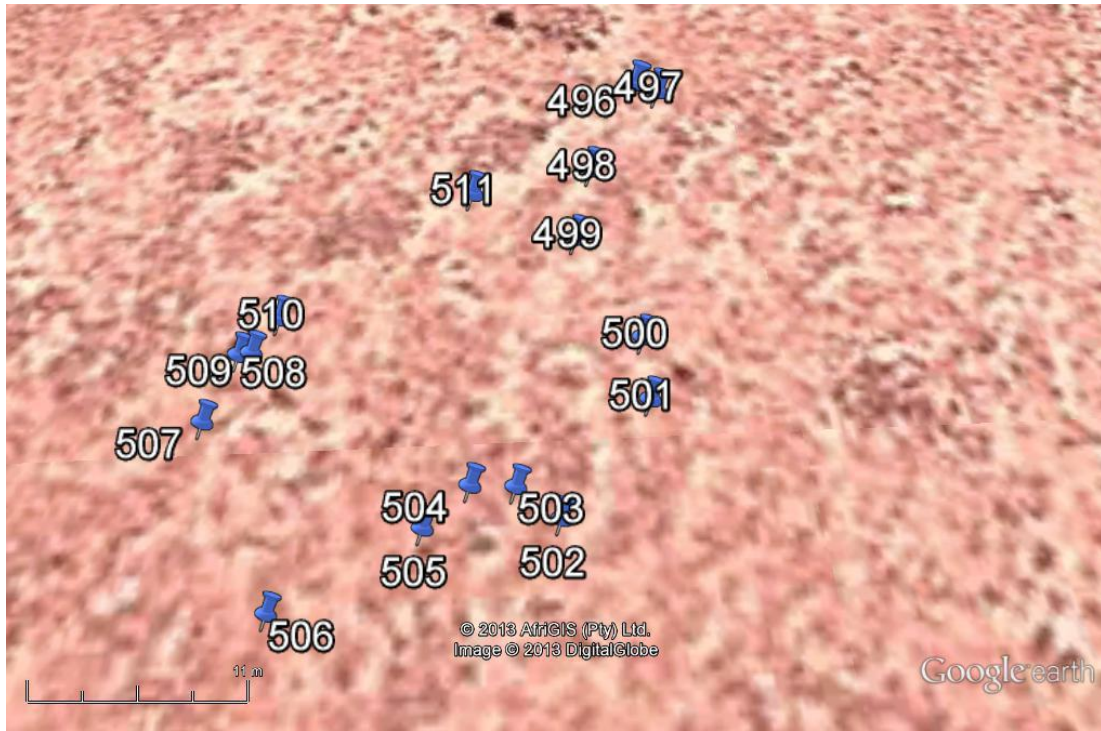


Figure 17: VRV-31



Figure 18: STP at VRV-32.

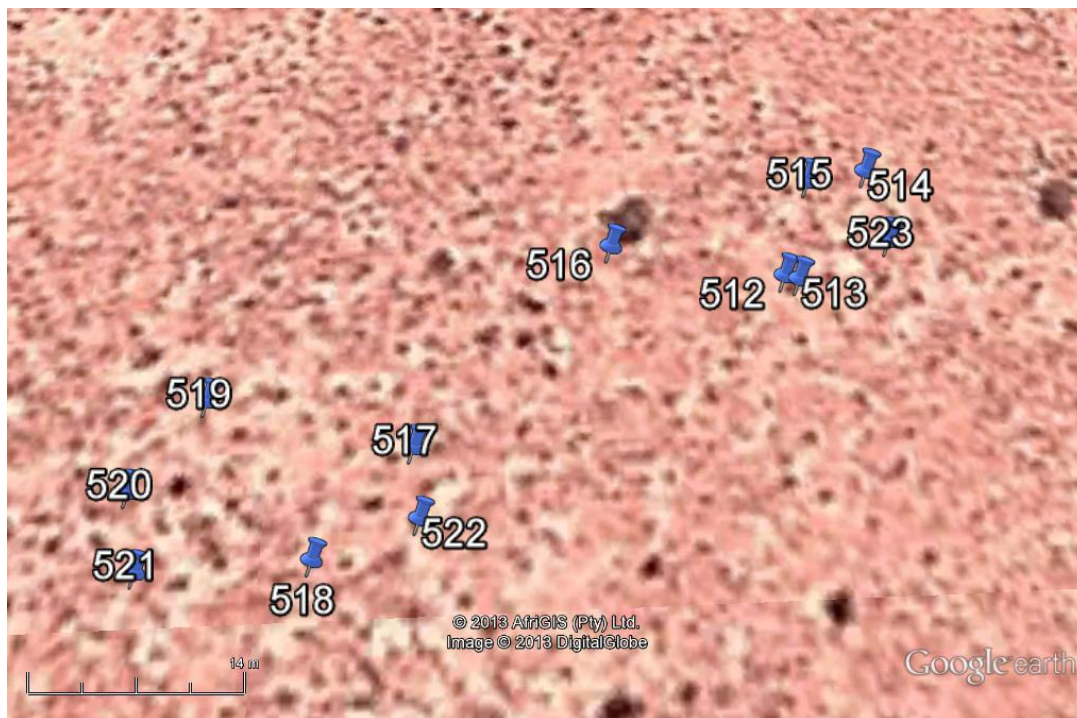


Figure 19: VRV-32



Figure 20: 1 x 1 m grid at VRV-33 before collection of lithic artefacts.

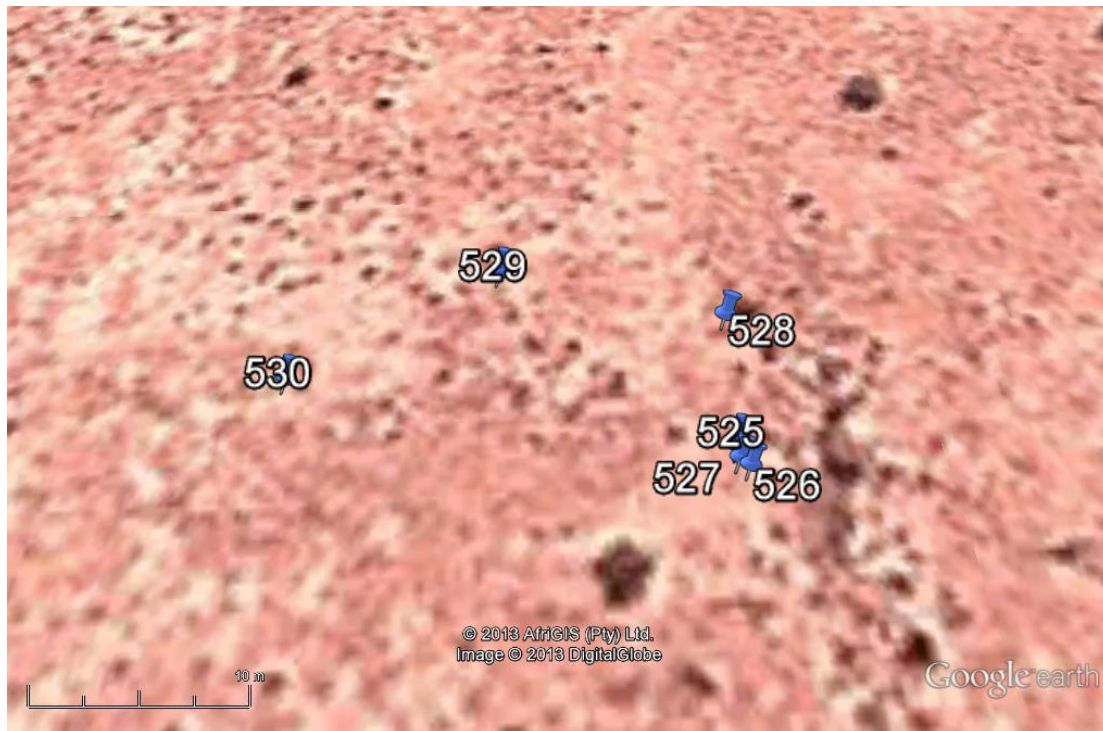


Figure 21: VRV-33

7. HISTORICAL CONTEXT

A brief historical context is given as background to the sites that were mitigated. These all fall within the Stone Age, but for completeness information on the Iron Age and Historical Age is also included.

7.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago
Middle Stone Age (MSA) 150 000 – 30 000 years ago
Late Stone Age (LSA) 40 000 years ago – 1850 - A.D.

This geographical area is not well-known as one containing many prehistoric sites. One however has to realize that this most likely only indicates that not much research has been done here before. On the existing SAHRA Database no such sites are indicated here. The nearest indicated are the Doornlaagte Early Stone Age archaeological site close to Kimberley, the well-known Wonderwerk Cave in the

Kuruman Hills to the east, Tsantsabane, an ancient specularite working on the eastern side of Postmasburg, Doornfontein, another specularite working north of Beeshoek and a cluster of important Stone Age sites near Kathu. Additional specularite workings with associated Ceramic Later Stone Age material and older Fauresmith sites (early Middle Stone Age) are known from Lylyfeld, Demaneng, Mashwening, King, Rust & Vrede, Paling, Gloucester and Mount Huxley (Morris 2005: 3).

The onset of the Middle Stone Age coincided with a widespread demand for coloured or glittering minerals that arose at the time for still unknown reasons. The intensive collection of such substances soon exhausted surface exposures and led to the quest being extended underground and thus to the birth of mining practice. Specularite was commonly mined in the Postmasburg area. In 1968 AK Boshier, working in collaboration with P Beaumont, found a number of underground specularite mines on Paling (De Jong 2010: 35).

Stone and Iron Age communities mined specularite associated with iron ores for cosmetic purposes at Blinkklipkop, Paling, Gloucester and other farms (De Jong 2010: 41; Snyman 2000: 3).

A number of Stone Age sites and scattered finds of Stone Age material were identified by Küsel et.al. (2009) and Archaetnos close to the town of Hotazel and adjacent to the Gamagara River during 2011 (Archaetnos database). Many Middle and Late Stone Age tools have been found by Archaetnos during surveys in the Northern Cape. These sites are located close to Griekwastad, Hotazel, Postmasburg and Kenhardt (Archaetnos database).

On the farm Konkooksies 91 in the Pofadder district and on the farm Klein Zwart Bast 188 in the Kenhardt district, different sites with Middle and Late Stone Age tools were identified (Pelser 2011; Pelser 2012).

The mentioned Late Stone Age sites are associated with the San people. Mitchell (2002: 126) indicates that the language group who occupied the Northern Cape is the /Auni-//Khomani and Eastern /Hoa. These people were hunters and gatherers which means that they would have moved around, leaving little trace of their existence.

The environment here seems very similar to that at the study area, indicating that sites are most likely to also be found at Van Roois Vley. Rock engraving (rock pecking) sites are known from Beeshoek and Bruce (Morris 2005: 3; Snyman 2000: 3). The latter are associated with the Late Stone Age.

Similar rock peckings were indeed found on the farm Van Roois Vley, but these are on the portion of the farm to the west of the provincial road and these will not be affected by the development as it falls outside of the project area. On these rocks, found in a dry river bed, different animals and geometrical figures are depicted. It includes different depictions of giraffes, an aardvark and animals that could not be identified due to the state of preservation of the peckings.

7.1 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce metal artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:

Early Iron Age (EIA) 200 – 1000 A.D.
Late Iron Age (LIA) 1000 – 1850 A.D.

Huffman (2007: xiii) however indicates that a Middle Iron Age should be included. His dates, which now seem to be widely accepted in archaeological circles, are:

Early Iron Age (EIA) 250 – 900 A.D.
Middle Iron Age (MIA) 900 – 1300 A.D.
Late Iron Age (LIA) 1300 – 1840 A.D.

No Early or Middle Iron Age sites have been identified in the area of study. Iron Age people occupied the central and eastern parts of southern Africa from about 200 A.D., but the San and Khoi remained in the western and southern parts (Inskeep 1978: 126; see also Huffman 2007).

During the Late Iron Age (LIA), people stayed in extensive stonewalled settlements, such as the Thlaping capital Dithakong, 40 km north of Kuruman. Sotho-Tswana and Nguni societies, the descendants of the LIA mixed farming communities, found the region already sparsely inhabited by the Late Stone Age (LSA) Khoisan groups, the so-called 'first people'. Most of them were eventually assimilated by LIA communities and only a few managed to survive, such as the Korana and Griqua. This period of contact is sometimes known as the Ceramic Late Stone Age and is represented by the Blinkklipkop specularite mine near Postmasburg and finds at the Kathu Pan (De Jong 2010: 36).

It is also known that Late Iron Age people did utilize the area close to the Orange River, albeit briefly, as they did mine copper in the Northern Cape (Inskeep 1978: 135). Iron Age people therefore probably did not settle in the study area.

7.2 Historical Age

The historical age started with the first recorded oral histories in the area. It includes the moving into the area of people that were able to read and write. This era is sometimes called the Colonial era or the recent past.

Due to factors such as population growth and a decrease in mortality rates, more people inhabited the country during the recent historical past. Therefore and because less time has passed, much more cultural heritage resources from this era have been left on the landscape.

It is important to note that all cultural resources older than 60 years are potentially regarded as part of the heritage and that detailed studies are needed in order to

determine whether these indeed have cultural significance. Factors to be considered include aesthetic, scientific, cultural and religious value of such resources.

Such sites include the many historical buildings and structures indicated on the SAHRA database in Kakamas, Kenhardt, Keimoes and Upington (SAHRA Database). These are associated with the early missionaries, travellers, first white farmers and establishment of towns during the 19th century.

Factors such as population expansion, increasing pressure on natural resources, the emergence of power blocs, attempts to control trade and penetration by Griquas, Korana and white communities from the south-west resulted in a period of instability in Southern Africa that began in the late 18th century and effectively ended with the settlement of white farmers in the interior. This period, known as the *difaqane* or *Mfecane*, also affected the Northern Cape Province, although at a relatively late stage compared to the rest of Southern Africa. Here, the period of instability, beginning in the mid-1820s, was triggered by the incursion of displaced refugees associated with the Tlokwa, Fokeng, Hlakwa and Phuting tribal groups (De Jong 2010: 36).

The *difaqane* coincided with the penetration of the interior of South Africa by white traders, hunters, explorers and missionaries. The first traders in the Northern Cape were PJ Truter's and William Somerville's journey of 1801, which reached Dithakong at Kuruman. They were again followed by Cowan, Donovan, Burchell and Campbell and resulted in the establishment of a London Mission Society station near Kuruman in 1817 by James Read (De Jong 2010: 36). During the 1870's William Sanderson, John Ryan and John Ludwig passed through the area close to Postmasburg (Snyman 2000: 3).

The Great Trek of the Boers from the Cape in 1836 brought large numbers of Voortrekkers up to the borders of large regions known as Bechuanaland and Griqualand West, thereby coming into conflict with many Tswana groups and also the missionaries of the London Mission Society. The conflict between Boer and Tswana communities escalated in the 1860s and 1870s when the Korana and Griqua communities became involved and later also the British government.

The conflict mainly centred on land claims by various communities. For decades the western border of the Transvaal Boer republic was not fixed. Only through arbitration (the Keate Arbitration), triggered by the discovery of gold at Tati (1866) and diamonds at Hopetown (1867) was part of the western border finally determined in 1871. Ten years later, the Pretoria Convention fixed the entire western border, thereby finally excluding Bechuanaland and Griqualand West from Boer domination (De Jong 2010: 36).

The Gariep area was inhabited by the Nama, Bondelswarts, Afrikaners, Koranna and the Griqua. These people utilized the islands in the Orange (Gariep) River and due to their wars the Koranna chief, Klaas Lukas, appealed for the establishment of a mission station at Olyfenhoutsdrift. This led to the Reverend Christiaan Schröder establishing a mission station here in 1871. The buildings at the missionary were

erected between 1873 and 1883. These buildings are today hosting the museum in the town of Upington (Kalahari-Oranje Museum brochure).

In the 1880's a former slave, Abraham Holbors September, was granted a farm in this region. He established the first irrigation system from the Orange River (Kalahari-Oranje Museum brochure).

Conflict between the white farmers and the San and Koranna between 1869 and 1879 led to a visit by Sir Thomas Upington to investigate the situation. This resulted in a police force being stationed here. The Reverend Schröder refused them using the name Olyvenhoutsdrift and therefore the name Upington was used to refer to the police. In 1898 the two areas united under the name Upington (Kalahari-Oranje Museum brochure).

From the 1880's onwards colonial settlement was promoted in the area. Government-owned land was surveyed and divided into farms, which were transferred to farmers. Surveyors were given the task of surveying and naming some of the many farms in this region. These farms were allocated to prospective farmers, but permanent settlement only started in the late 1920s and the first farmsteads were possibly built during this period. The region remained sparsely populated until the advent of the 20th century (De Jong 2010: 36).

During the Rebellion of 1914 (some Afrikaner people against the Government's plan to invade German South-west Africa) a number of people camped on the farm Van Roois Vley. Here, under a camel thorn tree, General Manie Maritz announced his intentions to join the rebellion (Personal communication: A. Vlok). The tree and site (the Rebellion tree) is a declared Provincial Heritage site. It is situated on the farm Van Roois Vley, but on the portion not to be affected by the development.

One of the rebels, Willem Hendrik Strauss died here. He was originally buried under one of the other trees at the camp site, but his body was exhumed and he was reburied at the Rebellion tree (Personal communication: A. Vlok). The headstone has fallen down and is broken, but it still is legible.

8. DISCUSSION

A full discussion is provided in Appendix A which is the lithic analysis by a Stone Age specialist. In short it can be mentioned that stone tools from all three periods of the Stone Age – Early, Middle and Late were identified at Van Roois Vley.

The ESA is present at the study site, namely at site VRV-16 where 3 ESA hand axes were collected, one being a typical core produced hand axe while 2 samples are indicative of a Fauresmith technology. The Fauresmith is generally interpreted to be representative of the 1st Stone Age transition (ESA to MSA transition). Significant Fauresmith components are however often found together with MSA2b type assemblages, leading some scientists to consider the Fauresmith as a return to earlier technology rooted firmly in the MSA.

Site VRV-27 is the only site where only MSA types were collected. All other sites, including ESA Site VRV-16, yielded an LSA admixture to the collection. At Site VRV-27 and all 'mixed' sites MSA types dominate the collections by far. Based on basic artefact size the Van Roois Vley collection can be assigned to an MSA2b and MSA3. MSA Levallois technology is displayed at Sites VRV-15 and VRV-33, but remains a low level element to the characteristics of the assemblage(s).

The LSA component to the collections comprise primarily of macrolithic LSA samples, indicative of an evolving technology, practiced on similar raw material types with little exploration of new raw materials that allowed a more refined technology and by implication significant change in typology. Low sample LSA representation does not allow for a more in depth interpretation.

In general, from a technological point of view, artefacts remain crude with many a sample more indicative of amorphous, informal types resulting in analysis results that may appear to be representative of assemblages comprising the expected collection components, when in fact it doesn't. At the Van Roois Vley collections sub-standard technology seems to have inevitably resulted in poor typology. This is further supported by the high degree of artefacts still displaying surface cortex.

Almost half of the artefacts have prepared platforms, an important MSA technological indicator. This shows a notably more advanced technological and typological standard. Despite the aforementioned Van Roois Vley collection's technological indicators, the total absence of secondary retouch needs to be noted.

Provenance and context may explain the absence of the expected micro 'debitage' components from the deposits. All the collection localities are situated in or close to shallow, dry riverbeds with deposits having been exposed to water disturbance. It can reasonably be inferred that the micro 'debitage' have simply been washed away.

The secondary context of the collections needs further consideration. At Site VRV-15 an average artefact ratio (artefacts: m²) of 3:1 was recorded. This is seen as being representative of the total area, although an artefacts density of 9:1 was recorded at site VRV-33. Low artefact density coined with secondary contexts poses further questions pertaining to the origin of the deposits: On one hand it can be inferred that the deposits represent the disturbed remainders of assemblages originally deposited at the locales. However, the possibility that these low density deposits are, at least in part, the result of water transport cannot be excluded. The rivers all seem to flow more or less from the north-east where low hills are to be found, outside of the project area. It is possible that these artefacts originated from these hills.

9. CONCLUSIONS AND RECOMMENDATIONS

It is concluded that the Phase II archaeological mitigation of Stone Age sites at Van Roois Vley was completed successfully. The collected archaeological material will be deposited and curated by the McGregor Museum in Kimberley, since this is the repository for the Northern Cape.

The collections should be ascribed a SAHRA Low significance and grade IIIC Field Rating as it has no further research potential. It can be stated that the work on site may commence and the sites, as indicated in this and in the Phase I report may be destroyed. A destruction permit, to be issued by SAHRA, may be applied for.

Finally it should be indicated that since no primary context for these stone tools were identified, the developer should still be on the lookout when construction work on site commence to ensure that such a primary location is not disturbed. Since the subterranean presence of archaeological and/or historical sites, features or artifacts are always a distinct possibility, care should still be taken when work commences that, if any more artifacts are uncovered, a qualified archaeologist be called in to investigate. This basically means stopping all work at that specific point and getting advice from an archaeologist before any work may proceed. Of course a primary find would be of significance and will need further investigation whereas others would not.

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APPENDIX A

**PHASE 2 ARCHAEOLOGICAL MITIGATION : LITHIC ANALYSIS – THE
PROPOSED SASOL CSP AND CPV PROJECT, VAN ROOIS VLEY, NEAR
UPINGTON, NORTHERN CAPE**

BY

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(SEPARATE PDF DOCUMENT)¹

¹ Note: 11 sites were mitigated, although the specialist report only make mention of 10. It seems that sites VRV-5 and VRV-15 have been discussed as one, under the name of VRV-5. Individual site aspects are however still apart. The artefact numbers for VRV-5 are 73-82 and those for VRV-15 are 83-93. Accordingly these artefacts are all indicated in plate 1. As a result the MSA Levallois technology referred to for the artefact numbered VRV-5-86)actually should be for VRV-15-86 (which is exactly the same artefact). However, this has no effect on the interpretation and analysis of the site as a whole.