ARCHAEOLOGICAL IMPACT ASSESSMENT: PROPOSED CONSTRUCTION OF HUMANSRUS SOLAR PV ENERGY FACILITY 2 ON THE REMAINDER OF THE FARM HUMANSRUS 147 NEAR COPPERTON, NORTHERN CAPE

(Assessment conducted under Section 38 (8) of the
National Heritage Resources Act No 25 of 1999)

Prepared for:

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EXECUTIVE SUMMARY

ACO Associates cc was appointed by Perception Planning on behalf of the client, Humansrus Solar PV Energy Facility 2 (Pty) Ltd, to undertake an Archaeological Impact Assessment for the construction of a 75 MW PV facility on the Remainder of the Farm 147, Humansrus near Copperton in the Siyathemba Municipality, Northern Cape.

Numerous renewable energy facilities are planned in the Copperton area around the substations of Cuprum and Kronos.Orton & Webley (2013a & b) have undertaken impact assessments on the farm Hoekplaas 146 and the farm Klipgats Pan 117 to the south-west of Humansrus. Van der Walt (2013) has assessed the farm Bosjesmansberg to the north-east of the study area. Kaplan & Wiltshire (2011) assessed Vogelstruisbult to the west of the study area.

The area was surveyed by Lita Webley and David Halkett on 22 October 2014. The property was accessed by the local farm roads and transects were walked across the study area. We drove along sections of the access roads and powerline options where this was possible.

The field assessment identified:

- A large but diffuse spread of ESA and MSA stone artefacts across most of the study area.

Indications are that in terms of archaeological heritage the proposed activity is viable. Impacts to archaeology are expected to be limited and controllable.

Construction of the proposed solar facility may proceed according to the layout assessed in this report. The following recommendations should be enforced:

- Detailed measurements and recording of stone artefacts, such as handaxes, may provide an indirect form of dating through comparison with similar industries documented elsewhere;
- Due to potential cumulative impacts in the area, some limited sampling of artefactual material should occur prior to construction;
- If any human remains are uncovered during construction, the ECO should have the area fenced off and contact SAHRA (Tel: 021 462 4502) immediately.

If there are any significant changes to the layout of the facility, the new design should be assessed by a heritage practitioner.

GLOSSARY

Archaeology: Remains resulting from human activity which is in a state of disuse and are in or on land and which are older than 100 years, including artefacts, human and hominid remains and artificial features and structures.

Early Stone Age: The archaeology of the Stone Age between 700 000 and 2500 000 years ago.

Fossil: Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.

Heritage: That which is inherited and forms part of the National Estate (Historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999.

Holocene: The most recent geological time period which commenced 10 000 years ago.

Late Stone Age: The archaeology of the last 20 000 years associated with fully modern people.

Middle Stone Age: The archaeology of the Stone Age between 20-300 000 years ago associated with early modern humans.

National Estate: The collective heritage assets of the Nation

Palaeontology: Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

Pleistocene: A geological time period (of 3 million – 20 000 years ago).

SAHRA: South African Heritage Resources Agency – the compliance authority which protects national heritage in the Northern Cape.

Structure (historic): Any building, works, device or other facility made by people and which is fixed to land, and includes any fixtures, fittings and equipment associated therewith. Protected structures are those which are over 60 years old.

Acronyms

DEA	Department of Environmental Affairs
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
LSA	Late Stone Age
MSA	Middle Stone Age
NHRA	National Heritage Resources Act
SAHRA	South African Heritage Resources Agency

1. INTRODUCTION

ACO Associates cc was appointed by Perception Planning on behalf of the client, Humansrus Solar PV Energy Facility 2 (Pty) Ltd, to undertake an Archaeological Impact Assessment for the construction of a 75 MW PV facility on the Remainder of the Farm 147, Humansrus near Copperton in the Siyathemba Municipality, Northern Cape (Figure 1). The study area is situated some 50 km south-west of Prieska.

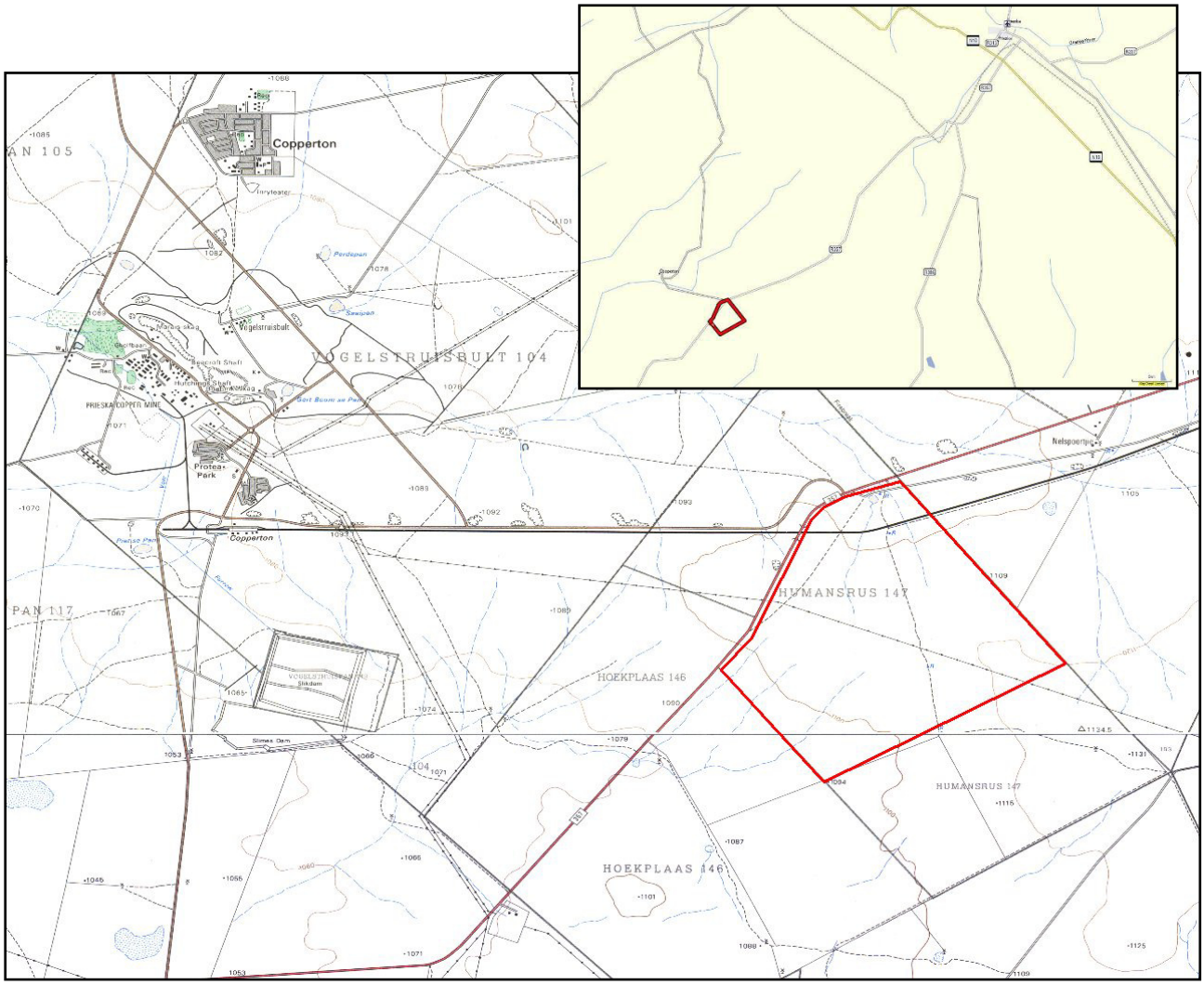

Figure 1: The location of the study area to the south of the R347 and close to the intersection with the gravel road to Copperton (1:50 000 map 2922 CD Copperton and 3022 AB Springbokpoortjie).

2. DEVELOPMENT PROPOSALS

Humansrus Solar PV Energy Facility 2 (Pty) Ltd proposes to construct a 75 MW PV and/or concentrated PV facility with fixed, single or double axis tracking technology on approximately 200 ha of land. The laydown area will be between 2-5 ha in size. Various grid connection options exist. There are two substations, Kronos and Cuprum, within the surrounding area. The facility will connect to either of these substations via its own 132 kB line or by a “loop-in; loop-out” line connecting to existing lines. It is anticipated that access roads of between 6-8 m will be constructed but those not used during the operation of the facility will be closed and rehabilitated. The powerline servitude will be 32 m wide.

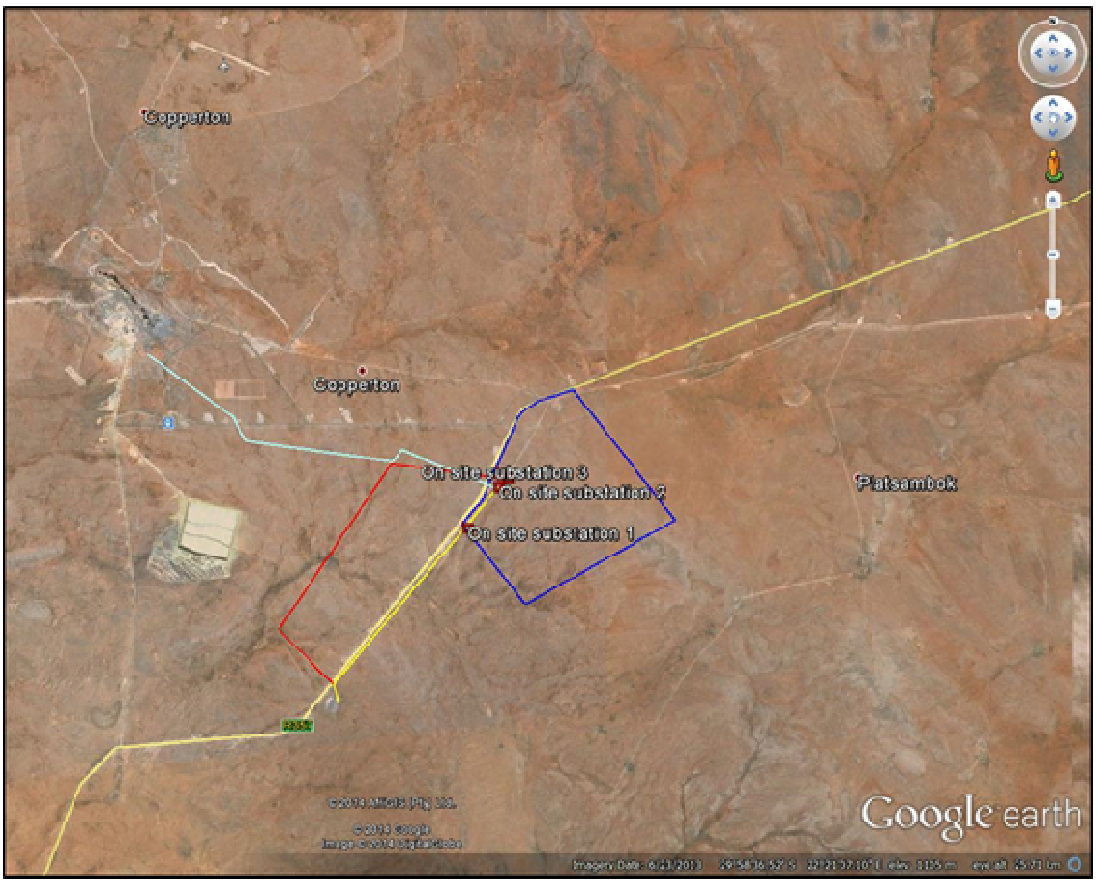

Figure 2: An aerial image of the proposed Humansrus Solar PV Energy Facility 2 on the Farm Humansrus. The facility is indicated with the royal blue polygon. The alternative grid connections, via a 132 kV powerline, to the Cuprum or Kronos substations are shown as pale blue, red and yellow lines.

3. HERITAGE LEGISLATION

This report is conducted in terms of Section 38 (8) of the National Heritage Resources Act, No 25 of 1999.

The NHRA provides protection for the following categories of heritage resources:

- Landscapes, cultural or natural (Section 3 (3))
- Buildings or structures older than 60 years (Section 34);
- Archaeological Sites, palaeontological material and meteorites (Section 35);
- Burial grounds and graves (Section 36);
- Public monuments and memorials (Section 37);
- Living heritage (defined in the Act as including cultural tradition, oral history, performance, ritual, popular memory, skills and techniques, indigenous knowledge systems and the holistic approach to nature, society and social relationships) (Section 2 (d) (xxi)).

3.1 Grading

The South African heritage resources management system is based on grading, which provides for assigning the appropriate level of management responsibility to a heritage resource. Heritage resources were assessed according to criteria specified in the NHRA and HWC Policy & Guidelines as outlined in Winter and Bauman (2005). It must be emphasised that the system of grading as set out in Table 1 has not been consistently used for archaeological sites and a variety of systems are used for reports in the Northern Cape.

Table 1: Grading of Heritage Resources

Grade	Level of significance	Description
I	National	Of high intrinsic, associational and contextual heritage value within a national context, i.e. formally declared or potential Grade 1 heritage resources.
II	Provincial	Of high intrinsic, associational and contextual heritage value within a provincial context, i.e. formally declared or potential Grade 2 heritage resources.
IIIa	Local	Of high intrinsic, associational and contextual heritage value within a local context, i.e. formally declared or potential Grade 3a heritage resources.
IIIb	Local	Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3b heritage resources.
IIIc	Local	Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3c heritage resources.

4. METHODOLOGY

4.1 Literature Survey

A survey of available literature was carried out during the Scoping process to assess the general heritage context of the area. A background search of other Cultural Resource Management (CRM) projects in the area was made via the South African Heritage Resources Information Systems (SAHRIS) database. Numerous impact assessments have been conducted in proximity to the proposed facility as reflected on the SAHRIS database. The following CRM reports provide valuable information on the heritage resources of the area and were consulted:

Orton & Webley (2013a&b) have undertaken impact assessments on the farm Hoekplaas 146 and the farm Klipgats Pan 117 to the south-west of Humansrus. Van der Walt (2013) has assessed the farm Bosjesmansberg to the north-east of the study area. Kaplan & Wiltshire (2011) assessed Vogelstruisbult to the west of the study area.

Van Ryneveld (2006) conducted an assessment on the farm Vogelstruis Bult 104 for Amber Mountain Investments who are interested in re-working the old mine dump and, pending the results of this activity, the re-opening of the old Copperton Mine. The mine is located to the north-west of the farm Humansrus 147.

The location of the other renewable (solar and wind) facilities are shown in Figure 4.

4.2 Field Survey

The polygon of the proposed development was provided to ACO Associates. The area was surveyed by Lita Webley and David Halkett on 22 October 2014. Our tracks were recorded by means of Garmin GPS devices and all sites were digitally recorded.

We accessed the area by the local farm roads but then walked transects of the study area looking for archaeological remains. These tracks are indicated in Figure 3. Field experience has shown that pre-colonial people chose to live in fairly predictable parts of the landscape such as pans or slight elevations in topography.

We drove along sections of the proposed access roads and powerline options where this was possible.

4.3 Assumptions and Limitations

There are only a few farm roads and tracks which cross the facility and this makes a detailed survey difficult. We are of the opinion however that our coverage of the area was sufficiently broad to identify the distribution of heritage resources.

5. RECEIVING ENVIRONMENT

The Remainder of the farm Humansrus comprises a generally flat landscape, with knee-high vegetation and a substrate which varies between thick red soils, calcrete surfaces and gravel patches. The northern border of the property is bounded by the R357. There are two powerlines which run diagonally across the study area (Plate 2). The "pans" observed on RE Capital 13 do not occur on the southern portion of the farm.

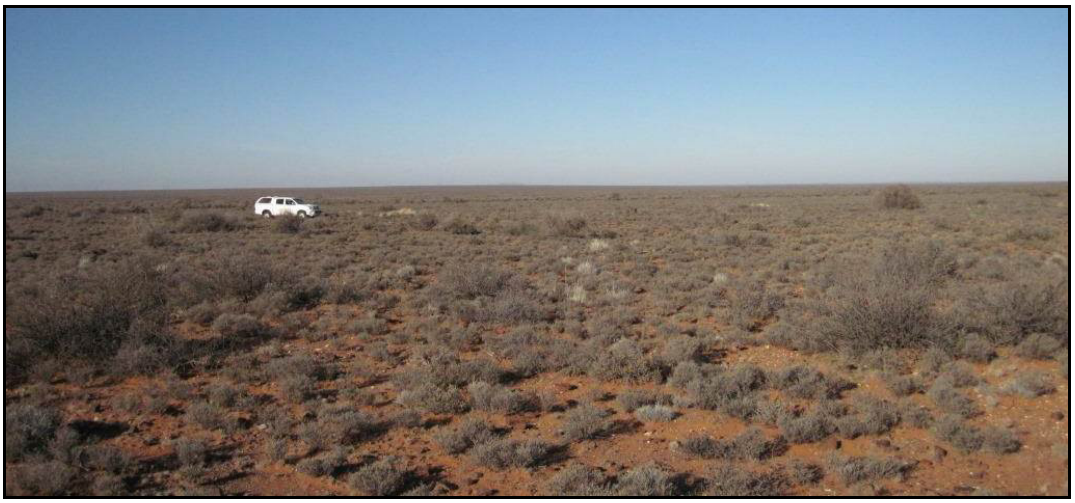

Plate 1: The landscape is general flat and ground visibility is good.

Plate 2: There are two sets of powerlines (and servitudes) which cross the property at right angles.

5.1 Archaeological Background

Early and Middle Stone Age

Orton & Webley (2013a&b) have reviewed the archaeology of the general area.

Much of the Karoo is covered by gravels that contain abundant stone artefacts in varying densities. Beaumont *et al.* (1995: 240) has declared with regard the Bushmanland area that "thousands of

square kilometres of Bushmanland are covered by a low density lithic scatter". These artefacts are generally very well weathered and mostly belong to the Early (ESA) and Middle Stone Age (MSA). Occasional Later Stone Age (LSA) artefacts are also present within this scatter. These kinds of finds were made by Kaplan (2010) and Wiltshire (Kaplan & Wiltshire 2011) on proposed PV and wind energy sites of Vogelstruis Bult to the east. According to Beaumont *et al* (1995) the ESA in this area is said to be characterised by the presence of long blades, Victoria West cores and relatively few hand-axes and cleavers. Orton & Webley (2013) recorded a number of handaxes across the study area. While a few were large, the majority were smaller. These smaller handaxes were, prior to 1965, considered to signify a transitional stone tool industry between the ESA and the MSA called the Fauresmith. However, in a recent review, Underhill (2011) has highlighted the need to determine the validity of this industry. Van der Walt (2013) identified isolated scatters of ESA tools including bifaces made on quartzite to the north of the study area.

Orton & Webley (2013a&b) recorded large scatters of MSA material across Hoekplaas and Klipgats pan to the south-east of the study area. A highly significant MSA site, associated with a fossilised equid tooth, was recorded in a borrow pit at the side of the road. Substantial MSA sites are rare with only a few isolated examples known (Beaumont *et al.* 1995). The open landscape holds few caves but one called Zoovoorbij Cave close to the Orange River near Upington did include an early MSA occupation (Smith 1995a). Van der Walt (2013) concurs about the presence localised MSA quarries utilising quartz and quartzite outcrops. He describes the MSA as including large flakes, radial and bipolar cores, end scrapers, large utilised and retouched blade tools, and utilised and retouched flakes.

A significant aspect of the Northern Cape archaeological record is the presence of pans which frequently display associated archaeological material. The only detailed work in this regard is that of Kiberd (2001, 2006) who excavated a site known as Bundu Pan, some 25 to 30 km northwest of Copperton. The site was subsequently excavated between 1998 and 2003 and, importantly, found to contain stratified deposits ascribable to the ESA, MSA and LSA. Local pans were also examined by Wiltshire and found to have greater densities of archaeological material surrounding them (Kaplan & Wiltshire 2011). Orton & Webley (2013a&b) and Van der Walt (2013) have all mentioned the importance of pans in this arid area.

Later Stone Age

Several LSA sites in the Bushmanland area to the northwest, west and southwest of Copperton have been investigated by Beaumont and colleagues (1995), Smith (1995a) and Parsons (2003, 2008). Work on these sites led to a distinction between hunter-gatherer and herder sites (Beaumont *et al.* 1995; Beaumont & Vogel 1984, 1989; Parsons 2003), which has recently been called into question (Parsons 2007). Briefly, it is asserted that hunter-gatherer assemblages, termed 'Swartkop' may be distinguished from herder sites, termed 'Doornfontein' based on stone artefact assemblages. All these LSA sites have very few, if any, organic items on them. The only organic material generally present is fragments of ostrich eggshell which originated either from eggs eaten or else whole shells used as flasks.

Orton & Webley (2013a&b) observed that LSA artefacts were often found in clusters, suggesting that they represented occupation sites. These artefacts are recognised by their small size, their relatively unweathered surface appearance and the inclusion of quartz in the assemblages. Most LSA scatters were found located around pans. There is also some evidence for the quarrying of quartzite outcrops. Van der Walt (2013) described fewer concentrations of LSA material, including scraper, retouched and utilisted flakes, blades and small round cores predominantly made on crypto-crystalline silica (CCS) material.

Rock art, in the form of engravings, is widely known from Bushmanland and the Northern Cape in general (Beaumont *et al.* 1995; Beaumont & Vogel 1989; Rudner & Rudner 1968; Rusch & Parkington 2010). Examples of well-known sites include Wildebeest Kuil and Driekopseiland. Various styles occur and are attributed to different time periods: incised finelines extend back the

furthest in time, while pecked and scraped engravings occurred within the last 2000 years. However, no engravings have been recorded in the study area.

5.2 Historical Background

Smith (1995b) notes that around that around the 19th century white farmers were making extensive use of Bushmanland for summer grazing and that this led to the extermination of the massive springbok herds on which the indigenous population subsisted. This in turn led to the descendants of indigenous groups turning to the farmers for food (and employment), effectively ending the span of prehistory in the region.

The farm buildings of Humanrus and Platsambok lie outside the study area. The farms of Humansrus and Hoekplaas were surveyed in 1977 and appear to comprise portions of the farms Plat Sjambok 102 and Vogelstruis Bult 104 both of which date to the 1880s and appear to be some of the older farms in this district.

The town of Copperton was established in 1972 to provide housing for the nearby copper mine, but after the mine closed down in 1992 the town was sold and some of the housing has been demolished.

6. FINDINGS

Our survey tracks are reflected in Figure 3 and the findings are listed in Table 2 at the end of the report. The most significant heritage resource on the property is archaeological and the majority of stone tool scatters are of Early and Middle Stone Age origins.

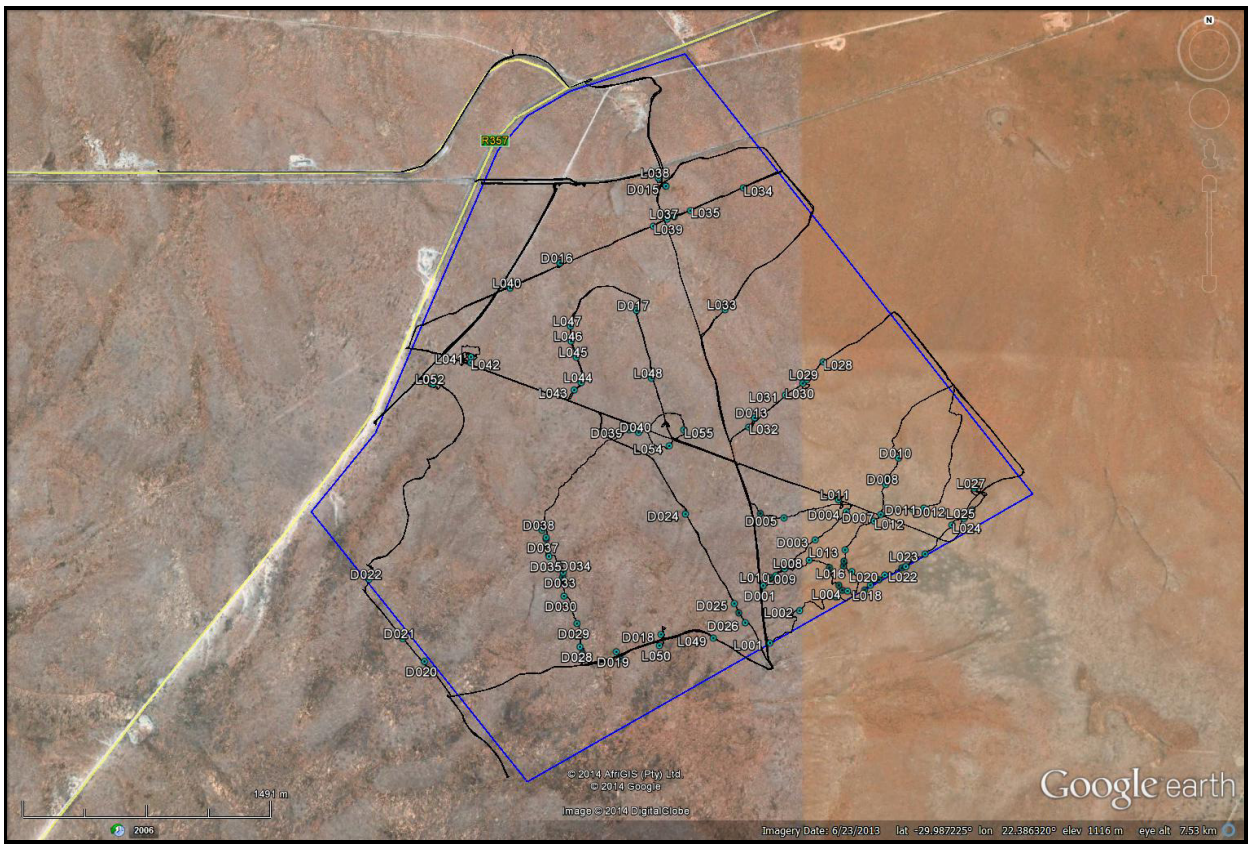

Figure 3: The tracks and "sites" recorded during the field survey of the property. Many of the spot locations identified in this figure are merely a mid-point in a large scatter of stone tools.

Low density scatters of stone artefacts were found widely distributed across the study area. They tended to be concentrated on slightly deflated areas covered in fine gravel (described as pavements). Often these stone scatters occurred on surfaces underlain by calcretes exposures.

Those parts of the study area under dense knee-high bush and thick sands, had much lower concentrations of artefacts.

Plate 3: View of the soil surface indicating the presence of large, worn hornfels artefacts.

We did not record individual stone artefacts during the survey (with the exception of type artefacts such as handaxes), but denser concentrations exceeding three stone artefacts or more in a limited area were recorded as “sites”. In general, distributions of 5 or more artefacts, in an area of 5 m², were common on these “sites”. It is important to emphasize that we did not recover any discrete concentrations of artefacts which suggested *in situ* manufacture of artefacts or settlement.

The artefact distributions on Humansrus Solar PV Energy Facility 2 closely resemble those on Humansrus Solar PV Energy Facility 1 (to the north of the road) but the densities are slightly higher. Artefact distributions consisted of both ESA and MSA material. No distinctly LSA material was identified.

6.1 Early Stone Age

The handaxes were predominantly made on indurated shales and on quartz. The shale (or hornfels) handaxes were often very weathered and it was often difficult to be sure that they were handaxes. Large worn flakes were also recorded.

Plate 4: A selection of large bifacial tools, the majority are on indurated shale and very weathered.

Plate 4 (contd): A selection of large bifacial tools, the majority are on indurated shale and very weathered.

6.2 Middle Stone Age

The “fresher” looking implements are likely to be of MSA origins. Some are distinctly MSA in appearance but some of the artefacts illustrated below may include ESA elements. It was difficult to be sure whether some of the large quartzite flakes were ESA or MSA.

The majority of the MSA artefacts are made on quartzite, although some banded ironstone is also present. There are occasional chunks of red jasper, some with evidence of being flaked. Quartz appears in certain areas and usually in small chunks. There are no apparent outcrops of quartz. Chunks and flakes are common (Plates 5 and 6). Cores tend to be irregular. There is no obvious sign that cores were specifically prepared for blade production although there is a blade element present (Plate 7) in the stone scatters. A fair percentage of the blade artefacts showed signs of retouch. The shorter, wider convergent flakes are not common.

Plates 5 & 6: The range of Middle Stone Age artefacts typically found in an area of higher artefact concentration.

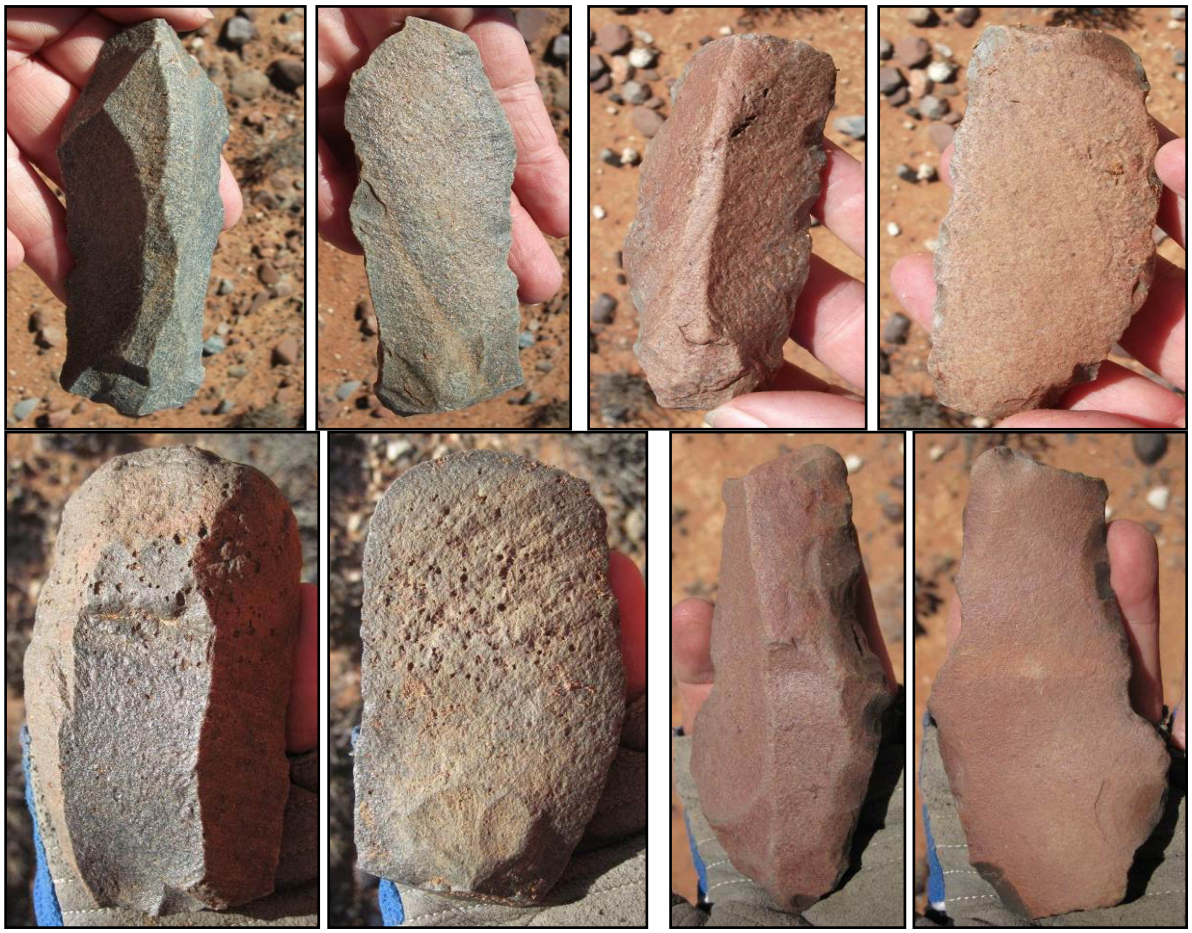

Plate 7: A selection of large blades and flakes, some with retouch. The weathered indurated shale flake on the bottom right is likely to be ESA in origin.

Plate 8: Evidence that the quartzite bedrock was quarried as a source of raw material.

Plate 9: A banded ironstone core (left) and quartzite core (right).

7. IMPACT ASSESSMENT

The levelling and clearing of the ground to install the PV units will result in the relocation or destruction of all surface archaeological material. Similarly, the clearing of vegetation for the on-site substation and control room, as well as access roads will impact material that lies buried in the surface sand. Since heritage sites, including archaeological sites, are non-renewable, it is important that they are identified and their significance assessed prior to development.

7.1 Impact on Pre-Colonial Archaeology

It is unlikely that the construction of the solar facility will result in the destruction of stone artefacts although the heavy machinery may results in some artefacts receiving additional flake scar damage. The main cause of impacts to stone artefact sites is direct, physical disturbance of the context of the material. The heritage and scientific potential of an archaeological site is highly dependent on its geological and spatial context. This means that even though, for example a deep excavation may expose buried archaeological sites and artefacts, the artefacts are relatively meaningless once removed from the area in which they were found. Large scale excavations will damage archaeological sites, construction of roads and laydown areas, injudicious use of off-road vehicles can contribute to high levels of impact. The impacts are likely to be most severe during the construction period although indirect impacts may occur during the operational phase of the project.

Our survey for Humansrus Solar PV Energy Facility 2 on the Remainder of Humansrus 147 confirms the results of archaeological surveys by Orton & Webley (2013a&b), Kaplan & Wilshire (2011) and Van der Walt (2013) on farms adjoining Humansrus. There are ephemeral scatters of ESA material and widespread, but dispersed scatters of MSA artefacts across the study area. We did not record any LSA artefacts in the study area.

Assigning significance to the surface scatters of ESA and MSA material in the Copperton area is difficult. The stone artefacts are no longer in their original location or *in situ*. They therefore provide limited information with respect to activity areas. However, some limited information may be derived from the present artefact distributions:

- The location of the artefact scatters (i.e. whether they are situated next to a dry stream beds or on a slight rise in the landscape) can inform on settlement preferences;
- While the majority of artefacts are manufactured on locally available raw material, such as quartzites, there are many artefacts which are manufactured on banded ironstone. The

source of the banded ironstone pebbles may provide information on movements across the landscape;
- The outcrops of grey and black quartzite show some signs of knapping – the occasional outcrop has a coherent scatter of material around it which suggests some *in situ* material. In addition, these outcrops appear to have served as some type of foci on the landscape, and often there is evidence for the flaking of other raw material in the vicinity;
- Detailed measurements and recording of stone artefacts, such as handaxes, may provide an indirect form of dating through comparison with similar industries documented elsewhere;
- Due to potential cumulative impacts in the area, some limited sampling of artefactual material should occur.

Table 3: Potential impact to pre-colonial Archaeology

	Extent	Intensity	Duration	Consequence	Probability	Significance	Status	Confidence
Without mitigation	1 Local	1 Local	3 Irreversible	5 Low	Probable	Low - Medium	Negative	High
Essential Mitigation Measures: • Limited sampling of archaeological scatters is recommended. This may include measurements of artefacts in the field; • If any significant concentrations of archaeological material area uncovered, then work in that area should stop, and SAHRA (Telephone: 021 462 4502) should be contacted. Best Practice Mitigation Measures: • Archaeological remains are best left *in situ*, and conserved for the future. If this is not possible then mitigation in the form of excavation or sampling with a permit will be required.								
With mitigation	1 Low	1 Low	3 Irreversible	5 Low	Improbable	Very Low	Neutral	High

7.2 Impact on Colonial Period Archaeology

The 1:50 000 maps and Google imagery confirm that there are no farm buildings or structures on the land identified for the solar facility. No historical archaeological material was identified during the survey.

7.3 Impacts to Graves

The landowner was interviewed with respect to graveyards on the property and confirmed that none were present. No cairns were recorded during our survey.

Table 4: Potential Impacts to Graves

	Extent	**Intensity**	**Duration**	**Consequence**	**Probability**	**Significance**	**Status**	**Confidence**
Without mitigation	1 Local	1 High	3 Irreversible	5 Low	Probable	High	Negative	High
Essential Mitigation Measures: • If any human remains are uncovered during construction, then work in that area should stop immediately, and SAHRA (Telephone: 021 462 4502) should be contacted. Best Practice Mitigation Measures: • Human remains are best left *in situ*. If it becomes necessary to exhume human remains, then application must be made to SAHRA.								
With mitigation	1 Low	1 Low	3 Irreversible	5 Low	Improbable	High	Neutral	High

Human remains are the most complicated aspects of heritage to mitigate since they require a separate public participation process (See Section 36 of the NHRA) before they can be exhumed. Human remains are protected by a range of legislation including the Human Tissues Act (Act No 65 of 1983), the Exhumation Ordinance of 1980 and the National Heritage Resources Act (Act No 25 of 1999). In the event of human bones being found on site, SAHRA must be informed immediately and the remains removed by an archaeologist under an emergency permit. This process will incur some expense as removal of human remains is at the cost of the developer.

Time delays may result while application is made to the authorities and an archaeologist is appointed to do the work.

7.4 Impacts of Powerlines and Access Roads

Potential impacts caused by a 132 kV power line and the power line access roads are likely to be limited and local.

The proposed development site is located at the intersection between the R357 and the gravel road to Copperton and access roads will be short and unlikely to result in any significant impact.

A number of alternative power line options are proposed (Figure 2) to transfer the power to the closest substation. The alternative grid connections, via a 132 kV powerline, to the Cuprum or Kronos substations are shown on Figure 2. It was not possible to drive down all the alternative routes as they cross other properties. However, inferences may be drawn from the other CRM projects undertaken in proximity to the site. It is concluded that the impacts will be limited.

7.5 Cumulative Impact

Of concern, however, is the increasing number of solar facilities in this area (Figure 5). The cumulative impacts of the developments will result in widespread destruction of surface distributions of ESA and MSA material. Although many of these distributions/sites have, individually, been rated as having low significance, the cumulative impact of the removal of all archaeological material will result in the destruction of large areas of archaeology.

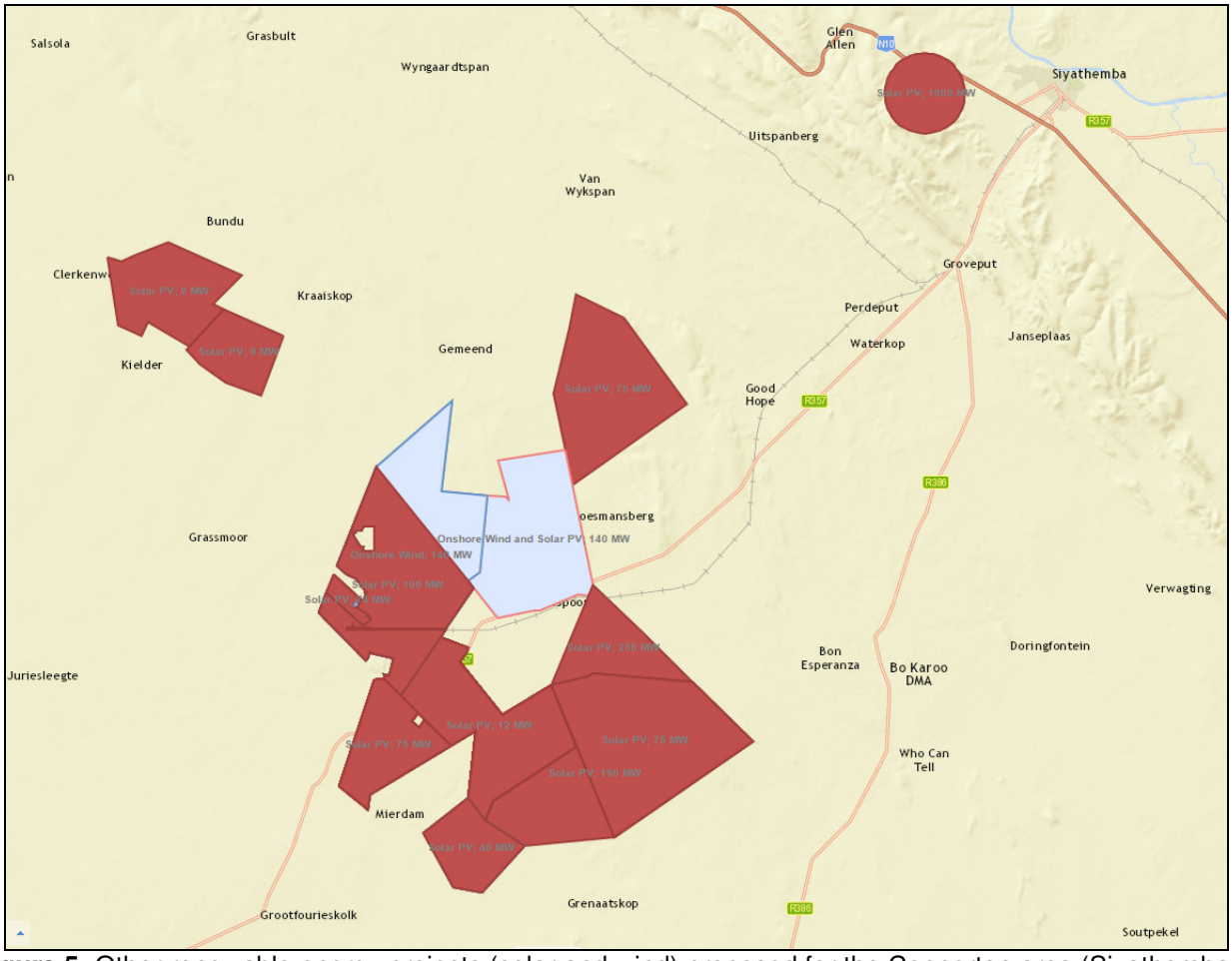

Figure 5: Other renewable energy projects (solar and wind) proposed for the Copperton area (Siyathemba is also known as Prieska). Humansrus Solar PV Energy Facility 2 will be situated on the farm Humansrus in the centre of the map where no projects are indicated as yet. (DEA renewable energy map https://dea.maps.arcgis.com) (Subject to change)

8. CONCLUSIONS AND RECOMMENDATIONS

Indications are that in terms of archaeological heritage the proposed activity is viable. Impacts are expected to be limited and controllable.

Construction of the proposed solar facility may proceed according to the layout assessed in this report. The following recommendations should be enforced:

- Limited sampling of stone artefacts should be undertaken due to the nature of the activity and the potential high cumulative effect of a number of PV facilities in the area. Sampling should be made in various parts of the farm to broadly document the types of raw material and artefacts distributed across the farm. Samples should be in areas in the order of 20x20 meters and should probably not be in less than five areas. Artefacts should be documented and photographed, and thereafter placed into durable containers and be buried on the site at a known point which will not be impacted by the construction.
- If any human remains are uncovered during construction, the ECO should have the area fenced off and contact SAHRA (Tel: 021 462 4502) immediately.

If there are any significant changes to the layout of the facility, the new design should be assessed by a heritage practitioner.

9. REFERENCES

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Table 2: List of archaeological sites recorded during the survey.

Site Name	Longitude	Latitude	Site description	Significance
L001	22.39522688	-29.99893597	General background spread of Qzte core, hornfels MSA flake, an adze like heavily patinated flake. Some small quartz cores. 1 silcrete (fine grained quartzite?) handaxe with the tip missing	Low
L002	22.39707048	-29.99720067	Large quartzite cores. Many are irregular.	Low
L003	22.39930786	-29.99647102	Ditto	Low
L004	22.40003700	-29.99616131	Ditto	Low
L005	22.39971480	-29.99611328	A weathered hornfels biface. 2 quarzite cores. 1 black quartzite?	Low
L006	22.39949754	-29.99584699	A triangular (convergent) MSA flake	Low
L007	22.39892313	-29.99490512	Ditto	Low
L008	22.39766392	-29.99450136	Ditto. A few banded ironstone flakes.	Low
L009	22.39614780	-29.99496396	Ditto. Quartzite core	Low
L010	22.39561253	-29.99531315	Ditto. 1 white chert flake with retouch	Low
L011	22.39948137	-29.99127030	Next to the powerline servitude – several bedrock boulders with dense distribution of stone artefacts. Concentration of weathered ESA on hornfels. Crude handaxe. Smaller quartzite flakes – probably MSA. Some banded ironstone cores, 1 blade in hornfels, etc. Some quartzite which appears fresh – LSA? At least 5-7 artefacts per square metre.	Low-Medium
L012	22.40167181	-29.99240982	Stone artefacts scatter	Low
L013	22.39989275	-29.99395369	Ditto	Low
L014	22.39981622	-29.99455886	Ditto	Low
L015	22.39979653	-29.99482390	Ditto. Quartzite radial core, quartzite blade, 1 banded ironstone core	Low
L016	22.40030103	-29.99511559	Possible bedrock factory site. Rock flaked.	Low
L017	22.40109254	-29.99610457	Stone artefacts scatter	Low
L018	22.40144055	-29.99584196	Ditto	Low
L019	22.40197934	-29.99555119	Ditto	Low
L020	22.40233256	-29.99529630	Ditto. Plus one large cartridge case	Low
L021	22.40338574	-29.99492129	Artefact scatter	Low
L022	22.40363133	-29.99484753	Ditto	Low
L023	22.40482005	-29.99418193	Black quartzite debitage	Low
L024	22.40647858	-29.99263220	Artefact scatter	Low
L025	22.40722507	-29.99229717	Higher distribution of quartz chunks, some of them flaked	Low
L026	22.40773872	-29.99183256	Artefact scatter	Low
L027	22.40788674	-29.99068919	Soft red soil amongst the knee-high bushes. A red jasper core. Quartzite core	Low
L028	22.39858719	-29.98388744	Artefact scatter	Low
L029	22.39756451	-29.98485044	Artefact scatter	Low
L030	22.39731381	-29.98503258	Ditto. Bipolar core and one weathered blade	Low
L031	22.39622324	-29.98566390	Artefact scatter	Low

L032	22.39395493	-29.98736677	Outcrop of grey quartzite. Debitage of this coarse grey quartzite around as well as more finer grained quartzite. Possibly a knapping site.	Low
L033	22.39252305	-29.98107489	Artefact scatters. They appear to lie on calcretes pavements where the red soils have been deflated.	Low
L034	22.39369048	-29.97454279	Ditto	Low
L035	22.39040343	-29.97575230	Ditto	Low
L036	22.38938830	-29.97607986	Ditto. A handaxe with a very thick butt.	Low
L037	22.38895445	-29.97620207	Ditto. Near the railway line and quite disturbed	Low
L038	22.38841315	-29.97398724	Artefact scatter	Low
L039	22.38808936	-29.97657540	Ditto	Low
L040	22.37919264	-29.97987184	Ditto	Low
L041	22.37674872	-29.98354982	Quartzite bedrock flaked	Low
L042	22.37672735	-29.98385970	Ditto	Low
L043	22.38314906	-29.98534187	Artefacts scatter	Low
L044	22.38357863	-29.98494951	Ditto	Low
L045	22.38328326	-29.98359265	Ditto	Low
L046	22.38296675	-29.98273032	Ditto	Low
L047	22.38292719	-29.98192448	Bedrock outcrop	Low
L048	22.38793437	-29.98472974	Artefact scatter	Low
L049	22.39171411	-29.99866993	Ditto	Low
L050/D018	22.38837015	-29.99906438	Flake with retouch. One very weathered handaxe	Low
L051	22.38594040	-29.99977726	Quartz chunk and one weathered hornfels flake	Low
L052	22.37438846	-29.98500525	Quartzite and silcrete cores	Low
L053	22.39330064	-29.99731760	Ditto	Low
L054	22.38902410	-29.98835265	Ditto	Low
L055	22.38993304	-29.98749727	4 implements; ine fine-grained quartzite flake with retouch; 3 quartzite artefacts. Large number of grey quartzite blocks around here	Low
D001	22.39482002	-29.99585797	General background. Grey quartzite and hornfels	Low
D002	22.39528899	-29.99543100	Scatter of ESA? Quartzite, hornfels. Possibly small biface on a cobble.	Low
D003	22.39804404	-29.99341498	General scatter	Low
D004	22.39997598	-29.99190699	Isolated artefacts. ESA? Biface?	Low
D005	22.39611000	-29.99223003	Ditto	Low
D006	22.39465498	-29.99199400	Fine-grained rock. MSA. An artefact which looks like a large adze	Low
D007	22.40209401	-29.99206801	Typically rocky platform with general scatter	Low
D008	22.40241302	-29.99046396	General scatter	Low
D009	22.40251897	-29.99007898	Big weathered handaxe	Low
D010	22.40321299	-29.98905899	General	Low
D011	22.40475903	-29.99172402	Classic handaxe on patinated quartzite	Low
D012	22.40407004	-29.99178898	Handaxe on grey quartzite	Low
D013	22.39432398	-29.98687802	Grey quartzite outcrop scatter - quarried	Low

D014	22.38875102	-29.97605396	Big pavement with weathered artefacts	Low
D015	22.38888798	-29.97442796	General scatter around stockpost at dam	Low
D016	22.38228799	-29.97853803	Pebble pavement with usual artefacts. Low density	Low
D017	22.38702402	-29.98110096	Dense pavement with low density artefacts. One levallois flake	Low
D018	22.38847299	-29.99847203	Dense pavement with usual artefacts. Possible weathered handaxe?	Low
D019	22.38569297	-29.99938902	Dense pavement with usual artefacts. Low density. Semi discreet patch	Low
D020	22.37375597	-29.99988497	Grey quartzite outcrop with flaking scars. Very occasional artefacts in vicinity	Low
D021	22.37241402	-29.99865602	Ditto	Low
D022	22.37033397	-29.99545698	Ditto	Low
D023	22.37452098	-29.98479797	Ditto	Low
D024	22.39001401	-29.99200900	Ditto	Low
D025	22.39302898	-29.99682197	Ditto	Low
D026	22.39370003	-29.99784700	Ditto	Low
D027	22.38358802	-29.99946504	Ditto	Low
D028	22.38343597	-29.99912197	Ditto	Low
D029	22.38325300	-29.99786602	Ditto	Low
D030	22.38245797	-29.99639299	Ditto	Low
D031	22.38238396	-29.99568698	Ditto	Low
D032	22.38236602	-29.99537802	Ditto	Low
D033	22.38241397	-29.99512598	Ditto	Low
D034	22.38214700	-29.99466204	Ditto	Low
D035	22.38153596	-29.99425703	Ditto	Low
D036	22.38136598	-29.99333301	Ditto	Low
D037	22.38136003	-29.99324198	Ditto	Low
D038	22.38110899	-29.99285096	Ditto	Low
D039	22.38655203	-29.98748797	Ditto	Low