

SCOPING HERITAGE IMPACT ASSESSMENT FOR PROPOSED PROSPECTING ON FARMS 53, 56, 566 AND 567, HAY MAGISTERIAL DISTRICT, NORTHERN CAPE

Required under Section 38 (8) of the National Heritage Resources Act (No. 25 of 1999).

Report for:

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EXECUTIVE SUMMARY

ASHA Consulting (Pty) Ltd was appointed by Rosenthal Environmental to conduct a desktop scoping assessment of the potential impacts to heritage resources that might occur through proposed prospecting on Farms 53, 56, 566 and 567 in the Hay Magisterial District, 17 km north of Griquatown in the Northern Cape. As the prospecting will have a relatively limited footprint, a desktop study is considered all that is necessary to highlight any possible concerns with regards to heritage resources.

The drilling will directly disturb less than 5 m² of land per hole but all activities for each of the five to ten holes would occur within a 1000 m² fenced area.

The desktop study has revealed a variety of pre-colonial and historical heritage resources to be present in the area, including the Grade 1 National Heritage Site of Wonderwerk Cave some 90 km north of the study area. Stone Age sites along water courses and unmarked graves are the two primary concerns for the proposed project, although the latter are highly unlikely to be encountered. However, it should be possible to avoid impacts to archaeological heritage resources if the recommendations presented below are entrenched in the Environmental Management Plan for the project and implemented on site. Although less than 5 m² of land per hole will experience destructive impacts, it should be noted that with all activities focused within areas of approximately 1000 m² per hole it is likely that any archaeological material within these areas may well be damaged during the course of a week of activity. It should be noted that due to the nature of the development there will be no impacts to any built environment resources or to the cultural landscape.

It is recommended that the proposed prospecting (five drill holes) be allowed to proceed as planned with the addition of five further holes (up to a maximum of ten) if required. This is subject to the following recommendations:

- All drilling sites should be located at least 100 m from water courses and pans;
- If any area containing stone artefacts in reasonable numbers (e.g. more than 10 within a few metres of one another) is noted during site selection and/or preparation then the drill site should either be moved to exclude such area of artefacts with a buffer of 10 m (if possible) or else inspected by an archaeologist prior to any disturbance;
- If any engraved rocks are noted they should be protected from harm during prospecting;
- If any archaeological material is uncovered during the course of development then work in the immediate area should be halted. The find will need to be reported to the heritage authorities and may require inspection by an archaeologist. Such material is the property of the state and may require excavation and curation in an approved institution; and
- If any change to the prospecting plan occurs (or if more invasive methods such as trenching are considered at a later stage) then this will need to be evaluated by an archaeologist, possibly with a field survey.

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Abbreviations used in the report:

ASAPA	- Association of Southern African Professional Archaeologists
DMR	- Department of Mineral Resources
EMP	- Environmental Management Plan
ESA	- Early Stone Age
HIA	- Heritage Impact Assessment
LSA	- Later Stone Age
NHRA	- National Heritage Resources Act
MSA	- Middle Stone Age
SAHRA	- South African Heritage Resources Agency
UCT	- University of Cape Town

1. INTRODUCTION

ASHA Consulting (Pty) Ltd was appointed by Rosenthal Environmental to conduct a desktop scoping assessment of the potential impacts to heritage resources that might occur through proposed prospecting on Farms 53, 56, 566 and 567 in the Hay Magisterial District, 17 km north of Griquatown in the Northern Cape. As the prospecting will have a relatively limited footprint, a desktop study is considered all that is necessary to highlight any possible concerns with regards to heritage resources.

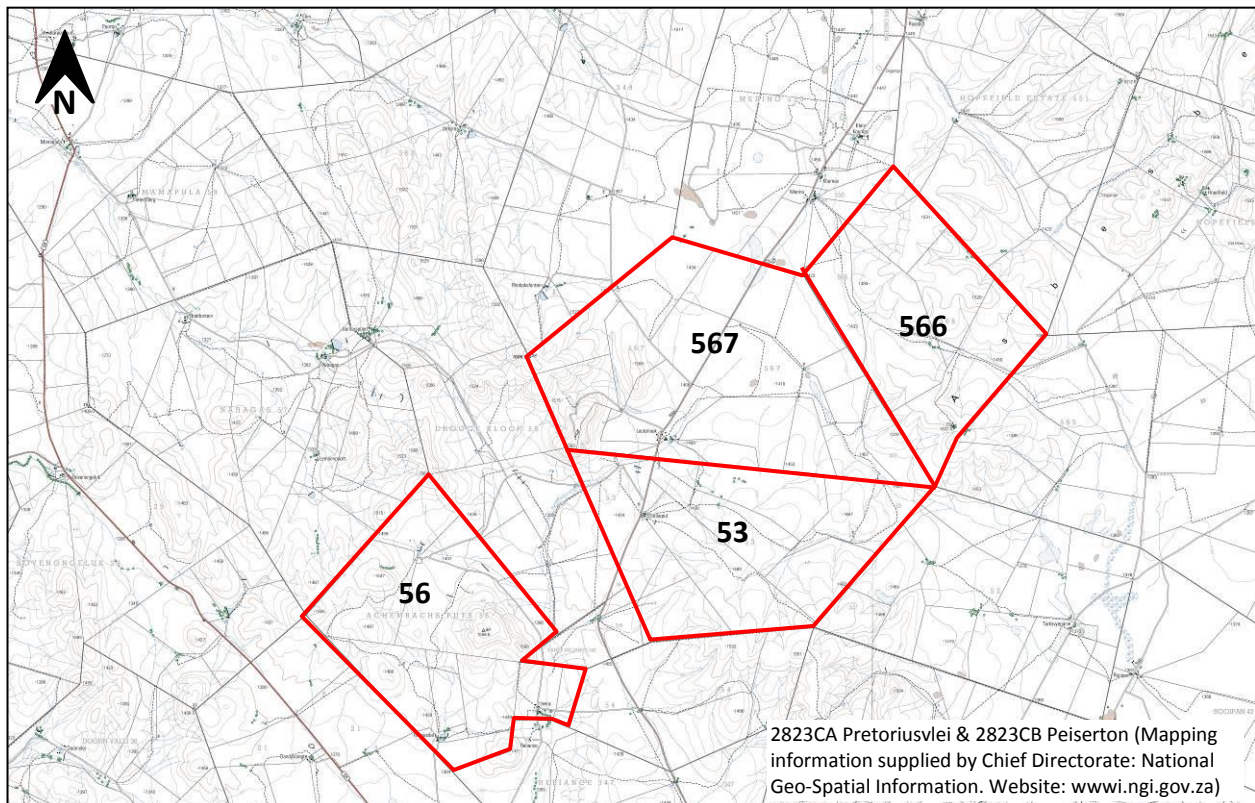


Figure 1: Map showing the location of the farms on which the proposed prospecting would occur. The R325 road runs along the western edge of the map, while Postmasburg lies out of picture to the north and Griquatown to the south, both along the R325.

1.1. Project description

- Initially, five drill sites will be established, each approximately 1000 square meters in area. All activities related to the drilling operation (drill rig placement, sumps, small core logging tent and on-site core storage) will be contained in this area which will also be fenced off. No heavy equipment or excavators will be used on site.
- Each hole will be 60 mm in diameter and up to 250m deep. The holes will be drilled using a truck mounted drill rig and it is anticipated that approximately one week will be required per hole. A slab of 1.5 x 1.5 m will be cast around each hole.
- A single sump will be required for each drill hole. These will be dug by hand and will be approximately 1.5 m x 1.5 m x 1 m.
- A single small topsoil storage area will be required per drill hole. These would be for storage of the soil removed from the sumps.

- Based on the results of these initial five holes, up to five more holes may be drilled if required. No more than ten holes would be drilled in total.
- After the completion of prospecting, the holes will be capped and the drilling areas cleared of foreign materials and rehabilitated.

1.2. Terms of reference

ASHA Consulting was requested to conduct a desktop heritage assessment for the proposed project in order to inform on what types of heritage resources might be present in the study area. The report was to highlight measures necessary to minimise impacts to heritage resources and that could be included in the project Environmental Management Plan (EMP).

1.3. Scope and purpose of the report

A heritage impact assessment (HIA) is a means of identifying any significant heritage resources before development begins so that these can be managed in such a way as to allow the development to proceed (if appropriate) without undue impacts to the fragile heritage of South Africa. The present prospecting project is too small to merit a field study but nevertheless the desktop scoping report will provide guidelines to help reduce the risk of impacting heritage resources. It aims to fulfil the requirements of the heritage authorities such that a comment can be issued for consideration by the Department of Mineral Resources (DMR) who will review the EMP and grant or withhold authorisation. The report will outline any mitigation requirements that will need to be complied with from a heritage point of view and that should be included in the conditions of authorisation should this be granted.

1.4. The author

Dr Jayson Orton has an MA (UCT, 2004) and a D.Phil (Oxford, UK, 2013), both in archaeology, and has been conducting Heritage Impact Assessments in the Western Cape and Northern Cape provinces of South Africa since 2004. He has also conducted research on aspects of the Later Stone Age in these provinces and published widely on the topic. He is accredited with the Association of Southern African Professional Archaeologists (ASAPA) CRM section (Member #233).

ASHA Consulting (Pty) Ltd and its consultants have no financial or other interest in the proposed development and will derive no benefits other than fair remuneration for consulting services provided.

2. HERITAGE LEGISLATION

The National Heritage Resources Act (NHRA) No. 25 of 1999 protects a variety of heritage resources as follows:

- Section 34: structures older than 60 years;
- Section 35: palaeontological, prehistoric and historical material (including ruins) more than 100 years old;
- Section 36: graves and human remains older than 60 years and located outside of a formal cemetery administered by a local authority; and

- Section 37: public monuments and memorials.

Following Section 2, the definitions applicable to the above protections are as follows:

- Structures: “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”;
- Palaeontological material: “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”;
- Archaeological material: a) “material remains resulting from human activity which are 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”; b) “rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation”; c) “wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the Republic, as defined respectively in sections 3, 4 and 6 of the Maritime Zones Act, 1994 (Act No. 15 of 1994), and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation”; and d) “features, structures and artefacts associated with military history which are older than 75 years and the sites on which they are found”;
- Grave: “means a place of interment and includes the contents, headstone or other marker of such a place and any other structure on or associated with such place”; and
- Public monuments and memorials: “all monuments and memorials a) “erected on land belonging to any branch of central, provincial or local government, or on land belonging to any organisation funded by or established in terms of the legislation of such a branch of government”; or b) “which were paid for by public subscription, government funds, or a public-spirited or military organisation, and are on land belonging to any private individual.”

While landscapes with cultural significance do not have a dedicated Section in the NHRA, they are protected under the definition of the National Estate (Section 3). Section 3(2)(c) and (d) list “historical settlements and townscapes” and “landscapes and natural features of cultural significance” as part of the National Estate. Furthermore, Section 3(3) describes the reasons a place or object may have cultural heritage value.

Section 38 (2a) states that if there is reason to believe that heritage resources will be affected then an impact assessment report must be submitted. This report fulfils that requirement.

Since the project requires an EMP, Ngwao-Boswa Ya Kapa Bokoni (Heritage Northern Cape; for built environment and cultural landscapes) and the South African Heritage Resources Agency (SAHRA; for archaeology and palaeontology) are required to provide comment on the proposed project in order to facilitate final decision making by the Department of Mineral Resources (DMR).

3. METHODS

3.1. Literature survey

A survey of available literature was carried out to assess the general heritage context into which the development was to be set. This literature included published material, unpublished commercial reports and online material.

3.2. Impact assessment

No formal impact assessment was undertaken since, without a field study, there were no positively identified heritage resources to assess.

3.3. Assumptions and limitations

It was assumed that archaeological resources would be distributed as expected with a focus along streams and on hilltops.

A significant limitation was that few heritage reports are available for the region with many applications on the South African Heritage Resources Information System (SAHRIS) still showing as 'studies pending'.

4. PHYSICAL ENVIRONMENTAL CONTEXT

4.1. Site context

The area is generally used for grazing land and lies in the low hills between Postmasburg and Griquatown. The hills are part of the range known as the Asbestos Mountains which stretch from Kuruman in the northeast to Prieska in the southwest. In the north they are referred to locally as the Kuruman Hills, while in the south, where the present study area lies, they are known as the Asbestos Hills (see Figure 2). The area is well known for its asbestos mines that were operational during the early to mid-20th century and many very small-scale excavations can be seen in places (e.g. Halkett 2009).

4.2. Site description

The site is composed of gently undulating hills coated with grassland and scattered low bushes (Figure 3). Aerial photography reveals the presence of several pans in the area.



Figure 2: Aerial view of the study area showing the hilly nature of the terrain and the five proposed drill locations (not necessarily finalised). The R325 roads crosses the lower left hand corner of the image and the black bar at lower right is a 2 km scale.



Figure 3: View of the landscape south of the R357, some 35 km to the north of the study area (source: Google Earth Street View).

5. CULTURAL HERITAGE CONTEXT

This section of the report establishes what is already known about heritage resources in the vicinity of the study area. In the present case, the archaeological component is by far the most significant.

5.1. Archaeological aspects

The Kuruman Hills have been made famous by the well-known archaeological site of Wonderwerk Cave which lies 90 km north of the study area. Several other well-known archaeological sites also exist in the range including Blinkklipkop and Doornfontein located some 40 to 50 km north of the study area, Burchell's Shelter 65 km to the east and the shelters at Dikbosch and Lime Rock slightly further east again. These latter sites in the east lie along the Ghaap Escarpment overlooking the Vaal River. These sites are briefly discussed below.

Wonderwerk Cave is one of the most important archaeological sites in South Africa and has been declared a Grade 1 National Heritage Site (SAHRA 2010). It is located in the side of a koppie but has a large deposit-filled tunnel stretching back well over 100 m. Humphreys and Thackeray (1983) note that the cave was first described in the mid-19th century, although it was only in 1943 that the first formal archaeological excavations took place (Malan & Wells 1943). Peter Beaumont (1979) conducted further excavations from 1978. The following year further excavations were undertaken by Anne and Francis Thackeray as reported extensively by Humphreys and Thackeray (1983). Their excavations focused on the Later Stone Age (LSA) deposits and revealed a very rich cultural assemblage. However, much earlier material is present with the Middle Stone Age (MSA) and Early Stone Age (ESA) well represented. The latter is particularly significant in that there are few in situ ESA deposits known. The ESA at Wonderwerk was recently explored in detail by Chazan *et al.* (2012). In total, the archaeological deposits in the cave are around 6 m deep (Beaumont & Vogel 2006).

The site of Blinkklipkop is a prehistoric specularite mine dating back more than 1200 years and located in the base of a small koppie close to Postmasburg (Humphreys & Thackeray 1983; Thackeray *et al.* 1983). It seems to have been used by the San, the Khoekhoen and also Iron Age Tswana people. The site also revealed a rich cultural deposit with stone and ostrich eggshell artefacts, bone and pottery. Another pigment mine, Doornfontein 1, was excavated by Beaumont and Boshier (1974) and found to contain similar materials.

Moving eastwards, several rock shelters have been excavated along the Ghaap Escarpment and these have contributed much to our knowledge of the region's archaeology. More importantly in the context of the present report, out in the open close to the Lime Rock 1 and 2 shelters a stone circle of 7.5 by 5.5 m was found and interpreted to be a foundation for a shelter. Unfortunately erosion had removed any associated artefacts and/or deposit so the feature could not be excavated (Humphreys & Thackeray 1983). Many other stone circles are known from the wider region, however, and excavations have shown that at least some of these were inhabited by people (e.g. Parsons 2004).

Archaeological material has also been found in the open in the region, particularly around the margins of pans, rivers and seasonally wet areas, although no sites of high research quality have been reported (e.g. Fourie 2012; Henderson 2000, 2005; Pelsler 2012; Webley 2010) and in small

rock shelters (Halkett 2009). This, of course, does not preclude their presence in the area. Ostrich eggshell caches have been found in many areas of western South Africa. One was reported by Henderson (2000) from approximately 100 km southeast of the study area. The cache had five eggshells but, significantly, two of these had small clay spouts on them. Henderson (2000) goes on to describe an early account by James Backhouse who, in 1839, saw Bushmen using ostrich eggshells with similar spouts on them as water containers. He was close to Griquatown at the time.

The majority of open sites will be comprised of scatters of stone artefacts, likely all made in banded ironstone. These artefacts would be distinctive because of their angular appearance and typical orange-brown to dark brown colouring (Figures 4 & 5).



Figure 4: Banded ironstone artefacts from a site near Kakamas (source Orton et al. 2012: fig. 9).



Figure 5: Banded ironstone artefacts from the Kuruman Hills north of Wonderwerk Cave (source: Halkett 2009: 11).

Based primarily on historical writings, Humphreys (1974) has noted that Iron Age people may well have occupied the northern part of the Asbestos Mountains in the 18th century, although at the time of his writing archaeological evidence was lacking. Mitchell (2002) maps the latest Iron Age presence (in c. 1850) as lying to the north of the present study area.

Rock art is also present in the region and multiple authoring groups have been identified. San art seems to be relatively uncommon but does occur. It is identified by its application in the fine-line technique with the dominant motifs being realistic animals and humans. Khoekhoen art is finger-painted and generally focused on the production of geometric imagery (Eastwood & Smith 2005; Orton 2013; Smith & Ouzman 2004). A third rock art tradition potentially present in the study area is Korana art. It is distinguished by its coarse-grained paints that are roughly applied by finger, stick or grass bundle. There is a high frequency of horses in the subject matter (Ouzman 2005).

Although the first rock art tracings from Wonderwerk were made in 1921 by Maria Wilman (Humphreys & Thackeray 1983), it was only in the 1960s that publication of the art took place (Fock 1969; Rudner & Rudner 1968; Willcox 1965). The art is mostly geometric, but some eland are also on record from the site. Just north of Wonderwerk and south of Kuruman, Halkett (2009) recorded three rock shelters with finger paintings in them.

Engravings also occur in the region. Morris (1988) examined the range of rock art present in the Northern Cape region concluding that fine line engravings were the oldest followed by scraped

and pecked engravings. Finger-painted art is later still with recent scratched images the most recent, perhaps dating from the 19th century. The nearest art to the study area that he reports is the engravings from Danielskuil (see also Collins 1973) and the painted art at Wonderwerk Cave. A significant find buried at Wonderwerk was a stone slab with a partial engraving of an animal on it. The slab came from an early Holocene layer, but others were also found in more recent layers. Engravings are also known from Beeshoek, near Postmasburg (Birkholtz 2013). Beaumont and Vogel (1989) note the presence of rock engravings to the northwest of Postmasburg while Henderson (2000) reports the presence of animal engravings (particularly rhinoceros) to the north of Hopetown.

Humphreys and Thackeray (1983) summarise their LSA rock shelter research as follows: Deposits stretching back 13 000 years were found but with the first 3000 years of that period poorly represented. The early Holocene assemblages use mainly banded ironstone and dolomite with retouched artefacts being mostly oblong scrapers with retouch on their sides. Adzes also occur. Ostrich eggshell beads were also found. A second stone artefact industry occurs from about 8500 years ago onwards. In this period the stone materials used were far more varied with the introduction of those available in small nodules (quartz & crypto-crystalline silica). Retouched tools include backed tools and scrapers with the former particularly abundant between about 6000 and 4000 years ago. It is noticeable that scrapers made on banded ironstone and hornfels tend to be far larger than those on crypto-crystalline rocks. Decorative artefacts such as ostrich eggshell beads, stone rings and stone pendants also occur at this time

5.2. Historical aspects & the built environment

The Griqua people (also sometime known as the Korana, although this term is better used for their language) were a group of Khoekhoen who moved into this region just over 200 years ago. They were led from Piketberg in the Western Cape to this area by a freed slave called Adam Kok. Originally known as Klaarwater, Griquatown was renamed by the Scottish missionary, John Campbell, in 1813 in honour of the Khoekhoen (Griqua) people (Wikipedia 2013). Aside from the exploration of recent finger-painted art, there is no other archaeological work that has explored these recent developments in the area (Mitchell 2002).

The London Missionary Society began a mission in the area after 1833. Although it had its roots earlier, the town of Postmasburg was only formally founded in 1893. It became a municipality in 1936. In 1892 it was given the name Postmasburg after the Reverend Dirk Postma who was the first minister of the local Dutch Reformed Church – it was previously known as Blinkklip. Diamonds were discovered in the area in 1918 and several diamond mines have operated since then (Green Kalahari n.d.).

It was only shortly after the founding of Postmasburg that the Second Anlgo-Boer War broke out in 1899. Griquatown was soon captured by the Boer forces. Quite late in the war a small battle took place in the area, at Doornfontein, when Boer forces attacked a British unit under Major Whitehead. Twenty-four British troops were killed, including Major Whitehead (Grobler 2004). Another local battle occurred 15 miles from Griquatown at Rooikoppies. In this instance a convoy of the 14th Company of Irish Imperial Yeomanry was taking food to Griquatown when they were attacked by several hundred Boer forces. A fight ensued in which fourteen Irishmen and some 30 to 40 Boers were killed (AngloBoerWar.com n.d.).

Recent heritage is represented by farmhouses, outbuildings, kraals, dams and other farm-related structures – sometimes in ruin. In general most structures in this area date no earlier than the early 20th century. The diggings of asbestos miners and the structures associated with such diggings have also been reported (Halkett 2009; Webley 2010). The hills are called the Asbestos Mountains because they are a well-known source of this material and have been exploited for this purpose since 1893 (Wikipedia 2013). Graves of farm owners and workers are also expected on most farms (e.g. Fourie 2012; Halkett 2009; Webley 2010).

6. POTENTIAL IMPACTS TO HERITAGE RESOURCES

The main concern relating to prospecting on the subject properties relates to open Stone Age sites. The desktop review indicates that in this region archaeological sites, if not in rock shelters, will tend to be located along water courses or adjacent to seasonally wet areas. This means that any drilling activities conducted within close proximity of such areas will have the potential to impact upon Stone Age sites. Two of the currently proposed drill sites (the eastern- and westernmost ones) are located within 100 m of water courses. Also possibly of concern could be the presence of engravings, although this is deemed unlikely given the local geology (banded ironstone).

Graves can always be located in unexpected locations, particularly unmarked pre-colonial graves, and there is thus the potential, albeit very small, for such graves to be intersected. Graves are always regarded as being of very high significance.

The prospecting would certainly avoid all other more obvious aspects of heritage like rock shelters, structures and formal graveyards.

7. CONCLUSIONS

As indicated above, Stone Age sites along water courses and unmarked graves are the two primary concerns for the proposed project, although the latter are highly unlikely to be encountered. However, it should be possible to avoid impacts to archaeological heritage resources if the recommendations presented below are entrenched in the Environmental Management Plan for the project and implemented on site. Although less than 5 m² of land per hole will experience destructive impacts, it should be noted that with all activities focused within areas of approximately 1000 m² per hole it is likely that any archaeological material within these areas may well be damaged during the course of a week of activity. The total area that might be disturbed is thus a maximum of approximately 10 000 m². It should be noted that due to the nature of the development there will be no impacts to any built environment resources or to the cultural landscape.

8. RECOMMENDATIONS

It is recommended that the proposed prospecting (five drill holes) be allowed to proceed as planned with the addition of five further holes (up to a maximum of ten) if required. This is subject to the following recommendations:

- All drilling sites should be located at least 100 m from water courses and pans;
- If any area containing stone artefacts in reasonable numbers (e.g. more than 10 within a few metres of one another) is noted during site selection and/or preparation then the drill site should either be moved to exclude such area of artefacts with a buffer of 10 m (if possible) or else inspected by an archaeologist prior to any disturbance;
- If any engraved rocks are noted they should be protected from harm during prospecting;
- If any archaeological material is uncovered during the course of development then work in the immediate area should be halted. The find will need to be reported to the heritage authorities and may require inspection by an archaeologist. Such material is the property of the state and may require excavation and curation in an approved institution; and
- If any change to the prospecting plan occurs (or if more invasive methods such as trenching are considered at a later stage) then this will need to be evaluated by an archaeologist, possibly with a field survey.

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