Appendix N

ABORIGINAL CULTURAL HERITAGE
ASSESSMENT

Aboriginal Cultural Heritage Assessment Cowra Heavy Vehicle By-Pass Cowra, NSW.

Report to Geolyse Pty Ltd

Doug Williams May 2016



PO Box 816 MORYUA NSW 2537

Phone: 0412 997177

E-mail: dwilliams@accessarchaeology.com

Disclaimer

Any representations, statements, opinions or advice expressed or implied in this document is made in good faith but provided on the condition that Access Archaeology & Heritage Pty Ltd, its Director, agents or employees are not liable for any damage or loss whatsoever which has occurred or may occur, in relation to taking or not taking (as the case may be) action on the basis of those representations, statements or advice.

Doug Williams Principal Consultant

Document Management						
11/04/2016	Draft to D.Walker Geolyse	D.Williams				
11/04/2016	Geolyse Comments to AAH	D.Walker				
11/04/2016	RevB report to Geolyse	D.Williams				
08/06/2016	Final to Geolyse	D.Williams				

Table of Contents

<u>SECTION</u>		PAGE
Title Page		
Document Ma	i	
Table of Cont	ii	
1. INTRODU		1
1.1	Background	1
1.2	Nature of the Development	1
1.3	Project Objectives	2
1.4	Participants	2
2. LEGISLAT	2	
2.1	National Parks and Wildlife Act 1974 (NSW)	2
3. ENVIRON	4	
4. CONSULT	5	
5. ARCHAE	6	
6. METHOD	8	
7. REGISTE	8	
7.1	AHIMS Search	8
7.2	Field Inspection	8
7.3	Further Archaeological Investigation	18
8. DISCUSSI	ON	35
9. MANAGEI	MENT RECOMMENDATIONS	36
10. REFERE	37	
Attachment 1	I. Notifications, responses, correspondance	
Attachment 2	2. Consultation Register	
Attachment 3	B. Subsurface Probe Photographs	
Attachment 4	I. Subsurface Probe Records	
Attachment 5	5. Artefact Records	



1. INTRODUCTION

1.1 Background

Cowra City Council is preparing a Review of Environmental Factors for a proposed Heavy vehicle By-pass of Cowra, to be known as the 'Southern Ring Road' (Figure 1). The road will be c.8.4km long, and follow approximately the southern outskirts of Cowra. From the west, it will leave Grenfell Road at Airport Road, following Airport road to Boundary Road. At the eastern end of Boundary Road it will follow Fishburn Street around to the Lachlan Valley Way, and cross the Lachlan River. From that point it will approximately follow Campbell Street to its intersection with the Mid Western Highway (Figure 1). Part of this alignment will be an upgrade and widening of the existing road, and part will be construction of a new carriageway, including a new river crossing.

As part of the assessment of a range of environmental issues the proponent was required to undertake a study of Aboriginal Cultural Heritage. Access Archaeology & Heritage Pty Ltd was engaged to prepare an Aboriginal Cultural Heritage Assessment Report which included commencing a notification and consultation program to engage Interested Aboriginal Parties.

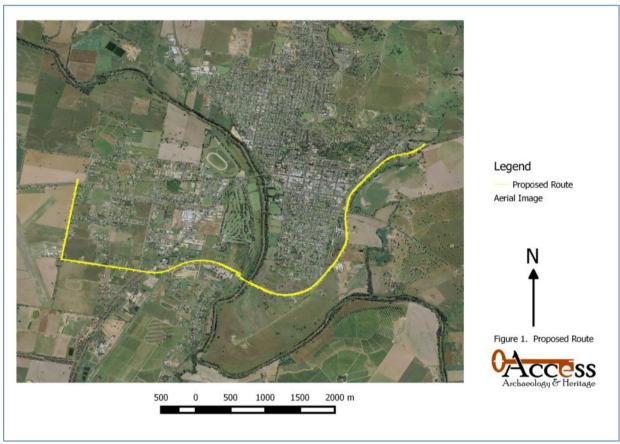


Figure 1. The Development Area

1.2 The Nature of the Development

The project elements described above will involve linear disturbance to specific corridors up to 30m wide. Road cuttings will cut through undulations, and topsoil will be removed and stockpiled to allow for laying of road base and subsequent works rehabilitation. This study examined a corridor ~50m wide



1.3 Project Objectives

The objectives of this project were:

- Undertake a search of the NSW Office of Environment and Heritage (OEH) Aboriginal Heritage Management System (AHIMS) database to determine if there had been any archaeological material recorded in the subject land (Appendix 1).
- Consult the local Aboriginal community to standards prescribed in Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010.
- To undertake an archaeological survey to determine if there are landforms with a high potential to contain Aboriginal objects and whether Aboriginal object occur within the study corridor.
- Assess the nature and level of disturbance of these landforms.
- Complete a report on assessment and present recommendations for any further work required...

1.4 Participants

Heritage Advisor – Doug Williams Bachelor of Arts – Honours (ANU) Graduate Diploma of Applied Science (University of Canberra), Full Member Australian Association of Consulting Archaeologists

Doug Williams managed the heritage assessment and prepared this report. Doug has been a professional archaeologist and heritage manager since 1992 and has undertaken large-scale complex archaeological projects in New South Wales, ACT, Western Australia, Victoria and South Australia. He has qualifications in Australian Aboriginal archaeology and post graduate qualifications in Cultural Heritage Management. In particular, in recent years Doug has overseen several large excavation projects, as well as having implemented and managed field survey of several thousand square kilometres of development area in WA, NSW, ACT, Victoria and SA. In the course of this work he has worked on sites of local, regional, state, national and international significance.

Project Manager – David Walker. The project was managed by David Walker, Geolyse Pty Ltd, Orange Office.

Registered Aboriginal Parties:

- Wiradjuri Men's Group: Neville Williams
- Mooka Bulla Traditional Owners: Esther Cutmore and Neville Williams
- Yarrawarra Hillford Aboriginal Corporation: Jan Grey and Rick Stone
- Kalari Ngunnawal Descendants: Rebecca Ingram

2. LEGISLATIVE FRAMEWORK

2.1 The National Parks and Wildlife Act 1974 (NSW)

In NSW, Aboriginal heritage objects and places are protected mainly by the National Parks and Wildlife Act 1974 (NSW) (the Act) which contains provisions making it illegal to harm Aboriginal objects and Aboriginal places without appropriate defence or permission. The Act is presently administered by the NSW Office of Environment and Heritage (OEH). Under definitions provided in the Act:

- Aboriginal object means any deposit, object or material evidence (not being a handicraft made for sale)
 relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before
 or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and
 includes Aboriginal remains.
- Aboriginal place means any place declared to be an Aboriginal place under section 84.



Individuals or corporations may be prosecuted against two levels of offence. Knowingly or deliberately harming or desecrating Aboriginal places/objects is the higher of the two levels. Lower level offences are known as 'strict liability' offences - offences regardless of whether or not the offender knows they are harming an Aboriginal object or desecrating an Aboriginal place. A person or corporation may have a defence against such prosecution where they have:

- An Aboriginal Heritage Impact Permit (AHIP) authorising the harm (s.87(1))
- Exercised due diligence to establish Aboriginal objects will not be harmed (s.87(2))

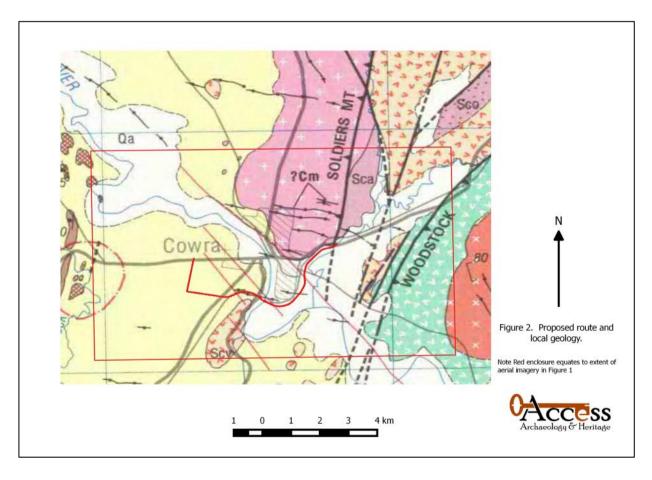
Due diligence may be demonstrated by following requirements described in the National Parks and Wildlife Regulation 2009 (the Regulation) or a code of practice adopted or prescribed by the NPW Regulation (s.87(3)).



3. ENVIRONMENTAL BACKGROUND

The study area is located on the southern outskirts of Cowra. From the east, the route follows Campbell Street which departs the Mid Western Highway approximately 1.5km east of town. Campbell Street terminates ~2.6km to the south at a wool processing facility which is currently disused. The propose route continues to flank the south east and south of the town boundary, following the southern side of the Cowra rail line to the Lachlan River. The route crosses the Lachlan River immediately south of the rail bridge, crosses the Lachlan Valley Way and passes under the rail overpass to the northern side of the rail line. The route then passes between the rail line and the southern side of the Cowra Mission until meeting Fishburn Street, following on to Boundary Road. At the end of Boundary Road there is a right angle bend where the road becomes Airport Road, and the route then proceeds north to meet Grenfell Road.

The Cowra landscape is dominated by Soldiers Mountain, a formation of Silurian age granodiorite termed 'Cowra Granodiorite'. The area is geologically complex with nearby formations including the Ordovician Walli Basalts, Silurian 'Grants Corner' Granodiorite and 'Canowindra Volcanics'. In the Lachlan valley soils comprise quaternary gravels and sand with alluvium flanking the river corridor (Raymond *et al*, 1998). The local geology would have provided material suitable for hatchets in the abundant granodiorites, and materials for flaked stone artefacts from local gravel beds (pers obs).



The proposed study corridor is largely devoid of unmodified native vegetation, and used for a range of urban, transport and agricultural purposes. Historically, the vegetation of the drier slopes of the surrounding Cowra area would have been characterised by an Inland Greybox Woodland, which consisted primarily of *Eucalyptus macrocarpa* which is often found in association with *Callitris glaucophylla* (White Cypress pine), *Brachychiton populneus* (Kurrajong), and *Eucalyptus melliodora* (Yellow Box), and with Eucalyptus albens (White Box). Native



grasses would have occurred beneath the tree canopy. Along the Lachlan River, the vegetation would have included a Riverine Woodland consisting of *Eucalyptus camaldulensis* (River Red Gum), *Eucalyptus largiflorens* (Black Box), *Eucalyptus moluccana* (Grey Box), *Callitris galucophylla* (White Cypress Pine) and *Acacia dealbata* (Silver Wattle) and various native grasses.

This vegetation community would have provided a variety of plant resources for food and tools or weapons. Eucalyptus species would have provided bark and wood for containers, shields and canoes, whilst the leaves from the long grasses would have been used for basket weaving. Acacia trees would have supplied seeds and sweet edible gum (Low 1992: 86). The river corridors would have provided ample opportunity to catch a variety of game including macropods, possums, echidna, birds, fish, reptiles (eg, goannas, turtles) and yabbies.

4. CONSULTATION

Consultation with Aboriginal stakeholders was undertaken in accordance with clause 80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010.

A four step process of consultation with Aboriginal stakeholders was initiated in accordance with clause 80C of the National Parks and Wildlife Amendment (Aboriginal Objects and Aboriginal Places) Regulation 2010. The consultation steps, listed below, are outlined in the OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (ACHCRP 2010) guide.

- Step 1 Notification of project proposal and registration of interest.
- Step 2 Presentation of information about the proposed project.
- Step 3 Gathering information about cultural significance.
- Step 4 Review of draft cultural heritage assessment report.

Consultation Step 1 – NOTIFICATION

Notification letters were sent to the relevant bodies/agencies listed in section 4.1.2 of the *ACHCRP 2010*, requesting details of any parties with a known interest, or who hold knowledge related to the subject area. The Cowra Shire Council provided a list of known Aboriginal organisations with an interest in Aboriginal heritage issues. Notification of the Aboriginal heritage project was undertaken via the placement of a newspaper notice in the *Central Western Daily* on Wednesday 25 March 2015. Attempts were made to contact the Cowra Local Aboriginal Land Council but at the time of contact the organisation was in hiaitus.

At the close of the notification period on the 17 October 2015, four Aboriginal parties had registered for the project:

- Wiradjuri Mens Group (WMG);
- Mooka Bulla Traditional Owners (MBTO);
- Yarrawarra Hilford Aboriginal Corporation (YHAC)
- Kalari Ngunnawal Descendants (KND)

Consultation Step 2 INFORMATION TO RESPONDENTS

A *Project Proposal Information* document for the assessment was forwarded to the respondents. The document provided details of the project and the proposed heritage assessment methodology and invited comments from interested parties. The document also sought any information regarding known Aboriginal cultural significance values associated with the subject area and/or any Aboriginal objects contained therein.



There was no response to the method statement from any party. Based on the responses to notification and information packages it was determined appropriate to have fieldwork attended by representatives of the WMG, MBTO. YHAC and KND.

Consultation Step 3 GATHERING INFORMATION ABOUT CULTURAL SIGNIFICANCE

A field inspection was organised for 5-6 June 2015. All parties were notified of the date through email and phone calls. On 5 June the survey was attended by WMG, MBTO and YHAC representatives, and contact was made from the KND to the field team by telephone stating they would attend. They were advised several times during the day where the field team was located by they did not attend. On 6 June the field survey was attended by the WMG and MBTO representatives only

The field survey determined that several areas required further investigation in the form of sub-surface test excavation. Accordingly the consultation group (including NSW OEH) was forwarded notice of the proposed test excavation locations and methods. The WMG, MBTO and YHAC representatives indicated an interest to be involved in the test excavation program, although only the WMG and MBTO groups attended. Fieldwork for the subsurface test phase of the project was undertaken over the days of 13-18 February 2016 inclusive. Fieldwork was attended by Neville Williams, Stuart Cutmore and Wayne Williams (2 days).

Consultation Step 4. REVIEW OF DRAFT INFORMATION

The draft report was circulated to the Registered Aboriginal Parties and the Cowra Local Aboriginal Land Council. No comments were received from the YHAC, KND or Cowra LALC.

Verbal comments were received from Neville Williams (WMG, MBTO) and Esther Cutmore (MBTO) on Friday 27 June 2016. These comments were to the effect that they considered the report to be of a high standard and were in agreement with the recommendations. Neville Williams requested it be noted that the area between the Cowra Mission and the railway line was used in historic times as a travelling stock route. This note was added to the information regarding the detailed assessment of this area (see 7.3.1).

5. ARCHAEOLOGY OF THE LOCAL AREA

The archaeological site patterning for the local area is not well understood, due to a comparative lack of previous studies in the local area compared to other regions nearby.

Michael Pearson's 1981 PhD thesis remains a sound region wide basis for presenting a model of site location for the region (Pearson 1981). From that study was obtained data for the oldest known sites in the region – Granites 2 Rockshelter 30km northeast of Orange dated to ~7,000BP. That no older sites have been found to date reflects the lack of investigation given the acknowledged length of Aboriginal occupation of Australia. Pearson recorded a strong relationship between open camp site locations (as defined by the presence of open artefact scatters) and presence of water. Other environmental variables found to be conducive to site location were shelter from wind, well drained areas, views, level ground and elevation above frost hollows (Pearson 1981).

In 2005 Comber consultants undertook a survey of a proposed Sewage Treatment Plant (Comber 2006). The study located a large open artefact scatter (STP1) and two isolated artefacts. The larger site was conserved through fencing and further monitoring was undertaken in the locality at which time it was determined that further investigation was necessary. Sub surface testing of part of the subject area and surface collection was recommended. This latter resulted in a collected assemblage of thirty four artefacts (Stenning 2009:30). Chert



and quartz artefacts represented the majority of the assemblage, with silcrete forming a minor proportion (Stenning 2009:32).

Human remains have not been extensively reported from the local area. One incomplete set was discovered in the Cleifden Caves ~20km north east of Cowra. These were interpreted as the remains of a large, robust man in excess of 40 years of age. Although found in the cave, the remains were not buried, and all were post cranial remains from the lower half of the body. It was suggested they arrived in their secluded, difficult to reach location by misadventure and did not represent primary or secondary interment (Pardoe and Webb 1986).

The results of previous archaeological research in the area suggest topographic elements in the subject area have moderate potential to contain Aboriginal archaeological material. The main element with potential are raised topography within 200-300m or water courses and wetlands, with these having potential to contain open artefact scatters or isolated artefacts. Stands of mature native trees may contain scarred trees.

Pursuant to the points made in the preceding sections, the following statements can be made regarding the archaeological potential of the present subject area:

- As the topography of the subject contains level to gently sloping topography in proximity to water Open Artefact Scatters might be expected.
- It is **possible**, **although unlikely**, that **stone quarries** will occur if suitable sources of stone are present and accessible.
- Due to clearing, it is *likely* that scarred trees will occur in the subject area especially in the eastern end throughout Stage 1.
- It is possible that fresh water shell midden may occur near watercourses or billabongs.
- The occurrence of human burials is highly unlikely.



6. MFTHODS

The Aboriginal Heritage Information Management System (AHIMS) site register was consulted to determine if any sites had been previously recorded in, and near, the subject area. Previous archaeological studies were reviewed to familiarise the consultant with local archaeology, and recent investigations in the area.

A field inspection was undertaken by one experienced archaeologist and three members of the local Aboriginal community noting conditions of topography and surface visibility while examining the ground for stone artefacts, mature trees for scars, and the general area for other site types such as quarries. Using a combination of printed aerial photographs and GIS spatial files the team oriented itself in the field, and sites were recorded using a GPS-enabled hand held PC.

7. REGISTER AND FIELD SEARCHES

7.1 AHIMS Search

An AHIMS search was conducted over segments of the study corridor and no Aboriginal sites were previously recorded within its footprint or within ~100m.

7.2 Field Inspection – June 2015

The field inspection recorded the following items:

- Three Aboriginal heritage sites, all of which were isolated artefacts;
- Seven areas of Potential Archaeological Deposit (PAD), where concentrations of stone artefacts might be expected by surface visibility precluded comprehensive assessment;
- One potential site of historic interest

Surface visibility was generally poor along the route, and visibility is summarised in Table 1. It shows that 78,900 square metres was examined and of that 2981 (3.8%) was effectively covered. This level of effective coverage is common in surface archaeological surveys and is a primary reason for a paucity of recorded surface sites.



Plate 1. View South along Airport Road showing grassed verges with sporadic exposures



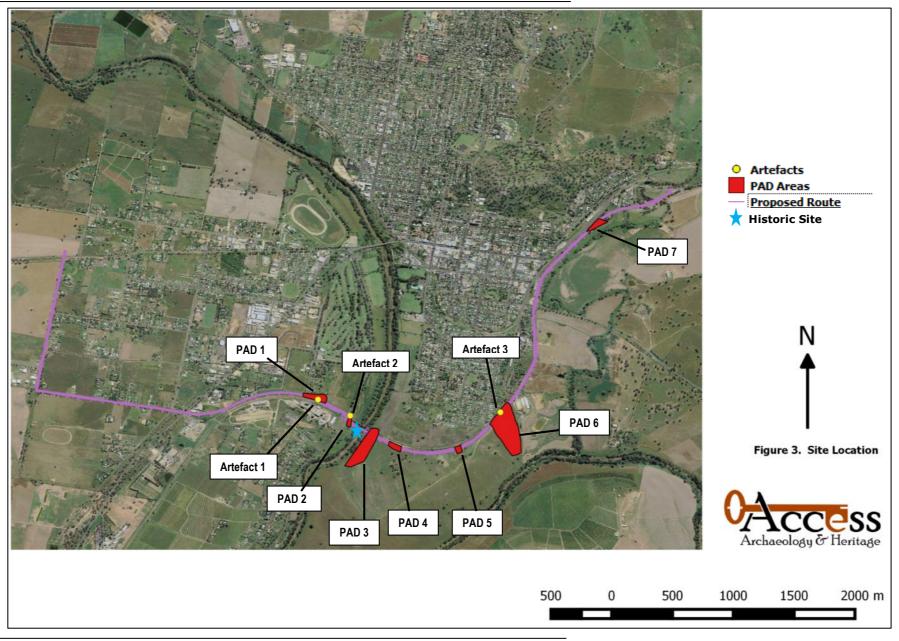
Table 1. Visibility and landform units

Landform Unit	Length	Width	M2	No of	Visibility	Effective
				personnel	%	Coverage
Undulating Plains	3400	10	34000	4	5	1700
Spur Crest	300	10	3000	4	1	30
Simple slope	135	10	1350	4	10	135
River terraces	150	10	1500	4	1	15
River Levee	70	10	700	3	0	0
Simple Slope	70	10	700	3	0	0
Spur Upper slope	30	10	300	3	5	15
Spur Crest	50	10	500	3	2	10
Spur Upper slope	30	10	300	3	5	15
Simple Slope	90	10	900	3	2	18
Low Lying Flat	200	10	2000	3	0	0
Simple slope	55	10	550	3	2	11
Upper slope	15	10	150	3	2	3
Spur Crest	35	10	350	3	2	7
Simple slope	55	10	550	3	2	11
Low Lying Flat	160	10	1600	3	2	32
Simple Slope	75	10	750	3	2	15
Spur Crest	385	10	3850	3	5	192
Undulating Plain	1000	10	10000	3	5	500
Creek Terraces	1100	10	11000	4	2	220
Undulating Plain	185	10	1850	4	2	37
Creek Terraces	150	10	1500	4	1	15
Undulating Plain	150	10	1500	4	0	0
Totals			78900			2981



Plate 2. View east along south side of Cowra Mission







Site 1. Isolated Artefact 1, and PAD 1 (Potential Archaeological Deposit)

Grey fine grained siliceous flake. 15mm x 15mm x 3mm. focal, unifacial platform, feather termination. 3 quadrant 1 scars.

This artefact was located in a small bare patch in a wheel rut on a track between the south of the Cowra mission and the rail line (Plate 3). The site is located on a high, relatively level terrace on the west side of the Lachlan River. The general area has undergone an indeterminate level of disturbance, but nonetheless contains considerable potential to exhibit a concentration of stone artefacts.



Plate 3. View east across artefact location (white stake flag) and PAD 1



Plate 4. Artefact 1 - Dorsal Surface



Site 2. Isolated Artefact 2, and PAD 2 (Potential Archaeological Deposit)

Cream quartz core. 50mm x 110mm x 100mm. 8 flake scars from 2 alternate platforms, 70% pebble cortex. While technologically a 'core', typologically would be classified as a chopper made on a pebble.

This artefact was located on the east side of the Lachlan Valley Way, and the north side of the rail bridge, in the alignment of a proposed roundabout in the road design. The locality is a river terrace immediately adjacent to the Lachlan River to the east. The locality is also that identified as a 20th century collection of huts called 'Ryans Place' (Kabaila 1996: 31-33) (Figure 4).



Plate 5. Artefact Location and north end of PAD 2



Plate 6. Artefact 2.





Plate 7. Artefact 2 – flaked edge photo A.



Plate 8. Artefact 2 – flaked edge photo B.



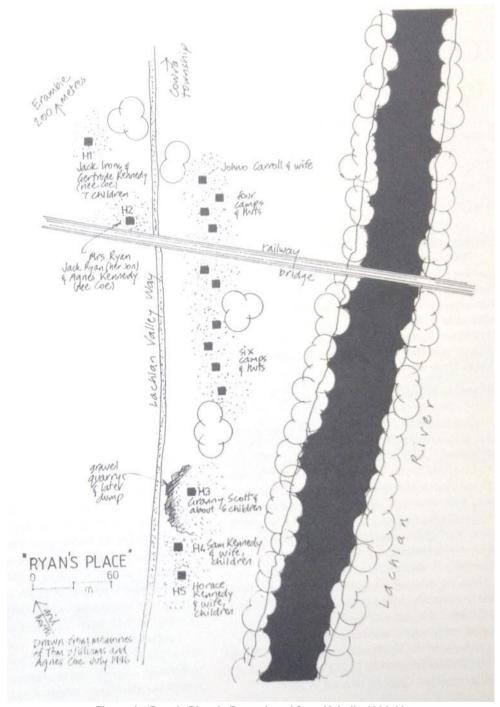


Figure 4. 'Ryan's Place'. Reproduced from Kabaila 1996:33



Site 3 Isolated Artefact 3, and PAD 6 (Potential Archaeological Deposit)

White quartz core. 12mm x 53mm x 45mm. 1 flake scars from 1 cortical platform, 90% pebble cortex.

Artefact 3 was located on a farm track to the south west of a disused wool scour facility, and to the east of the railway corridor. In this location the track crosses an elevated, distinct level spur consisting of alluvial gravels and coarse sand. The crest of this spur is identified in this study as PAD 6.



Plate 9. Looking south across PAD 6 at location of Artefact 3



Plate 10. Looking north across PAD 6 at location of Artefact 3.

Note disused wool scour shed in background





Plate 11. Artefact 3.



Plate 12. Artefact 3 conchoidal scar

PAD 3. Eastern Lachlan River terrace.

PAD 3 is a levee deposit on the eastern side of the Lachlan River. The deposit has formed as river floods have deposited alluvium at the river's edge and formed a low ridge parallel to the river bank. Levee deposits are generally soft and silty and outside of flood periods are well drained. They tend to be of higher archaeological



potential both because they attracted people to camp and they are also aggrading landscape features which seal in archaeological material.

PAD 4. Spur Crest.

PAD 4 is a spur above the river floodplain, consisting of quaternary alluvial sand and gravels. It is an elevated relatively level topographic location overlooking the floodplain and consequently would have been an attractive camp site location, especially during flood periods.

PAD 5. Spur Crest.

PAD 5 is a spur above the river floodplain, consisting of quaternary alluvial sand and gravels. It is an elevated relatively level topographic location overlooking a secondary creek line and small wetland (now drained and the location of a farm water storage). Consequently would have been an attractive camp site location, especially during flood periods.

PAD 7. Creek Margin.

PAD 7 is a level to gently sloping topographic location on the west side of a major creek line. The margins of rivers and creeks were preferred camp locations and as a consequence this location has potential to contain a concentration of Aboriginal stone artefacts.

Historic Feature.

This feature is a large, round concrete tank set into the western bank of the Lachlan River, on the south side of the rail bridge. To the north of the tank is a drain running back into the Lachlan River. Neville Williams and Esther Cutmore considered this feature to be the pump station for water to be supplied to the power station. Mr Williams relayed the story that in the mid 20th century, after the water as used in the power station the drain (or a drain) returned hot water to the river, and children would swim in the warm water down stream as it mixed with the cold water of the river.



Plate 13. Concrete tank associated with Cowra power station



7.3 Further Archaeological Investigation – February 2016

The surface survey identified the requirement to undertake subsurface investigation at each of PADs 1 to 7 in order to understand a) whether they were indeed archaeological sites, and b) if so provide an assessment of their content, density of material and integrity. An investigation of these characteristics was considered crucial to determining the significance (if any) of cultural material at the locations.

The test excavation process was undertaken under the NSW OEH Code Of Practice for Archaeological Investigation, and the relevant notification process is described in section 2 of this report.

The physical investigation of the sites entailed the excavation of a series of 0.5m x 0.5mm test pits, 5m apart in linear transects. The transects were sited within the proposed development corridor where possible. Excavation was undertaken by shovel with assistance of a crow bar in compact deposit and proceeded using 50mm spits, or as close as could be managed in difficult deposit. Excavated material was screened through a 5mm mesh on a 1.2m x 1m screen table and residue was sorted on the screen table. Cultural material (Aboriginal or European) retained for later recording.



Plate 14. Screening excavated deposit at a test excavation location

Characteristics of test excavation pits were recorded as excavation proceeded and each pit was photographed prior to being backfilled. Residue was screened onto a tarp in order that it could be fully recovered for return to the pit from which it came.

Test excavation was undertaken between Friday 12 February and Thursday 18 February 2016 inclusive.

7.3.1 Test Excavation PAD 1.

PAD 1 is a high, level spur on the western side of the Lachlan River. The majority of the PAD has been disturbed by development over a long period of time, including establishment of the Cowra Mission, but also roads, rail and industrial facilities (Figure 3). The corridor has also been used as a travelling stock route (N.Williams Pers Comm,



May 2016). The development is proposed to be constructed over the top of an existing informal track running between the railway and the south side of the mission. For the purposes of this project the investigation transect was moved to the north side of this road by ~10m in order to excavate in a relatively undisturbed location.

The investigation transect comprised six test pits spaced five metres apart in a single transect (Figure 5, Plate 15).



Figure 5. Test pits within PAD 1.



Plate 15. View north west along PAD 1/Transect 1. Pink flags indicate probe locations, Probe A nearest to viewer.



Excavation at PAD 1 revealed a topsoil profile approximately 400mm deep, consisting of loose tan fine sand with humic material to ~120mm and orangey tan fine sand below that to 400mm and an interface with orange clay. Aboriginal cultural material, in the form of stone artefacts, was found in three of the probes excavated at PAD 1.



Plate 16. Representative soil profile, PAD 1

In summary the transect exhibited

- Probe A,150-200mm: One silcrete distal flake fragment.
- Probe A 250-300mm: One coarse grained siliceous flaked piece, broken in four pieces during excavation.
- Probe B 200-250mm: One guartz flake.
- Probe C 50-100mm: One quartz flake.

The probes of Pad 1 transect 1 also exhibited glass and ceramics typical of 20th century occupation, bring mainly brown, clear, green and blue bottle glass, in addition to plastic fragments and rubber fragments. This 20th century material occurred mainly in the top 200 mm.



7.3.2 Test Excavation PAD 2.

PAD 2 is a river terrace on the western side of the Lachlan River. The terrace runs parallel to the river for several kilometres to the north and south of the location of the proposed bypass. At the location of the proposed bypass The investigation transect comprised four test pits spaced five metres apart in a single transect (Figure 6, Plate 16).

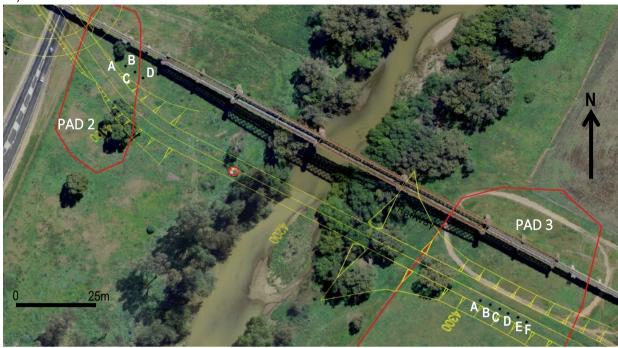


Figure 6. Test pits at PAD 2



Plate 16 View east along PAD 2/Transect 1. Pink flags indicate probe locations, Probe A nearest to viewer.



The soil profile at PAD 2 was predictably deep, being in a zone of alluvial deposition. Probe depth varied between 620mm and 750mm and the deposit was very compact. The top layer of the probes was a dense layer of blue metal, being the result of railway blue metal falling from above. Under this rocky surface layer, the deposit was a mid brown fine silty sand (Plate 17). Occasional water rolled pebbles were encountered.



Plate 17. Pad 2 Transect 1 Probe A: Soil profile at PAD 2.

At PAD 2, Aboriginal cultural material was restricted to a single quartz flake, found in spit 12 (620mm-700mm) of Probe A. The upper spits (down to ~250mm and lower in some instances) also exhibited European material in the form of broken glass (brown, green, clear) and ceramic.

7.3.3 Test Excavation PAD 3.

PAD 2 is a river levee deposit on the eastern side of the Lachlan River. The raised feature sits atop the river bank, falling slightly away to the east (away from the river). The subsurface investigation at this location tested the potential of the northern end of this levee feature, and it is higher and more extensive further to the south.

The investigation transect comprised six test pits spaced five metres apart in a single transect (Figure 7, Plate 18).

The deposit at this location was a moderately compact silty sand. Its upper levels were grey silty sand. Below this the texture remained the same but the colour was noted to change to an orangey brown one. In several probes there appeared two narrow bands obviously more compact and lighter in colour (plate 19). The texture of the deposit was typical of levee deposits.



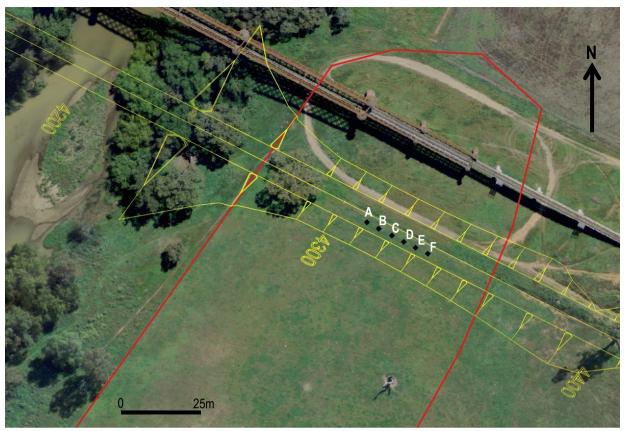


Figure 7. Test pits at PAD3



Plate 18. View East along transect. Probe F closest to viewer.





Plate 19. Representative soil profile, PAD 3. Note more damp deposit at depth, and evidence of prior surfaces (A and B)

There were no stone artefacts recovered from any of the probes at PAD 3. However, of interest was one artefact we interpret as a glass scraping/cutting implement. The artefact was found at level 5 of probe E (~200-250mm below surface). The artefact was made on the side of a bottle and has damage consistent with use as a scraping or cutting implement as opposed to treadage or plough damage. It was found as part of a group of seven glass pieces of the same glass, non-conjoining and as they all exhibit the same patina they broke in antiquity at the same time. The depth of the glass pieces broadly corresponded with the location of a charcoal concentration and



Plate 20. PAD 3/Transect 1/Probe E/Spit 5. Parentheses show location of glass concentration.

a prior levee surface, both being visible in the section shown in Plate 20. The correspondence of these three features in the soil profile strongly suggest an *insitu* cultural event at the time this level was exposed as the levee surface, such event being during the early period of European settlement. While it is possible this represents European activity, the fracture pattern on the glass artefact is inconsistent with European glass use but fully consistent with Aboriginal glass use.



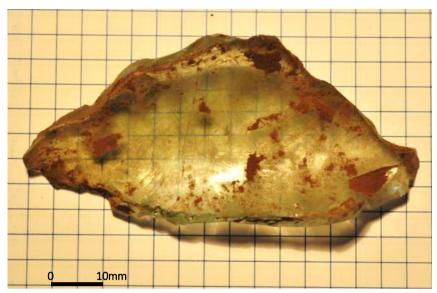


Plate 21. Glass Scraper

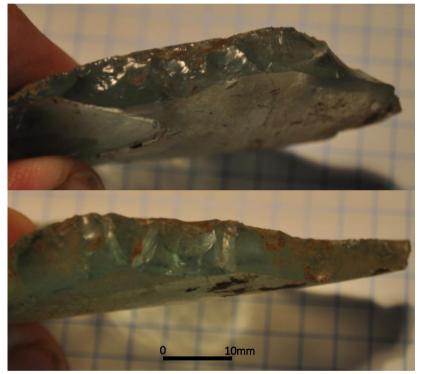


Plate 22. Utilised/damaged edges

7.3.4 Test Excavation PAD 4.

PAD 4 is the crest of a knoll adjacent to the Lachlan River floodplain. It was selected as a PAD for testing as it is high ground adjacent to a major river corridor which would have provided a level, flood proof location to camp while being in close proximity to the river. The investigation transect comprised six test pits spaced five metres apart in a single transect (Figure 8, Plate 23). **No cultural material was found in the test pits of PAD 4.**



Figure 8. Test pits at PAD 4



Plate 23. View west across PAD 4. PAD 3 is situated on the viewers side of the trees in background.



The soil of the test area consisted of moderately compact orange-brown silty sand. The upper levels were largely devoid of gravels, with rolled gravels increasing with depth. Overall the soil profile above clay was shallow, averaging 250-300mm.



Plate 24. General soil profile of PAD 4



7.3.5 Test Excavation PAD 5.

PAD 5 is the crest of a knoll ~450m east of PAD 4 and the edge of the floodplain. It was selected for testing as a PAD as it is a raised area of level ground adjacent to a watercourse which is intermittently wide and swampy, as well as being relatively close to the Lachlan River corridor. The investigation transect comprised six test pits spaced five metres apart in a single transect (Figure 9, Plate 25). The soil of the test area consisted of very compact gravel rich orange-brown silty sand. Overall the soil profile above clay was shallow, averaging 150-200mm. **No cultural material was found in the test pits of PAD 5.**



Figure 9. Test pits at PAD 5



Plate 25. View west across PAD 5, Transect 1. Probe F is closest to viewer.





Plate 26. Soil profile, PAD 5.



7.3.6 Test Excavation PAD 6.

PAD 6 is extensive, and comprises a broad spur crest and upper slopes approximately 450m long and 250m wide. At its south eastern extent it terminates adjacent to the Lachlan River floodplain and a junction with a major tributary of the Lachlan River. Although the PAD extends from this point north west to the current rail corridor it would be expected that the more sensitive part of this PAD would be that portion closest to the Lachlan River.

The area of PAD 6 crossed by the proposed bypass route is ~250m long, and for this reason two transects of probes were excavated. Transect 1 was the more northerly and consisted of six test pits spaced five metres apart (Figures 10,11, Plate 27). Transect 2 was the more southerly of the two and consisted of five test pits spaced five metres apart. (Figures 10,11, Plate 28).

The soil profile encountered at PAD 6 was silty sand between 300mm and 700mm deep, over an orange sandy clay base. The upper levels were a grey to dark grey humic silty sand, underlain by tan/beige silty sand. Pelletal gravels increased at ~400mm. **No cultural material was found in Transects 1 or 2 of PAD 6.**

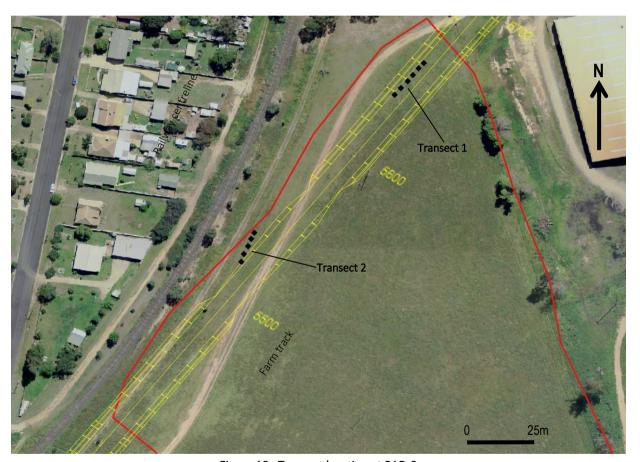


Figure 10. Transect location at PAD 6



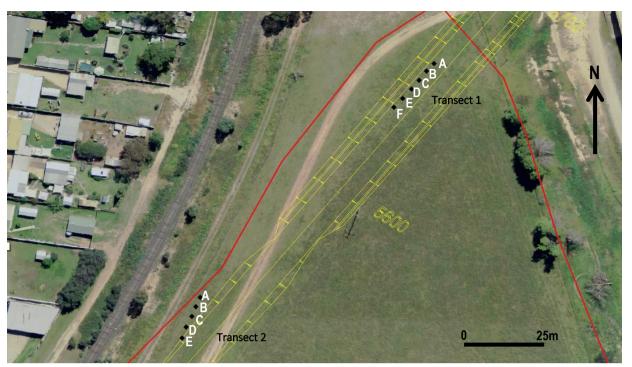


Figure 11. Location of probes at PAD 6



Plate 27. View south east across PAD 6/Transect 1. Probe A is in cleared patch in lower left foreground



Plate 28. View south across PAD 6/Transect 2. Probe A has been excavated and backfilled in lower right foreground



Plate 29. General soil profile at PAD 6



7.3.7 Test Excavation PAD 7.

PAD 7 is located on the margins of a creekline tributary of the Lachlan River. It comprises a narrow terrace and gentle slopes on the western side of the creek. It is in a zone of considerable disturbance, with a bitumen road on the eastern side between the PAD and the creek, and the rail line to the west. A dwelling and sheds has been constructed to the north and there has been a structure at the area's southern extent in the past. Despite the potential for Aboriginal objects to remain at the site, the potential for the area to be disturbed is high. The area was tested with a single transect of six test pits spaced five metres apart (Figure 12, Plate 30).

PAD 7 exhibited a relatively deep soil profile, which would be expected as a creek terrace and generally aggrading land form. Overall probes averaged 650mm depth, and the top 450mm bore evidence of European occupation in the form of glass, metal and ceramic fragments of a variety of colours and sizes, though mainly small. Spits 1and 2 of probe A contained dense slag and fire cracked rock suggesting the presence of a fire event in the recent past.

No Aboriginal cultural material was found in the test probes of PAD 7.



Figure 12. Probes at PAD 7





Plate 30. View north east across probes at PAD 7. Probe F marked by pink flag closest to viewer



Plate 31. General soil profile, PAD 7



8. DISCUSSION

The archaeological survey component of this project was hampered by low visibility conditions, but nonetheless identified three surface Aboriginal stone artefacts and seven potential archaeological deposits. The results of the subsurface testing program indicate that while Aboriginal archaeological material is indeed present under the ground surface, it is heavily concentrated near the Lachlan River corridor. Only PADs 1, 2 and 3 exhibited cultural material of Aboriginal origin, with one isolated surface artefact at PAD 6. PADs 4, 5 and 7 were devoid of archaeological material at a density able to be detected using the methodology employed. If any Aboriginal sites occur in these locations they will take the form of very sparse scatters of small stone artefacts.

PAD 1 yielded four artefacts from 1.5m² of excavated material, or an overall density of 2.67/m². As the proposed route will be constructed over the existing graded track it is in an area of high disturbance and as a consequence will not have a high impact on the overall site at PAD 1.

PAD 2 yielded 1 artefact from 1m² of excavation, albeit at considerable depth, or an overall density of 1.0/m². The proposed location has undergone disturbance from the construction of infrastructure related to the Cowra power station, the rail corridor and associated tracks. The landform tested by this project is extensive, taking up the western side of the Lachlan River for several kilometres. Crossing this landform from east to west is a very low impact activity compared to the size of the landform, and as a consequence should be regarded as having very little impact on Aboriginal objects.

PAD 3 yielded 1 object identified as an Aboriginal implement, it being made of glass. This is unusual in the local area and may indicate a discrete location of archaeological research potential. The uptake of European materials for adaptation and use in a traditional Aboriginal manner was common, but occurred for only a brief period of time in the history of south east Australia. While the discovery of such an object in a survey is unusual, although not unheard of, discovery in a stratified context is unusual and the potential to record and observe a collection of contact artefacts *insitu* affords a rare opportunity. If the proposed route will be constructed as presently indicated, the location surrounding the probe from which the glass artefact was recovered should be subject to more extensive hand excavation, prior to development. While avoidance of the location in question would not be difficult, avoidance of the landform in which they were found would be more challenging. The test probes were placed at the northern end of an extensive levee deposit which extends south, becoming higher ~100m to the south. This entire levee has the same, if not greater, archaeological potential and would need to be investigated if the route was realigned in that direction. The levee tapers off further to the north, being absent on the northern side of the rail reserve.

Artefacts 1-3 recorded during surface survey will be disturbed by the proposed works. Individually these artefacts have low significance, but being protected by the National Parks and Wildlife Act (NSW) 1974 they require an Aboriginal Heritage Impact Permit prior to works proceeding.

The project recorded one historic feature near PAD 2, a concrete tank in the bank of the Lachlan River. It was part of the operation of the Cowra Power Station and also associated with some mid 20th century stories of Aboriginal use of that part of the river. The feature is an interesting piece of industrial architecture from the perspective of local stories, but is not in of itself significant, and is not part of the local or state heritage inventory. If the feature can be avoided in the design and construction process it would be desirable to do so, but if it cannot then it should be recorded for posterity prior to construction of the bypass.



9. MANAGEMENT RECOMMENDATIONS.

Pursuant to the information provided above, it is recommended that:

- 1. Artefacts 1, 2 and 3 will require an AHIP prior to development. The local Aboriginal community should be afforded the opportunity to salvage these objects should they so wish.
- The area designated PAD 1 for this project is an Aboriginal site, in the form of a scatter of stone artefacts. The results of this project suggest its density is sparse to moderate. As the proposed bypass will be constructed mainly in the existing graded road corridor it will not have a high impact on the archaeological resources of the site. Permission to disturb PAD 1 should be included in an AHIP prepared for the project.
- 3. The area designated PAD 2 for this project is an Aboriginal site in the form of a sparse scatter of stone artefacts. The PAD area is extensive and the proposed bypass route will have a low overall impact. Permission to disturb PAD 2 should be included in an AHIP prepared for the project.
- 4. The Area designated PAD 3 for this project is an Aboriginal archaeological site in the form of a scatter of potential glass artefacts originating on a prior surface now some 250mm below the current surface of the levee deposit. Glass artefacts found in a stratified context are uncommon, and it is recommended that the feature identified in PAD 3/Transect1/Probe E be subject to salvage excavation to mitigate the impact of road construction on a potentially discrete archaeological feature. The salvage of this feature should be included in the overall AHIP sought for this project.
- 5. The area designated PAD 4 for this project is NOT a Potential Archaeological Deposit and requires no further archaeological assessment.
- 6. The area designated PAD 5 for this project is NOT a Potential Archaeological Deposit and requires no further archaeological assessment.
- 7. The area of PAD 6 crossed by the proposed route does not contain a scatter of artefacts of sufficient density to be detected by the methodology employed, but the presence of an artefact on the far track suggests the possibility that sparse stone artefacts may exist at the locality. Permission to disturb PAD 6 should be included in an AHIP prepared for the project.
- 8. The area designated PAD 7 for this project is NOT a Potential Archaeological Deposit and requires no further archaeological assessment.
- 9. Subsequent to the issue of the project AHIP, ground breaking work at 2 and 3 should be monitored by personnel with experience in the identification of Aboriginal human remains and stone / glass artefacts.
- 10. If during construction remains are found suspected to be of human origin work must cease immediately and the site responsible personnel must immediately contact the local police and the NSW OEH. The find site must be isolated and all machinery and personnel moved a minimum of 50m away. Work may continue at an alternative project location.
- 11. The proponent should implement an 'Ad Hoc Archaeological Discovery' protocol, such as that attached to this report, or an alternative agreed plan formalised in the project AHIP.
- 12. The proponent should note the location of the historic feature and avoid if possible in the design process, although neither it nor the power station buildings are on state or local registers and therefore not covered by protective provisions of the Heritage Act (NSW) 1977. If the feature cannot be avoided in the design process it is recommended that it be subject to an archival recording involving the preparation of measured drawings (plans and cross section) and photography.
- 13. If the proposed route is realigned prior to construction it must be subject to further assessment for its potential to disturb Aboriginal heritage.

The proponent, their employees and agents are reminded that it is an offence under the National Parks and Wildlife Act (NSW) 1974 to destroy, deface or otherwise disturb an Aboriginal Object without first obtaining the consent of the Director General of the NSW NPWS.



10. REFERENCES

- Comber, J. 2006, Archaeological Survey and Cultural Heritage Assessment of the Cowra Sewerage Treatment Plant Augmentation, report to Cowra Shire Council.
- Comber, J. & Stening, T. 2009, Cowra Sewerage Treatment Plant: Archaeological Testing s87/s90 Permit No. 1095317, report to Cowra Shire Council.
- Kabaila, P.R. 1996. **Wiradjuri Places:** The **Lachlan River Basin. Volume Two.** Black Mountain Projects, Canberra.
- Low, T. 1992, Bush Tucker: Australia's First Wild Food Harvest, Angus and Robertson, Sydney.
- Pardoe, C., and Webb, S. 1986. 'Prehistoric Human Skeletal Remains from Cowra and the Macquarie Marshes, New South Wales'. **Australian Archaeology** 22 (1):7-26.
- Pearson, M. 1981. Seen though different Eyes: Changing Land Use and Settlement Patterns in the Upper Macquarie Region of NSW From Prehistoric Times to 1860. (Unpublished Ph.D. thesis, Department of Prehistory and Anthropology, ANU Canberra).
- Raymond, O.L., Pogson, D.J., et al. 1998. **Bathurst Geology Second Edition (1:250,000 geological map SI55-08).** Australian Geological Survey Organisation, Canberra and the Geological Survey of New South Wales, Sydney.
- Silvertsen, D., and Metcalfe, L. 1995 'Natural Vegetation of the southern wheat belt (Forbes and Cargellico 1:250,000 map sheets). **Cunninghamia** 4(1):103-128.
- Stenning, T., 2009. From the Ground Down: A Typologicla and Technical Analysis of a Lithic Assemblage from an Aboriginal Site in Central New South Wales. Unpublished BA Hons thesis, University of New England.



Advertisement, Notifications, Method Statement, Written Responses

PROPOSED METHODS

Aboriginal Cultural Heritage Assessment of Proposed Heavy Vehicle By-Pass, Cowra NSW.

Ву

Doug Williams

April 2015



PO Box 816 MORYUA NSW 2537

Phone: 0412 997177

E-mail: doug@accessarchaeology.com

1. INTRODUCTION

1.1 Background

Cowra City Council is preparing a Review of Environmental Factors for a proposed Heavy vehicle By-pass of Cowra, to be known as the 'Southern Ring Road'. The road will be c.8.4km long, and follow approximately the southern outskirts of Cowra. From the west, it will leave Grenfell Road at Airport Road, following Airport road to Boundary Road. At the eastern end of Boundary Road it will follow Fishburn Street around to the Lachlan Valley Way, and cross the Lachlan River. From that point it will approximately follow Campbell Street to its intersection with the Mid Western Highway (Figure 1). Part of this alignment will be an upgrade and widening of the existing road, and part will be construction of a new carriageway, including a new river crossing.

1.2 The Nature of the Development

The project elements described above will involve linear disturbance to specific corridors up to 30m wide. Road cuttings will cut through undulations, and topsoil will be removed and stockpiled to allow for laying of road base and subsequent works rehabilitation. We estimate the study of a ~50m wide corridor.

2. PROPOSED METHODS

We propose to survey the entirety of the proposed by pass route on foot. We would use GPS-enabled field data loggers to accurately follow the proposed study corridor, and also to record any sites or potential sites. This would entail 8.4km of linear field walking, although there may be some backtracking to get to vehicles. We would examine the ground surface for stone artefacts, any mature eucalypts on or near the route for Aboriginal scars, and any stone outcrops for evidence of Aboriginal quarrying. Near the river margins we would be aware of shell middens. Other site types are unlikely to present themselves on field survey, but we would record any features or sites considered to be of Aboriginal origin.

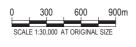
Surface visibility conditions in some parts of the area may be poor. Where it is determined that there is high archaeological potential for artefacts to be present on or under the surface, but they are obscured by grass or leaf litter the survey team may decide to excavate some test pits and sieve the excavated material. The test pits would be 50cm x 50cm, placed no closer than 5m apart. They would be excavated by shovel and would be screened through a 5mm mesh. Any artefacts found would be recorded in the field and returned to the excavation hole at their approximate original depth when the hole is backfilled.

A report would be written describing the results of the study and circulated to stakeholders for comment.



November 2014 Page 1







COWRA SHIRE COUNCIL COWRA HEAVY VEHICLE BYPASS STUDY OPTION 3 Job Number | 23-16385 Revision | A Date | NOV 2012

Figure 06

P: (02) 6342 1044 ♦ F: (02) 6341 1965 ♦ E: andrea.murray@fairfaxmedia.com.au ♦ www.cowraguardian.com.au

In Memoriam





For Sale

KENDAL STREET WORKS SALE sport bags @ Cowra Dry Cleaners. 6342-2676.

LACE READY TO HANG various lengths, 107cm drop to 213 drop. Priced from \$5.00 per metre @ Halinas 6342-3629.

SALT LAMPS, TOUCH LIGHTS Novelty Lights at Lamps 'N Things.

PICTON BROS PANELSPAN free quotes now Cladding \$7995(85m2) Patio \$4500 erected. Recreation Room \$9000 conditions apply BL83737C 6341-3122 www.panelspa n.com.au

ROADWORKS LUGGAGE SALE @ Cowra Dry Cleaners. Don't miss out 6342-2676.

SUMMER CLEARANCE Giddy Up Girl shirts

\$49.95 NOW \$27.95, Showcraft cotton rug \$48.95 NOW \$31.50, Combo \$64.95 NOW \$42.50, assorted horseshoes 2.95. Ellis' Sadlery 6341-1744.

WORTH THE WALK Handbags & wallets on sale @ Cowra Dry Cleaners. 6342-2676.

Lost & Found

LOST: WHITE & GREY OLD CAT male, in North Cowra. Missing since 14 March. Loved family pet 0409-836-720.

Motor Vehicles

2004 FORD TERRITORY VZ-73-ZC, 190,000km's, Rego \$7,500 ono 0429-835-235

MONDEO XR5 TURBO XR5 TURBO grey July COS-56H. \$18,000 2010 31,000kms, rego Jul Phone 0427-400-374.

WHITE TOYOTA CSI CAMRY VIP-468, 12mths rego, T/B, A/C, \$3,000. Phone 6342-1930

Caravans, Trailers & Accessories

ON ROAD CAMPER TRAILER 6x4. room/annexe, spare wheel, extended tow-bar, Rego Y71-074, rego 21 Feb 2016. Tare weight 200kg. Suit new buyer. \$2750. No offers. Phone 0429-030-492.

For Lease

2 SHOPS, WEST COWRA STORE 1 8mx8m showroom and storage area, 1 10mx8m take away food and storage area. 3 bedroom flat if required. Phone 6342-4985.

Real Estate for Lease

COTTAGE ON RURAL PROPERTY for rent Mandurama/Lyndhurst area 3-4 bedrooms, all new fittings 1 Horse and stable available. Contact 0447-546-160 after 7.30 pm

Livestock

POLL DORSET RAMS, Bruc. arranged, <u>'-086.</u> \$440 each

Funeral Notices

Barry RYAN (Senior)

Passed away 18th March 2015 Aged 71 years

Late of St Marys Sydney & formerly of Cowra

Barry's family & friends are respectfully invited to attend his funeral to be held at St Raphaels Catholic Church Cowra, commencing at 11.00am on Friday 27th March 2015.

Thence to the Cowra Cemetery

Keith Philpott Funeral Directors 19 Vaux Street Cowra Phone 6342 2322 www.philpottfunerals.com.au



Public Notices

BATHURST EISTEDDFOD SYLLABUS now online at **stardom.com.au**. Printed copy from Bathurst Travel Centre, Books Plus, John Matthews, Harmonikos or Mitchell Conservatorium.

COWRA MENS SHED INC AGM, 10am Wednesday 1 April, 10 Carleton Street. All executive positions declared vacant. Further information Secretary Bill Bundy 6341-3279, 6342-6553.

COWRA COMMUNITY CHEST INC. Caring for Cowra. Donations to P.O Box 208 Cowra. Phone 0428 462 837 for assistance.

ABORIGINAL PERSONS OR **ORGANISATIONS**

desiring to be consulted in relation to an Aboriginal Cultural Heritage Assessment near Cowra NSW may register their interest in writing to: Doug Williams Access Archaeology & Heritage PO Box 816 MORUYA NSW 2537 T: 0412 997177 E: dwilliams@accessarchaeology.com

expressions of interest must include current contact details and a statement of any particular cultural knowledge of the area. Registrations accepted up to COB, 6 April 2015.

*Registration does not guarantee employ ment during fieldwork

ERRORS AND OMISSIONS:

While every care is taken in the publication of advertisments, this publication cannot be held responsible for errors or their subsequent effects. If brought to our attention on the first day of publication, adjustments may be made, but only for that space actually occupied by the error. The right is reserved to alter, abbreviate, or only our pre-plassify, advertisements, for any or re-classify advertisements for any

Customers are asked to note that any incorrect advertisement will only be repeated free the number of times it appears incorrectly.

No guarantee is given regarding the positioning of advertisements and credits will not be given for advertisements appearing out of alphabeti-cal sequence or on a different page than

HEARING AIDS. See Christian Meyer, Cowra 25-3-15. Local professionals since Recommendations 1986 Guaranteed 1300-66-03-03.

SENIOR FIRST AID Sunday 29 March. Contact Bill Sutor 6341-1308.

Cowra Guardian

12 MIDDAY

the day before publication is the cut-off time CLASSIFIED ADVERTISING

AS NEW BROWN LEATHER RECLINER only 4mths old \$800, Small corner entertainment unit 76cm wide, 70cm high, 40cm deep, \$80, 6342-2112, 6345-0968.

CEILING FANS, TABLE & FLOOR LAMPS Interior & Exterior lights at LAI THINGS COWRA. Next to Bunnings.

CLOSING DOWN SALE everything must be sold ASAP. Slash the prices for cash. Golden Glove Nursery, Grenfell Road, Cowra 0458-158-488. Open everyday 9-12 till sold out.

COLEMAN 3 BURNER GAS HOTPLATE with generous gas hose. \$75. No offers, Phone 0429-030-492.

Public Notices

PUBLISHERS NOTICE

All photographs, images and text published by the Cowra Guardian and its

published by the Cowra Guardian and its associated newspapers remains the property of Fairfax Media. Any use of photographs, images and text used without written permission will be considered in breach of the Copyright

The company reserves its right to take action under the provision of this Act.

SCHOOL REUNION NOTICE

SCHOOL REUNION NOTICE
In you were in Year 10 (4th form) in 1975
or Year 12 (6th form) in 1977 at Cowra
High, we are having a reunion on Saturday
of the June long weekend. To be held at
Mulligan's Wongara Winery on the Grenfell
Road (the Bunker). Cost is \$65 per person,
including dinner and music. BYOG. If you
would like more information or plan to
attend, please PM me on facebook and I
will be happy to help. There were 105 of us
in 1975 and it would be great to see as
many as possible at the reunion. Of course
partners are also welcome. Cheers.

are also welcome.

Share your

special day

Guardian!

with the Cowra

Questionnaire

1. Call into the Cowra

Guardian and pick up/ fill out our Wedding Day

2. Bring in some photos to

3. This will all be published

Positions Vacant

SPRAY PAINTER required to work in a busy

panel shop in Cowra. Insurance work, clear

modern workshop and good working condi-tions. Above award wages. Phone

accompany your story

free of charge in the

Cowra Guardian

nartners

Belinda Mort.

For Sale

&

For Sale KITCHENWARE wide COOKWARE range in stock at LAM COWRA. Next to Bunnings. at LAMPS 'N

CURTAINS, READY TO HANG taped, rod pocket or eyelet. 213 drops, unlined from \$30.00/pair @ Halina's. 6342-3629

DEE & ME FLORIST

SALE

30% off all - HOMEWARES -One week only!! Next to Royces.

EUROMAID S/STEEL DUAL STOVE 60cm in very good condition \$400, Wrought Iron single bed/mattess, hardly used \$75, 6341-3389

WALK TO THE BOTTOM BLOCK & check out the great sale items @ Cowra Dry Cleaners. 6342-2676.

Positions Vacant

PRODUCTION

Wanted... a hard working person with sound computer skills

to join the Cowra Guardian production team on a casual basis.

Job Description: Page Layouts for multiple newspapers, setting contributed copy for multiple newspapers, uploading content to the Internet and setting classified advertising.

Here's what would give you an advantage to make the grade: * Experience in PC based operating platforms. * Experience with QuarkXpress and

Adobe Photoshop would be an advantage but not essential.

The ability to meet multiple deadlines.
Flexibility in working hours
Be team oriented and able to work

in a fast paced environment Here's what we will do for you:

Offer competitive pay rates
Provide you with a challenging but fun
environment where your efforts are appreciated Applications should be addressed to:

Andrew Fisher, Manager, Cowra Guardian, PO Box I26, Cowra NSW 2794 or emailed to andrew.fisher@fairfaxmedia.com.

Trades & Services

HOUSEHOLD WATER DELIVERED. Now 50% more with 15,000 ltr poly tank. Phone Gareth 0428-243-808. NSW Food Authority No 80901

RETUNING TV's Digital Antennas, vast satellilte (black spot areas), frenchsantennas.com, 0458-045-918

Dog had **Puppies?**



by placing your ad in your trusted local newspaper where it will also be automatically uplifted to buyandsell.com.au.

Discover the response a combined print and online ad can bring! Phone 13 24 25 to place your ad. fcnclass@fairfaxmedia.com.au

buyand**<u>sell</u>**

Get the word out

Advertise your business or event on Our Local Experts page! Contact Andrea or Tracey on 02 6342 1044 or via email andrea.murray@fairfaxmedia.com.au Our reference: CB_ACHA_20150329_ALA

Your Reference: Date: 29/03/2015



Mr Stephen Wright The Registrar, Aboriginal Land Rights Act 1983 PO Box 112 GLEBE NSW 2037

Dear Mr Wright

Aboriginal Cultural Heritage Consultation for Proposed Cowra Bypass, near Cowra NSW.

Access Archaeology & Heritage Pty Ltd is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an archaeological assessment of the proposed Cowra bypass. The location of the study is indicated with a red star in Figure 1.





The proponent of the proposed development is Cowra City Council, in partnership with the NSW RMS. The purpose of this consultation is to assist in the preparation of an Aboriginal Cultural Heritage Assessment and an Aboriginal Heritage Impact Permit if required. If you are aware of any Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places, could you please forward contact details at your earliest convenience. Your assistance in this matter is greatly appreciated.

Yours sincerely

DOUG WILLIAMS 0412 997 177

dwilliams@accessarchaeology.com

PO Box 816 MORUYA NSW 2537 Our reference: CB_ACHA_20150329_LALC

Your Reference: Date: 29/03/2015



The Chairperson Cowra LALC, PO Box 769 COWRA NSW 2794

Dear Sir/Madam

Aboriginal Cultural Heritage Consultation for Proposed Cowra Bypass, near Cowra NSW.

Access Archaeology & Heritage Pty Ltd is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an archaeological assessment of the proposed Cowra bypass. The location of the study is indicated with a red star in Figure 1.

FIGURE 1. SITE LOCATION



The proponent of the proposed development is Cowra City Council, in partnership with the NSW RMS. The purpose of this consultation is to assist in the preparation of an Aboriginal Cultural Heritage Assessment and an Aboriginal Heritage Impact Permit if required. If the Cowra LALC would like to be consulted regarding this project please contact me at your earliest convenience. If you are aware of any Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places, it would be appreciated if could you forward contact details. Your assistance in this matter is greatly appreciated.

Yours sincerely

DOUG WILLIAMS 0412 997 177

dwilliams@accessarchaeology.com

PO Box 816 MORUYA NSW 2537 Our reference: CB_ACHA_20150329_LLS

Your Reference: Date: 29/03/2015



Central Tablelands Local Lands Services Board PO Box 20 BATHURST NSW 2795

Dear Sir/Madam

Aboriginal Cultural Heritage Consultation for Proposed Cowra Bypass, near Cowra NSW.

Access Archaeology & Heritage Pty Ltd is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an archaeological assessment of the proposed Cowra bypass. The location of the study is indicated with a red star in Figure 1.





The proponent of the proposed development is Cowra City Council, in partnership with the NSW RMS. The purpose of this consultation is to assist in the preparation of an Aboriginal Cultural Heritage Assessment and an Aboriginal Heritage Impact Permit if required. If you are aware of any Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places, could you please forward contact details at your earliest convenience. Your assistance in this matter is greatly appreciated.

Yours sincerely

DOUG WILLIAMS 0412 997 177

dwilliams@accessarchaeology.com

PO Box 816

Our reference: CB_ACHA_20150329_NNTT

Your Reference: Date: 29/03/2015



National Native Title Tribunal GPO Box 9973 Sydney NSW 2000

Dear Sir/Madam

Aboriginal Cultural Heritage Consultation for Proposed Cowra Bypass, near Cowra NSW.

Access Archaeology & Heritage Pty Ltd is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an archaeological assessment of the proposed Cowra bypass. The location of the study is indicated with a red star in Figure 1.

FIGURE 1. SITE LOCATION



The proponent of the proposed development is Cowra City Council, in partnership with the NSW RMS. The purpose of this consultation is to assist in the preparation of an Aboriginal Cultural Heritage Assessment and an Aboriginal Heritage Impact Permit if required. If you are aware of any Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places, could you please forward contact details at your earliest convenience. Your assistance in this matter is greatly appreciated.

Yours sincerely

DOUG WILLIAMS 0412 997 177

dwilliams@accessarchaeology.com

PO Box 816

Our reference: CB_ACHA_20150329_NTSCorp

Your Reference: Date: 29/03/2015



Native Title Services Corporation PO Box 2105 Strawberry Hills NSW 2016

Dear Sir/Madam

Aboriginal Cultural Heritage Consultation for Proposed Cowra Bypass, near Cowra NSW.

Access Archaeology & Heritage Pty Ltd is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an archaeological assessment of the proposed Cowra bypass. The location of the study is indicated with a red star in Figure 1.

FIGURE 1. SITE LOCATION



The proponent of the proposed development is Cowra City Council, in partnership with the NSW RMS. The purpose of this consultation is to assist in the preparation of an Aboriginal Cultural Heritage Assessment and an Aboriginal Heritage Impact Permit if required. If you are aware of any Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places, could you please forward contact details at your earliest convenience. Your assistance in this matter is greatly appreciated.

Yours sincerely

DOUG WILLIAMS 0412 997 177

dwilliams@accessarchaeology.com

PO Box 816

Our reference: CB_ACHA_20150329_OEH

Your Reference: Date: 29/03/2015



Mr Paul Houston Office of Environment and Heritage DUBBO NSW 2830

Dear Mr Houston,

Aboriginal Cultural Heritage Consultation for Proposed Cowra Bypass, near Cowra NSW.

Access Archaeology & Heritage Pty Ltd is seeking to identify Aboriginal persons or organisations who wish to be consulted in relation to an archaeological assessment of the proposed Cowra bypass. The location of the study is indicated with a red star in Figure 1.

FIGURE 1. SITE LOCATION



The proponent of the proposed development is Cowra City Council, in partnership with the NSW RMS. The purpose of this consultation is to assist in the preparation of an Aboriginal Cultural Heritage Assessment and an Aboriginal Heritage Impact Permit if required. If you are aware of any Aboriginal people who may hold cultural knowledge relevant to determining the significance of Aboriginal objects and/or places, could you please forward contact details at your earliest convenience. Your assistance in this matter is greatly appreciated.

Yours sincerely

DOUG WILLIAMS 0412 997 177

dwilliams@accessarchaeology.com

PO Box 816

From: Ian.shepherd <ian.shepherd@lls.nsw.gov.au>

Sent: Thursday, 2 April 2015 8:07 AM **To:** dwilliams@accessarchaeology.com

Subject: Cowra Shire Council

Hi Doug, please see below message from ACH Officer, Larry Towney.

Hi Doug

If you contact the Cowra Shire they have a comprehensive local Aboriginal consultation policy that they use to inform the local Aboriginal community of any impact/intended on cultural sites within their shire, all interested Aboriginal groups are included in that policy and is working very well Happy to catch up and have a discussion if you need to Regards

Larry

Sent from my iPad

--

This message is intended for the addressee named and may contain confidential information. If you are not the intended recipient, please delete it and notify the sender. Views expressed in this message are those of the individual sender, and are not necessarily the views of their organisation.

Cowra LALC <cowralalc@hotmail.com> From:

Sent: Tuesday, 7 April 2015 2:59 PM dwilliams@accessarchaeology.com To:

Subject: Proposed Cowra By-pass

Dear Mr Williams

The Cowra Local Aboriginal Land Council would like to be consulted on the proposed Cowra by-pass and informed on future developments.

Regards

Les Coe

(Yirrundah Marrang/Yarma)

Acting Chief Executive Officer

COWRA LOCAL ABORIGINAL LAND COUNCIL

Lot 124 Fishburn St (PO Box 769)

COWRA NSW 2794 Ph: 02 6342 3259 Mob: 0405 589 371 cowralalc@hotmail.com

ABN 938 529686 80

Note: The information contained in this email is confidential. If you are not the intended recipient, you may not disclose or use the information in any way. Cowra Local Aboriginal Land Coucil does not guarantee the integrity of any email. Office Hours Monday -Wedensday 9am-5pm.



Please consider the environment before printing this e-mail.

The Cowra Local Aboriginal Land Council represents the Wiradjuri nation and acknowledges the nations and owners of country throughout Australia, and their continuing connection to land, sea and community. We pay our respects to them and their cultures, and to the Elders both past and present.

From: Doug Williams < dwilliams@accessarchaeology.com>

Sent: Thursday, 21 May 2015 6:26 AM

To: cowralalc@hotmail.com; 'cowralalc@bigpond.com'

Subject: Cowra heavy vehicle bypass **Attachments:** Method Statement.pdf

Dear Ms Coe,

Access Archaeology and Heritage has been engaged by Geolyse to undertake an Aboriginal Heritage Assessment of the alignment of the proposed Heavy Vehicle Bypass of Cowra. I have attached a brief document describing how we propose to approach the assessment, I'm sure you will be very familiar with the general process.

Later today I would like to discuss Cowra LALC availability for a field survey, and if you have any comments on the proposed approach, please let me know.

Regards

Doug Williams



www.accessarchaeology.com



This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

From: Doug Williams < dwilliams@accessarchaeology.com>

Sent: Friday, 22 May 2015 3:18 PM

To: 'David Walker' (dwalker@geolyse.com)

Subject: Cowra

Hi David,

So the Cowra community seems fairly difficult to track down.

Despite their expressing interest in the project, the LALC is non-operational at present, there are moves afoot to try to revive it. So after some delving I have contacted representatives of:

Wiradjuri Mens Group Mooka Bulla Traditional Owners Yarrawarra Hillford Aboriginal Corporation Kalari Ngunnawal Descendants,

In addition to an email to cowralalc@hotmail.com.

Not all of the names on the excel sheet you sent me have been contacted – most of the numbers are disconnected.

So now I am pushing them for an inspection early next week. I will call them tomorrow and Sunday. One lady wanted a meeting and then an inspection, perhaps that can be fitted in.

Regards

Doug





Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

From: Doug Williams <dwilliams@accessarchaeology.com>

Sent:Friday, 22 May 2015 2:46 PMTo:'jangrey@hotmail.com'Subject:Cowra heavy vehicle bypassAttachments:Method Statement.pdf

Ms Jan Grey Yarrawarra Hillford Aboriginal Corporation

Dear Ms Grey,

Today I left a message on your answering machine making reference to this email. Please find attached a brief method statement regarding my proposed approach to the Aboriginal heritage assessment of the proposed Cowra heavy vehicle bypass. I have discussed the project with another member of the YHAC, Ms Francis Kennedy. I would like to organise an inspection (survey) of the route as soon as possible, preferably next week.

Could you please let me know:

- a) Whether your group is interested in participating in the survey personally or you have a representative,
- b) Your availability
- c) Any fees you would charge to attend.
- d) If attending a field survey, whether your group is covered by insurances relevant to field work (public liability, workers compensation etc).

I look forward to taking to you more about this project.

Regards

Doug Williams



www.accessarchaeology.com

Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

From: Doug Williams <dwilliams@accessarchaeology.com>

Sent:Friday, 22 May 2015 2:48 PMTo:'ringram6033@gmail.com'Subject:Cowra heavy vehicle bypassAttachments:Method Statement.pdf

Ms Rebecca Ingram, Kalari Ngunnawal Descendants

With reference to our phone call today, please find attached a brief method statement regarding our proposed approach to the Aboriginal heritage assessment of the proposed Cowra heavy vehicle bypass. I would like to organise an inspection (survey) of the route as soon as possible, preferably next week.

Could you please let me know:

- a) Whether you are interested in participating in the survey personally or you have a representative,
- b) Your availability
- c) Any fees you would charge to attend.
- d) Whether your groups are covered by insurances relevant to field work (public liability, workers compensation etc).

I look forward to taking to you more about this project.

Regards

Doug



www.accessarchaeology.com

Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

Doug Williams < dwilliams@accessarchaeology.com> From:

Friday, 22 May 2015 2:42 PM Sent: 'chappy7659@yahoo.com.au' To: Cowra heavy vehicle bypass **Subject: Attachments:** Method Statement.pdf

Mr Neville Williams Mooka Bulla Traditional Owners & Wiradjuri Mens Group

Dear Neville.

With reference to our phone call today, please find attached a brief method statement regarding our proposed approach to the Aboriginal heritage assessment of the proposed Cowra heavy vehicle bypass. I would like to organise an inspection (survey) of the route as soon as possible, preferably next week.

Could you please let me know:

- a) Whether you are interested in participating in the survey personally or you have a representative,
- b) Your availability
- c) Any fees you would charge to attend.
- d) Whether your groups are covered by insurances relevant to field work (public liability, workers compensation etc).

I look forward to taking to you more about this project.

Regards

Doug



www.accessarchaeology.com

Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

Doug Williams < dwilliams@accessarchaeology.com> From:

Tuesday, 26 May 2015 5:26 PM Sent: 'jangrey56@hotmail.com' To:

FW: Cowra heavy vehicle bypass **Subject:**

Attachments: Method Statement.pdf

Ms Jan Grey Yarrawarra Hillford Aboriginal Corporation

Dear Ms Grey,

Please find attached a brief method statement regarding my proposed approach to the Aboriginal heritage assessment of the proposed Cowra heavy vehicle bypass. I have discussed the project with another member of the YHAC, Ms Francis Kennedy. I would like to organise an inspection (survey) of the route as soon as possible, preferably next week.

Could you please let me know:

- a) Whether your group is interested in participating in the survey personally or you have a representative,
- b) Your availability
- c) Any fees you would charge to attend.
- d) If attending a field survey, whether your group is covered by insurances relevant to field work (public liability, workers compensation etc).

I look forward to taking to you more about this project.

Regards

Doug Williams



www.accessarchaeology.com

Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

From: jannet grey <jangrey56@hotmail.com>

Sent: Tuesday, 26 May 2015 6:53 PM

To: Doug Williams

Subject: Re: Cowra heavy vehicle bypass

Hi Doug

thank you for your invite as I mentioned today we have a young man who has been doing this for a long time his name is Rick Waters mob 0488043588 he is reliable and punctual and if you wish to meet with me you have my number

regards Jan

Sent from Windows Mail

From: Doug Williams

Sent: Tuesday, 26 May 2015 5:44 PM

To: jannet grey

Ms Jan Grey

Yarrawarra Hillford Aboriginal Corporation

Dear Ms Grey,

Please find attached a brief method statement regarding my proposed approach to the Aboriginal heritage assessment of the proposed Cowra heavy vehicle bypass. I have discussed the project with another member of the YHAC, Ms Francis Kennedy. I would like to organise an inspection (survey) of the route as soon as possible, preferably next week.

Could you please let me know:

- a) Whether your group is interested in participating in the survey personally or you have a representative,
- b) Your availability
- c) Any fees you would charge to attend.
- d) If attending a field survey, whether your group is covered by insurances relevant to field work (public liability, workers compensation etc).

I look forward to taking to you more about this project.

Regards

Doug Williams





Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

Doug Williams < dwilliams@accessarchaeology.com> From:

Sent: Monday, 1 June 2015 1:42 PM 'amkege01@hotmail.com' To:

Cowra By-Pass Subject:

Hello Amanda,

I have been given your email address by David Walker of Geolyse. I am an archaeologist charged with preparing an Aboriginal heritage assessment of the proposed route. I note recent correspondence of yours suggesting knowledge of Traditional Aboriginal children's graves on or near the proposed route. I would be very interested in learning more about this as clearly it may have a significant bearing on the assessment, or at least any further work that might have to occur I order to property assess the proposal.

Regards

Doug Williams



www.accessarchaeology.com



Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

From: Doug Williams <dwilliams@accessarchaeology.com>

Sent:Tuesday, 2 June 2015 10:45 AMTo:'bandyone@hotmail.com'Subject:Cowra heavy vehicle bypassAttachments:Method Statement.pdf

Ms Eva Coe, Kalari Ngunnawal Descendants

With reference to our phone call today, please find attached a brief method statement regarding our proposed approach to the Aboriginal heritage assessment of the proposed Cowra heavy vehicle bypass. I would like to organise an inspection (survey) of the route as soon as possible, preferably this week.

I appreciate you may have objections to the use of the proposed route. I believe this process of assessment would be the most comprehensive way of placing these objections in a string context, and the first step would be to walk the route to identify sites and potential sites.

Could you please let me know:

- a) Whether you are interested in participating in the survey personally or you have a representative,
- b) Your availability
- c) Any fees you would charge to attend.
- d) Whether your groups are covered by insurances relevant to field work (public liability, workers compensation etc).

I look forward to taking to you more about this project.

Regards

Doug



www.accessarcinacology.co

Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

Doug Williams < dwilliams@accessarchaeology.com> From:

Sent: Wednesday, 3 June 2015 4:06 PM

bandyone@hotmail.com To: Cowra heavy vehicle bypass **Subject:**

Dear Eva,

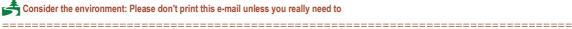
Thank you for your phone call today. I am pleased to advise that we will be conducting fieldwork on Friday 5 and Saturday 6 June 2015. We will be meeting at the corner of the Grenfell Road and Airport road between 9 and 9.30 on Friday morning. I look forward to seeing your representatives there.

Regards

Doug



www.accessarchaeology.com



Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

From: Phil PURCELL < Phil. Purcell@environment.nsw.gov.au>

Sent: Friday, 16 October 2015 8:56 AM To: Doug Williams; Paul Houston **Subject:** RE: Subsurface testing, Cowra

Understood.

Regards

phil

From: Doug Williams [mailto:dwilliams@accessarchaeology.com]

Sent: Thursday, 15 October 2015 6:30 PM

To: Phil PURCELL; Paul Houston Subject: Subsurface testing, Cowra

Dear Phil and Paul,

Please be advised that AAH will be undertaking subsurface testing in Cowra within 2 weeks of this letter (all things going to plan). AAH has been engaged to prepare an ACHA of the proposed Cowra bypass, and we will be undertaking sub surface testing of areas identified as having archaeological potential during a field survey, under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales. We will be engaging selected Aboriginal representatives identified during consultation undertaken following the Aboriginal cultural heritage consultation requirements for proponents 2010

I will let you know when the exact date has been decided.

Regards

Doug



www.accessarchaeology.com



Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.

If you are not the intended recipient, please notify the sender and then delete it immediately. Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment and Heritage.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

From: Doug Williams <dwilliams@accessarchaeology.com>

Sent: Friday, 12 February 2016 10:39 AM

To: 'Phil PURCELL'

Subject: RE: Subsurface testing, Cowra

Attachments: PADmap.jpg

Hello Phil,

For a variety of reasons the test excavation noted below has not occurred yet, but has been arranged for next week.

The locations identified for testing are all locally raised, level topography in proximity to water sources of varying magnitude. I have attached a map showing the extent of these PADs.

Subsurface testing will be undertaken along the nominal centre line of the proposed Cowra bypass. Test pits will be 50cm x 50cm in area and excavated in 5cm spits, screened through 5mm mesh. Pits will not be closer than 5m apart, in linear groups of 5 or 10, depending on the size of the PAD.

Artefacts will be retained for measurement and analysis, and registered Aboriginal parties will be consulted on the final location of these objects as part of the project.

Regards

Doug



This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

From: Phil PURCELL [mailto:Phil.Purcell@environment.nsw.gov.au]

Sent: Friday, 16 October 2015 8:56 AM **To:** Doug Williams; Paul Houston

Subject: RE: Subsurface testing, Cowra

Understood.

Regards

phil

From: Doug Williams [mailto:dwilliams@accessarchaeology.com]

Sent: Thursday, 15 October 2015 6:30 PM

To: Phil PURCELL; Paul Houston **Subject:** Subsurface testing, Cowra

Dear Phil and Paul,

Please be advised that AAH will be undertaking subsurface testing in Cowra within 2 weeks of this letter (all things going to plan). AAH has been engaged to prepare an ACHA of the proposed Cowra bypass, and we will be undertaking sub surface testing of areas identified as having archaeological potential during a field survey, under the Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales. We will be engaging selected Aboriginal representatives identified during consultation undertaken following the Aboriginal cultural heritage consultation requirements for proponents 2010

I will let you know when the exact date has been decided.

Regards

Doug



www.accessarchaeology.com

Consider the environment: Please don't print this e-mail unless you really need to ______

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

This email is intended for the addressee(s) named and may contain confidential and/or privileged information.

If you are not the intended recipient, please notify the sender and then delete it immediately. Any views expressed in this email are those of the individual sender except where the sender expressly and with authority states them to be the views of the NSW Office of Environment and Heritage.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL

Doug Williams < dwilliams@accessarchaeology.com> From:

Sent: Monday, 2 May 2016 3:18 PM chappy7659@yahoo.com.au To: **Subject:** Draft cowra bypass ACHA report **Attachments:** CowraByPassACHA_REVC.pdf

Dear Neville,

I hope you are well. Please find attached a draft report of the subsurface test pitting we did a while back. Could you review and let me know if you have any comments please.

I don't think I have an email address for Esther, do you think you could assist in getting a copy of this report to her, or let me know if she has an email address?

Regards

Doug Williams



www.accessarchaeology.com

Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

Doug Williams < dwilliams@accessarchaeology.com > From:

Sent: Monday, 2 May 2016 3:55 PM

Muliyanwaters (muliyanwaters@gmail.com) To:

Subject: Draft cowra bypass ACHA report **Attachments:** CowraByPassACHA_REVC.pdf

Dear Muliyan,

Please find attached a copy of the draft ACHA report for the Cowra bypass. I look forward to your comments

Regards

Doug Williams



www.accessarchaeology.com



Consider the environment: Please don't print this e-mail unless you really need to

This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

Doug Williams < dwilliams@accessarchaeology.com> From:

Sent: Tuesday, 3 May 2016 1:28 PM 'cowralalc@bigpond.com' To:

Subject: ACHA

Attachments: CowraByPassACHA_REVC.pdf

Hello,

Some time ago the LALC expressed interest in this project, but at the time it was done the organisation seemed to be in haiatus. If you have any comments I would be happy to include them.

Regards

Doug



www.accessarchaeology.com



Consider the environment: Please don't print this e-mail unless you really need to

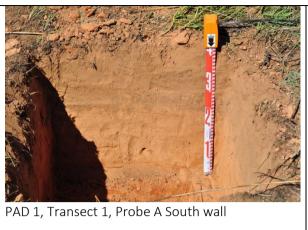
This message may contain privileged information intended only for the use of the addressee(s) named above. If this message was not intended for you, please note that you must not disseminate or copy it and are requested to immediately contact Access Archaeology & Heritage Pty Ltd. The views expressed in this message are not necessarily those of Access Archaeology & Heritage Pty Ltd.

Consultation Register

Date	Entity Contacted	Person/Position Contacted	Contacted by	Contact Method	Subject
29/03/2015	Dept Aboriginal Affairs	The Registrar	Doug Williams, AAH	Letter, by email	Seeking to identify Aboriginal persons/orgsanisations with an interest in the project
29/03/2015	Cowra Council	Not Specified	Doug Williams, AAH	Letter, by email	Seeking to identify Aboriginal persons/orgsanisations with an interest in the project
29/03/2015	Cowra LALC	Eva Coe, Chair	Doug Williams, AAH	Letter, by email	Seeking to identify Aboriginal persons/orgsanisations with an interest in the project
29/03/2015	Central Tablelands Local Land Services Board	Not Specified	Doug Williams, AAH	Letter, by email	Seeking to identify Aboriginal persons/orgsanisations with an interest in the project
29/03/2015	National Native Title Tribunal	Not Specified	Doug Williams, AAH	Letter, by email	Seeking to identify Aboriginal persons/orgsanisations with an interest in the project
29/03/2015	Līd	Not Specified	Doug Williams, AAH	Letter, by email	Seeking to identify Aboriginal persons/orgsanisations with an interest in the project
29/03/2015	NSW Office of Environement & Heritage - Dubbo	Paul Houston	Doug Williams, AAH	Letter, by email	Seeking to identify Aboriginal persons/orgsanisations with an interest in the project
31/03/2015	AAH	Doug Williams	Peter Sparkes, CTLLS	Email	Larry Towney will be in touch
2/04/2015	ААН	Doug Williams	Larry Towner, LLS	Email	Contact Cowra Council, they have a list of contacts
21/05/2015	Cowra LALC	Eva Coe	Doug Williams, AAH	Email	method statement
22/05/2015	Wiradjuri Mens Group	Jason Munro	Doug Williams, AAH	Phone	Called 0415202036, not connected
	Mooka Bulla Traditional Owners	John Coe	Doug Williams, AAH	Phone	Called 0406652043, not connected
22/05/2015	Wiradjuri Mens Group	Neville Williams	Doug Williams, AAH	Phone	Discused project, NW expressed interest in being involved
22/05/2015	Wiradjuri Mens Group	Neville Williams	Doug Williams, AAH	email	method statement
22/05/2015	Mooka Bulla Traditional Owners	Tom Lowe	Doug Williams, AAH	Phone	called 63425103, not connected
22/05/2015	Mooka Bulla Traditional Owners	Esther Cutmore	Doug Williams, AAH	Phone	not connected
22/05/2015	Kalari Ngunnawal Descendants	Eva Coe	Doug Williams, AAH	Phone	Called 0405286323, not connected
22/05/2015	Yarrawarra Hillford Aboriginal Corp	Frances Kennedy	Doug Williams, AAH	Phone	Interested in project, suggested call Jan grey
22/05/2015	Yarrawarra Hillford Aboriginal Corp	Jan Grey	Doug Williams, AAH	Phone	No Answer
22/05/2015	Kalari Ngunnawal Descendants	Rebecca Ingram	Doug Williams, AAH	Phone	No Answer
22/05/2015	Kalari Ngunnawal Descendants	Rebecca Ingram	Doug Williams, AAH	Email	method statement
23/05/2015	Yarrawarra Hillford Aboriginal Corp		Doug Williams, AAH	Phone	Interested in project, has a person to participate, Rick Waters
26/05/2015	Yarrawarra Hillford Aboriginal Corp	Jan Grey	Doug Williams, AAH	Email	Method Statement
26/05/2015	AAH	Doug Williams	Jan Grey	Email	Response to method staement and Rick Waters phone number
	Interested citizen	Amanda	Doug Williams, AAH	Email	interested to hear more of accounts of burials on the route
	Kalari Ngunnawal Descendants	Eva Coe	Doug Williams, AAH	Email	method statement
3/06/2015	Wiradjuri Mens Group	Neville Williams	Doug Williams, AAH	Phone	Agreed fieldwork dates
3/06/2015		Esther Cutmore	Doug Williams, AAH	Phone	Agreed fieldwork dates
	Yarrawarra Hillford Aboriginal Corp		Doug Williams, AAH	Phone	Agreed fieldwork dates
3/06/2015		Doug Williams	Eva Coe	Phone	Discussed fieldwork
3/06/2015		Eva Coe	Doug Williams, AAH	Email	Advised of fieldwork dates
5/06/2015	AAH	Doug Williams	Rebecca Ingram	Phone	Asking when fieldwork commences, will attend later in the day

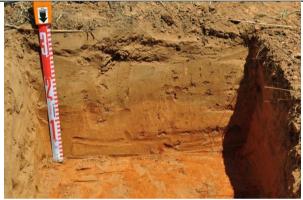
Date	Entity Contacted	Person/Position	Contacted by	Contact Method	Subject
F/00/004F		Contacted	Daharan Iranan	Discuss	MCII attacad Calabarada aftara barada
5/06/2015		Doug Williams	Rebecca Ingram	Phone	Will attend fieldwork after lunch
15/10/2015	5 OEH	Phil Purcell	Doug Williams, AAH	Email	notfication of fieldwork
16/10/2015	5 AAH	Doug Williams	Phil Purcell	Email	Acknowledge notification
12/02/2016	OEH	Phil Purcell	Doug Williams, AAH	Email	notfication of revised date for fieldwork
5/02/2016	Wiradjuri Mens Group	Neville Williams	Doug Williams, AAH	Phone	Arrange excavation fieldwork
5/02/2016	Mooka Bulla Traditional Owners	Esther Cutmore	Doug Williams, AAH	Phone	Arrange excavation fieldwork
5/02/2016	Yarrawarra Hillford Aboriginal Corp	Rick 'Muliyan' Waters	Doug Williams, AAH	Phone	Arrange excavation fieldwork. No Answer
2/05/2016	Yarrawarra Hillford Aboriginal Corp	Rick 'Muliyan' Waters	Doug Williams, AAH	Email	Draft report for comment (NIL response)
2/05/2016	Wiradjuri Mens Group	Neville Williams	Doug Williams, AAH	Email	Draft report for comment
2/05/2016	Mooka Bulla Traditional Owners	Neville Williams	Doug Williams, AAH	Email	Draft report for comment
22/05/2015	Kalari Ngunnawal Descendants	Rebecca Ingram	Doug Williams, AAH	Email	Draft report for comment
2/05/2016	Mooka Bulla Traditional Owners	Esther Cutmore	Doug Williams, AAH	Email	Draft report for comment
3/05/2016	Cowra LALC	CEO	Doug Williams, AAH	Email	Draft report for comment (NIL response)
27/05/2016	6 AAH	Doug Williams	Neville Williams and Esther Cutmore	Phone Call	Report is comprehensive and good quality, recommendations are endorsed. Please not back of misison used as stock route.

Subsurface Probe Photographs





PAD 1, Transect 1, Probe B South wall



PAD 1, Transect 1, Probe C South wall



PAD 1, Transect 1, Probe E South wall



PAD 1, Transect 1, Probe F South wall





PAD 3 Transect 1, Probe A North Wall



PAD 3 Transect 1, Probe B North Wall



PAD 3 Transect 1, Probe C North Wall



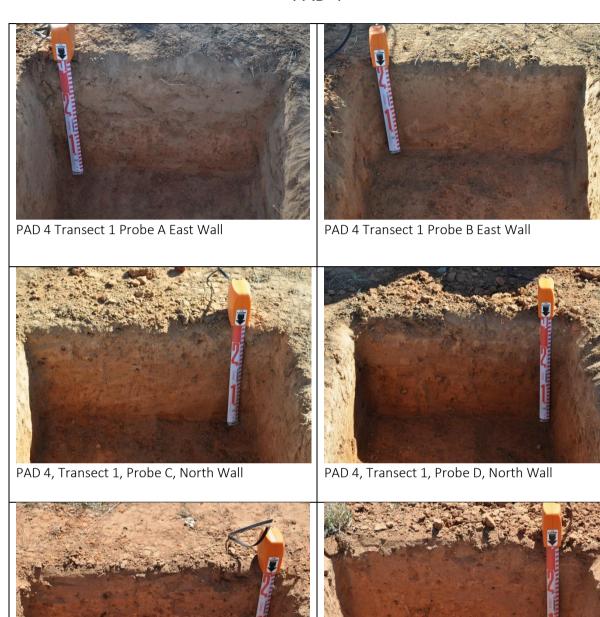
PAD 3 Transect 1, Probe D North Wall



PAD 3 Transect 1, Probe E North Wall



PAD 3 Transect 1, Probe F North Wall



PAD 4, Transect 1, Probe E, North Wall

PAD 4, Transect 1, Probe F, North Wall





PAD 5 Transect 1, Probe B, North Wall



PAD 5 Transect 1, Probe C, North Wall



PAD 5 Transect 1, Probe D, North Wall



PAD 5 Transect 1, Probe E, North Wall



PAD 5 Transect 1, Probe F, North Wall



PAD 6 Transect 1, Probe A, North Wall



PAD 6 Transect 1, Probe B, North Wall



PAD 6 Transect 1, Probe C, North Wall



PAD 6 Transect 1, Probe D, North Wall



PAD 6 Transect 1, Probe E, North Wall



PAD 6 Transect 1, Probe F, North Wall



PAD 6 Transect 2, Probe A, West Wall



PAD 6 Transect 2, Probe B, West Wall



PAD 6 Transect 2, Probe C, West Wall



PAD 6 Transect 2, Probe D, West Wall



PAD 6 Transect 2, Probe E, West Wall



PAD 7 Transect 1, Probe A, North Wall



PAD 7 Transect 1, Probe B, North Wall



PAD 7 Transect 1, Probe C, North Wall



PAD 7 Transect 1, Probe D, North Wall



PAD 7 Transect 1, Probe E, West Wall



PAD 7 Transect 1, Probe F, West Wall

Subsurface Probe Records

PAD	T'SECT	Probe	Level	L	w	D	Aboriginal Artefacts	European Artefacts	Deposit notes
1	1	Α	1	500	500	50		Brown glass	Very soft fine grey/tan silty loam
1	1	Α	2	500	500	100		Brown glass	Very soft fine grey/tan silty loam
1	1	Α	3	500	500	150		Brown and clear glass	As above, mottled at base with tan compact deposit
1	1	Α	4	500	500	200	1 silcrete DF		Tan compact silty loam
1	1	Α	5	500	500	250			Tan compact silty loam
1	1	Α	6	500	500	300	1 CGS flake		As above, but increasing gravel pellets to 10mm dia
1	1	Α	7	500	500	350			As above
1	1	Α	8	500	500	375			c.30mm into spit the soil abruptly changed to an orange compact clay
1	1	В	1	500	500	50		Brown glass and clear patterened glass	Very soft fine grey/tan silty loam
1	1	В	2	500	500	100		Brown and clear glass	Very soft fine grey/tan silty loam, compactness increasing
1	1	В	3	500	500	150		Brown glass	As above, increasingly comapact
1	1	В	4	500	500	200		Brown and clear glass	As above
1	1	В	5	500	500	250	1 Quartz flake	Brown glass	As above
1	1	В	6	500	500	300			As above
1	1	В	7	500	500	350			As above, red/brown compact clay at base.
1	1	С	1	500	500	50		Brown and clear glass, plastic button	Very soft fine grey/tan silty loam
1	1	С	2	500	500	100	1 Quartz flake	Brown and clear glass	Very soft fine grey/tan silty loam, compactness increasing
1	1	С	3	500	500	150			As above, increasingly comapact
1	1	С	4	500	500	200			As above
1	1	С	5	500	500	250			As above
1	1	С	6	500	500	300			As above
1	1	С	7	500	500	340			As above, red/brown compact clay at base.
1	1	D	1	500	500	50		Brown glass and plastic frag	Very soft fine grey/tan silty loam
1	1	D	2	500	500	100		Brown, L.Green and clear glass, small rusted metal frag	Very soft fine grey/tan silty loam, compactness increasing
1	1	D	3	500	500	150		Brown, L.Green glass, small rusted metal frag	As above, increasingly comapact
1	1	D	4	500	500	200			As above
1	1	D	5	500	500	250			As above
1	1	D	6	500	500	300		Clear patterened glass	As above
1	1	D	7	500	500	340			As above, red/brown compact clay at base.
1	1	Е	1	500	500	50		Brown, clear glass, fibro fragments, brown plastic frag	Very soft fine grey/tan silty loam
1	1	E	2	500	500	100		Clear glass, black rubber frag	Very soft fine grey/tan silty loam, compactness increasing
1	1	E	3	500	500	150			As above, increasingly comapact
1	1	Е	4	500	500	200		Brown, clear glass,brown plastic frag	As above
1	1	Е	5	500	500	250			As above
1	1	Е	6	500	500	300			As above

1	1	Е	7	500	500	340			As above , red/brown compact clay at base.
1	1	F	1	500	500	50		Brown, clear, Lgreen glass, 3 plastic frags 1 metal frag	Very soft fine grey/tan silty loam
1	1	F	2	500	500	120		Brown, clear glass 2 plastic frags	Very soft fine grey/tan silty loam, compactness increasing
1	1	F	3	500	500	180		Brown glass 1 metal frag	As above, increasingly comapact
1	1	F	4	500	500	250		1 plastic frag	As above
1	1	F	5	500	500	300		1 3	As above
1	1	F	6	500	500	330			As above, red/brown compact clay at base.
2	1	Α	1	500	500	50			Very dense blue metal
2	1	Α	2	500	500	100		White ceramic frag	Very dense blue metal
2	1	Α	3	500	500	160		White glass jar frag, brown glass	Very dense blue metal, decreasing gravel
2	1	Α	4	500	500	220		Brown and green glass, white ceramic frag	Significant decreae in gravel content, soil is fine, mid brown silty sand
2	1	Α	5	500	500	250		Brown, clear glass, metal fragment, porcelain fragment	Significant decreae in gravel content, soil is fine, mid brown silty sand
2	1	Α	6	500	500	300		2 clear glass fragments	Blue metal absent, soil has some larger water worn pebbles.
2	1	Α	7	500	500	380		White ceramic frag	Blue metal absent, soil has some larger water worn pebbles, very compact.
2	1	Α	8	500	500	420			Blue metal absent, soil has some larger water worn pebbles, very compact.
2	1	Α	9	500	500	500			Fine mid brown silty sand, less compact and damp.
2	1	Α	10	500	500	560			Fine mid brown silty sand, less compact and damp.
2	1	Α	11	500	500	620			Fine mid brown silty sand, less compact and damp.
2	1	Α	12	500	500	700	1 quartz flake		As above but more compact at base
2	1	Α	13	500	500	750			As above, very compact and dry
2	1	В	1	500	500	50		Brown and clear glass frags	Very dense blue metal, fine mid brown silty sand
2	1	В	2	500	500	120			Blue metal prolific but decreasing, soil as above
2	1	В	3	500	500	160		Brown glass frags, 1 white ceramic frag	Blue metal absent, soil as above, and contains rolled pebbles to 20mm dia
2	1	В	4	500	500	200			fine mid brown silty sand containin rolled pebbles to 20mm dia
2	1	В	5	500	500	250			fine mid brown silty sand containin rolled pebbles to 20mm dia
2	1	В	6	500	500	300			As above but very compact
2	1	В	7	500	500	350			Very compact fine silty sand, gravel absent
2	1	В	8	500	500	400			Very compact fine silty sand, gravel absent
2	1	В	9	500	500	450			Very compact fine silty sand, gravel absent
2	1	В	10	500	500	500			Very compact fine silty sand, gravel absent
2	1	В	11	500	500	550			Very compact fine silty sand, gravel absent
2	1	В	12	500	500	600			Fine silty sand, less compact and damp
2	1	В	13	500	500	670			Fine silty sand, less compact and damp
2	1	В	14	500	500	740			Fine silty sand, less compact and damp
2	1	С	1	500	500	50		Brown and clear glass frags	Very dense blue metal, fine mid brown silty sand

2	1	С	2	500	500	120	Brown Glass frags.	fine mid brown silty sand, gravel decreasing
2	1	О	3	500	500	170	Brown glass frags, 1 brown ceramic, 1 white ceramic	fine mid brown silty sand, very sparse blue metal
2	1	С	4	500	500	210	Small green glass and clear glass frag	fine mid brown silty sand, very sparse blue metal, and sparse natural pebbles
2	1	С	5	500	500	250	small green and brown glass frags	fine mid brown silty sand, very sparse blue metal, and sparse natural pebbles
2	1	С	6	500	500	300		fine mid brown silty sand, no bebbles, very compact
2	1	С	7	500	500	350		fine mid brown silty sand, no bebbles, very compact
2	1	С	8	500	500	400		fine mid brown silty sand, no bebbles, very compact
2	1	С	9	500	500	480		fine mid brown silty sand, no bebbles, very compact
2	1	С	10	500	500	530		fine mid brown silty sand, no bebbles, very compact
2	1	С	11	500	500	580		fine mid brown silty sand, no bebbles, very compact
2	1	С	12	500	500	650		fine mid brown silty sand, no bebbles, very compact
2	1	D	1	500	500	50		Very dense blue metal, fine mid brown silty sand
2	1	D	2	500	500	100		Blue metal prolific but decreasing, soil as above
2	1	D	3	500	500	160	Brown glass fragments	sharp decrease in blue metal, soil as above, very compact
2	1	D	4	500	500	200	Brown glass fragments	Fine mid brown silty sand, very compact
2	1	D	5	500	500	250		Spit encountered a dense layer of water rolled pebbles and 1 large cobble
2	1	D	6	500	500	300		gravel layer continues into this spit
2	1	D	7	500	500			very compact fine silty sand, gravel decreasing
2	1	D	8	500	500			very compact fine silty sand, gravel decreasing
2	1	D	9	500	500			very compact fine silty sand, gravel decreasing
2	1	D	10	500	500			Orange brown sand, sparse, small water rolled pellets
2	1	D	11	500	500			Orange brown sand, sparse, small water rolled pellets
2	1	D	12	500	500			Orange brown sand, sparse, small water rolled pellets
3	1	A	1	500	500			soft, fine mid brown silty sand
3	1	A	2	500	500			soft, fine mid brown silty sand
3	1	A	3	500	500			soft, fine mid brown silty sand
3	1	A	4	500	500			soft, fine mid brown silty sand
3	1	A	5	500	500			soft, fine mid brown silty sand
3	1	A	6	500	500			soft, fine mid brown silty sand
3	1	A	7	500	500			soft, fine mid brown silty sand
3	1	A	8	500	500			soft, fine mid brown silty sand
3	1	A	9	500	500			fine mid brown silty sand, compact
3	1	A	10	500	500			fine mid brown silty sand, compact.
3	1	A	11	500	500			fine mid brown silty sand, compact
3	1	A	12	500	500			fine mid brown silty sand, compact
3	1	В	1	500	500	50		soft, fine mid brown silty sand
3	1	В	2	500	500			soft, fine mid brown silty sand
	'		_	000	500	.00		cont, and this brown only care

3	1	В	3	500	500	150		soft, fine mid brown silty sand
3	1	В	4	500	500			soft, fine mid brown silty sand
3	1	В	5	500	500			soft, fine mid brown silty sand
3	1	В	6	500	500			soft, fine mid brown silty sand
3	1	В	7	500	500			soft, fine mid brown silty sand
3	1	В	8	500	500	400		soft, fine mid brown silty sand
3	1	В	9	500	500			fine mid brown silty sand, compact
3	1	В	10	500	500			fine mid brown silty sand, compact. Sawn cow bone this spit
3	1	В	11	500	500			fine mid brown silty sand, compact
3	1	В	12	500	500			fine mid brown silty sand, compact
3	1	С	1	500	500	50		soft, fine mid brown silty sand
3	1	C	2	500	500			soft, fine mid brown silty sand
3	1	С	3	500	500			soft, fine mid brown silty sand
3	1	С	4	500	500	200		soft, fine mid brown silty sand
3	1	С	5	500	500			soft, fine mid brown silty sand
3	1	С	6	500	500	300		soft, fine mid brown silty sand
3	1	С	7	500	500	350		soft, fine mid brown silty sand
3	1	С	8	500	500	420		soft, fine mid brown silty sand
3	1	С	9	500	500	450		soft, fine mid brown silty sand
3	1	С	10	500	500	550		soft, fine mid brown silty sand
3	1	D	1	500	500	50		soft, fine mid brown silty sand
3	1	D	2	500	500	100		soft, fine mid brown silty sand
3	1	D	3	500	500			soft, fine mid brown silty sand
3	1	D	4	500	500	210	Iron railway dog	soft, fine mid brown silty sand
3	1	D	5	500	500	260		soft, fine mid brown silty sand
3	1	D	6	500	500			soft, fine mid brown silty sand
3	1	D	7	500	500			soft, fine mid brown silty sand
3	1	D	8	500	500			soft, fine mid brown silty sand
3	1	D	9	500	500			soft, fine mid brown silty sand
3	1	D	10	500	500			soft, fine mid brown silty sand
3	1	D	11	500	500			soft, fine mid brown silty sand
3	1	E	1	500	500			Moderately compact mid brown silty sand, no gravel
3	1	Е	2	500	500			loose mid brown silty sand
3	1	E	3	500	500			loose mid brown silty sand
3	1	Е	4	500	500	200		loose mid brown silty sand
3	1	Е	5	500	500	250	7 glass pieces, 1 poss utilised, 3 flakes. 1 white ceramic frag	loose mid brown silty sand
3	1	Е	6	500	500	380	2 light green glass fragments, 1 a small flake <10mm	compact mid brown silty sand
3	1	Е	7	500	500			compact mid brown silty sand
3	1	Е	8	500	500	510		compact mid brown silty sand

3	1	Е	9	500	500		compact mid brown silty sand
3	1	F	1	500	500	50	Moderately compact mid brown silty sand, no gravel
3	1	F	2	500	500	100	Moderately compact mottled mid brown/light brown silty sand, no gravel
3	1	F	3	500	500	160	Moderately compact mottled mid brown/light brown silty sand, no gravel
3	1	F	4	500	500	220	Moderately compact mottled mid brown/light brown silty sand, no gravel
3	1	F	5	500	500	250	Moderately compact mottled mid brown/light brown silty sand, no gravel
3	1	F	6	500	500	300	Moderately compact mottled mid brown/light brown silty sand, no gravel
3	1	F	7	500	500	350	Moderately compact mottled mid brown/light brown silty sand, no gravel
3	1	F	8	500	500	400	Moderately compact mottled mid brown/light brown silty sand, no gravel
3	1	F	9	500	500	450	mottled mid brown/light brown silty sand, very compact, possibly calcified
3	1	F	10	500	500	500	mottled mid brown/light brown silty sand, less compact
3	1	F	11	500	500		mottled mid brown/light brown silty sand, less compact
3	1	F	12	500	500	620	mottled mid brown/light brown silty sand, less compact
4	1	Α	1	500	500	50	Moderately compact orange brown silty sand, no gravel
4	1	Α	2	500	500	110	Moderately compact orange brown silty sand, sparse fractured quartz.
4	1	Α	3	500	500	170	Moderately compact orange brown silty sand, minor rolled gravel to 20mm dia
4	1	Α	4	500	500	230	As above, more compact
4	1	Α	5	500	500	300	As above, base is orange brown very compact sandy clay
4	1	В	1	500	500	50	Moderately compact orange brown silty sand, no gravel
4	1	В	2	500	500	110	Moderately compact orange brown silty sand, sparse fractured quartz.
4	1	В	3	500	500	180	Moderately compact orange brown silty sand, minor rolled gravel to 20mm dia
4	1	В	4	500	500	250	As above, more compact, base is orange brown very compact sandy clay
4	1	С	1	500	500	50	Moderately compact orange brown silty sand, no gravel
4	1	С	2	500	500	100	Moderately compact orange brown silty sand, sparse fractured quartz.
4	1	С	3	500	500	180	Moderately compact orange brown silty sand, minor rolled gravel to 20mm dia

4	1	С	4	500	500	270	As above, more compact, base is orange brown very compact sandy
	·						clay
4	1	D	1	500	500	50	Moderately compact orange brown silty sand, no gravel
4	1	D	2	500	500	110	Moderately compact orange brown silty sand, sparse fractured quartz.
4	1	D	3	500	500		Moderately compact orange brown silty sand, minor rolled gravel to 20mm dia
4	1	D	4	500	500	250	As above, more compact
4	1	D	5	500	500	330	As above, base is orange brown very compact sandy clay
4	1	Е	1	500	500	50	Compact mid brown silty sand, moderate small quartz rounded pebbles
4	1	Е	2	500	500		mid brown silty sand, moderate small quartz rounded pebbles. Less compact
4	1	Е	3	500	500	150	mid brown silty sand, moderate small quartz rounded pebbles.
4	1	Е	4	500	500	200	mid brown silty sand, moderate small quartz rounded pebbles. Orange/brown clay at base
4	1	F	1	500	500	50	Moderately compact orange brown silty sand, no gravel
4	1	F	2	500	500	100	Moderately compact orange brown silty sand, sparse fractured quartz.
4	1	F	3	500	500	150	Moderately compact orange brown silty sand, minor rolled gravel to 20mm dia
4	1	F	4	500	500		As above, more compact
4	1	F	5	500	500		As above, base is orange brown very compact sandy clay
5	1	Α	1	500	500		Compact mid brown siilty sand with prolific rounded gravel
5	1	Α	2	500	500		Compact mid brown siilty sand with prolific rounded gravel
5	1	Α	3	500	500	210	Compact mid brown siilty sand with prolific rounded gravel
5	1	Α	4	500	500	270	Compact mid brown siilty sand with prolific rounded gravel
5	1	Α	5	500	500	340	Compact mid brown siilty sand with prolific rounded gravel, clay at base
5	1	В	1	500	500	70	Very compact gravelly silty sand. V.high gravel content to 50mm dia
5	1	В	2	500	500	140	As above, slightly softer, gravel decreasing
5	1	В	3	500	500	220	As above, slightly softer, gravel decreasing, orange/brown clay at base
5	1	С	1	500	500	50	Very compact, very gravelly mid brown silty sand
5	1	С	2	500	500	120	As above, clay at base
5	1	D	1	500	500	50	Very compact gravelly silty sand. V.high gravel content to 50mm dia
5	1	D	2	500	500	120	As above, slightly softer, gravel decreasing
5	1	D	3	500	500	150	As above, slightly softer, gravel decreasing, orange/brown clay at base

5	1	Е	1	500	500	50	Very compact gravelly silty sand. V.high gravel content to 50mm dia
5	1	Е	2	500	500	120	As above, slightly softer, gravel decreasing
5	1	Е	3	500	500	150	As above, slightly softer, gravel decreasing, orange/brown clay at base
5	1	F	1	500	500	50	Very compact gravelly silty sand. V.high gravel content to 50mm dia
5	1	F	2	500	500	120	Very compact gravelly silty sand. V.high gravel content to 50mm dia
5	1	F	3	500	500	150	As above, increasing clay content through spit and clay at base
6	1	Α	1	500	500	50	Grey tan silty sand, humic, grass roots
6	1	Α	2	500	500	100	Grey tan silty sand, humic, grass roots
6	1	Α	3	500	500	150	Beige silty sand, gravel gradually increasing with depth
6	1	Α	4	500	500	200	Beige silty sand, gravel gradually increasing with depth
6	1	Α	5	500	500	250	Beige silty sand, gravel gradually increasing with depth
6	1	Α	6	500	500	300	Beige silty sand, gravel gradually increasing with depth
6	1	Α	7	500	500	350	Beige silty sand, gravel gradually increasing with depth
6	1	Α	8	500	500	400	Beige silty sand, gravel gradually increasing with depth
6	1	Α	9	500	500	450	sandy silty clay with pelletal gravel
6	1	В	1	500	500	50	Grey tan silty sand, humic, grass roots
6	1	В	2	500	500	100	Grey tan silty sand, humic, grass roots
6	1	В	3	500	500	150	Beige silty sand, gravel gradually increasing with depth
6	1	В	4	500	500	200	Beige silty sand, gravel gradually increasing with depth
6	1	В	5	500	500	250	Beige silty sand, gravel gradually increasing with depth
6	1	В	6	500	500	300	Beige silty sand, gravel gradually increasing with depth
6	1	В	7	500	500	350	Beige silty sand, gravel gradually increasing with depth
6	1	В	8	500	500	400	Yellow/beige silty sandy clay at base
6	1	С	1	500	500	50	Grey tan silty sand, humic, grass roots
6	1	С	2	500	500	100	Grey tan silty sand, humic, grass roots
6	1	С	3	500	500	150	Beige silty sand, gravel gradually increasing with depth
6	1	С	4	500	500	220	Yellow/beige silty sandy clay at base
6	1	D	1	500	500	50	Grey tan silty sand, humic, grass roots
6	1	D	2	500	500		Grey tan silty sand, humic, grass roots
6	1	D	3	500	500	150	Beige silty sand, gravel gradually increasing with depth
6	1	D	4	500	500	200	Beige silty sand, gravel gradually increasing with depth
6	1	D	5	500	500	250	Beige silty sand, gravel gradually increasing with depth
6	1	D	6	500	500	300	Beige silty sand, gravel gradually increasing with depth
6	1	D	7	500	500	350	Yellow/beige silty sandy clay at base
6	1	E	1	500	500	50	Grey tan silty sand, humic, grass roots
6	1	Е	2	500	500	100	Grey tan silty sand, humic, grass roots
6	4	F	3	500	500		Beige silty sand, gravel gradually increasing with depth

	6	1	E	4	500	500	200	Beige silty sand, gravel gradually increasing with depth
6 1 E 6 500 500 300 Belge silty sand, gravel gradually increasing with depth 6 1 E 7 500 500 350 Belge silty sand, gravel gradually increasing with depth 6 1 E 8 500 500 400 Pallowheige silty sand, gravel gradually increasing with depth 6 1 E 9 500 500 500 400 Pallowheige silty sand, gravel gradually increasing with depth 6 1 E 9 500 500 500 500 Grey tan silty sand, humic, grass roots Grey tan silty sand, gravel gradually increasing with depth 6 1 F 4 500 500 500 150 Belge silty sand, gravel gradually increasing with depth 6 1 F 6 500 500 200 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 300 0 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 300 0 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 300 0 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 300 0 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 300 0 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 500 400 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 500 400 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 500 450 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 500 450 Belge silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 500 450 Belge silty sand, minor root content 6 2 A A 1 500 500 500 100 Belge silty sand, minor root content 1 Light gray-belge silty sand, minor root content 1 Light gray-belge silty sand, minor root content 1 Belge silty sand, minor root content 1 Belge silty sand, minor root content 1 Light gray-belge silty sand, minor root content 1 Belge silty		1						
Fig.		'						
6		'						
6		1						
6 1 F 1 500 500 50 Grey tan sity sand, humic, grass roots 6 1 F 2 500 500 150 Grey tan sity sand, humic, grass roots 6 1 F 3 500 500 150 Beige sity sand, gravel gradually increasing with depth 6 1 F 5 500 500 250 Beige sity sand, gravel gradually increasing with depth 6 1 F 6 500 500 300 Beige sity sand, gravel gradually increasing with depth 6 1 F 6 500 500 300 Beige sity sand, gravel gradually increasing with depth 6 1 F 8 500 500 400 Beige sity sand, gravel gradually increasing with depth 6 1 F 8 500 500 400 Beige sity sand, gravel gradually increasing with depth 6 1 F 8 500 500 400 400 400 400 400		1		_				
6 1 F 2 500 500 150 Grey tan silty sand, thumic, grass rotes 6 1 F 4 500 500 200 Beige silty sand, gravel gradually increasing with depth 6 1 F 5 500 500 250 Beige silty sand, gravel gradually increasing with depth 6 1 F 5 500 500 300 Beige silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 400 Beige silty sand, gravel gradually increasing with depth 6 1 F 8 500 500 400 Beige silty sand, gravel gradually increasing with depth 6 1 F 9 500 50 400 prollific gravel mixed with silty sand 6 1 F 9 500 50 400 prollific gravel mixed with silty sand, with depth 6 2 A 1 500 500 50 400 400 400 400		1						
6 1 F 3 500 500 150 Beige silty sand, gravel gradually increasing with depth 6 1 F 5 500 500 250 Belge silty sand, gravel gradually increasing with depth 6 1 F 6 500 500 300 Belge silty sand, gravel gradually increasing with depth 6 1 F 6 500 500 350 Belge silty sand, gravel gradually increasing with depth 6 1 F 6 500 500 400 Belge silty sand, gravel gradually increasing with depth 6 1 F 8 500 500 400 Belge silty sand, gravel gradually increasing with depth 6 1 F 9 500 500 400 Belge silty sand, gravel gradually increasing with depth 6 1 F 9 500 500 400 Belge silty sand, gravel gradually increasing with depth 6 1 F 9 500 500 450 450 450 <td></td> <td> </td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Beige silly sand, gravel gradually increasing with depth	-							
6 1 F 5 500 500 250 Beige silty sand, gravel gradually increasing with depth 6 1 F 6 500 500 300 Beige silty sand, gravel gradually increasing with depth 6 1 F 8 500 500 400 Beige silty sand, gravel gradually increasing with depth 6 1 F 8 500 500 400 Beige silty sand, gravel gradually increasing with depth 6 1 F 8 500 500 450 prolific gravel mixed with silty sand 6 2 A 1 500 500 50 Light grey/beige silty sand, minor root content 6 2 A 3 500 500 150 Beige silty sand, 6 2 A 4 500 500 250 Beige silty sand, 6 2 A 4 600 500 250 Beige silty sand, 6 2 A 5 500 </td <td>-</td> <td> </td> <td>-</td> <td></td> <td></td> <td></td> <td></td> <td></td>	-		-					
6 1 F 6 500 500 300 Beige silty sand, gravel gradually increasing with depth 6 1 F 7 500 500 350 Beige silty sand, gravel gradually increasing with depth 6 1 F 8 500 500 450 Beige silty sand, gravel gradually increasing with depth 6 1 F 9 500 500 450 Desperation of the provision of	-	1						
6 1 F 7 500 500 350 Beige silty sand, gravel gradually increasing with depth 6 1 F 8 500 500 400 Beige silty sand, gravel gradually increasing with depth 6 1 F 9 500 500 50 prolitic gravel mixed with silty sand 6 2 A 1 500 500 10 Light grey/beige silty sand, minor root content 6 2 A 2 500 500 150 Beige silty sand, 6 2 A 4 500 500 150 Beige silty sand, 6 2 A 4 500 500 200 Beige silty sand, 6 2 A 5 500 500 250 Beige silty sand, 6 2 A 6 500 500 300 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, <td></td> <td>'</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		'						
6 1 F 8 500 500 400 Beige silty sand, gravel gradually increasing with depth prolific gravel mixed with silty sand 6 1 F 9 500 500 Light greybeige silty sand, minor root content 6 2 A 1 500 500 100 Light greybeige silty sand, minor root content 6 2 A 2 500 500 150 Beige silty sand, 6 2 A 4 500 500 150 Beige silty sand, 6 2 A 4 500 500 250 Beige silty sand, 6 2 A 5 500 500 250 Beige silty sand, 6 2 A 5 500 500 350 Beige silty sand, 6 2 A 8 500 500 350 Beige silty sand, 6 2 A 8 500 500 450 Beige silty sand,		1						
6 1 F 9 500 500 450 6 2 A 1 500 500 50 Light grey/beige silty sand, minor root content 6 2 A 3 500 500 150 Beige silty sand, 6 2 A 4 500 500 200 Beige silty sand, 6 2 A 4 500 500 200 Beige silty sand, 6 2 A 4 500 500 200 Beige silty sand, 6 2 A 5 500 500 200 Beige silty sand, 6 2 A 6 500 500 300 Beige silty sand, 6 2 A 6 500 500 350 Beige silty sand, 6 2 A 8 500 500 450 Beige silty sand, 6 2 A 9 500 50		1						
6 2 A 1 500 500 50 Light grey/beige sitty sand, minor root content 6 2 A 2 500 500 150 Beige sitty sand, 6 2 A 4 500 500 200 Beige sitty sand, 6 2 A 4 500 500 250 Beige sitty sand, 6 2 A 4 500 500 250 Beige sitty sand, 6 2 A 6 500 500 300 Beige sitty sand, 6 2 A 7 500 500 350 Beige sitty sand, 6 2 A 7 500 500 350 Beige sitty sand, 6 2 A 7 500 500 450 Beige sitty sand, 6 2 A 10 500 500 450 Beige sitty sand, 6 2 B 1		1						
6 2 A 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 A 3 500 500 150 Beige silty sand, 6 2 A 4 500 500 250 Beige silty sand, 6 2 A 5 500 500 250 Beige silty sand, 6 2 A 6 500 500 350 Beige silty sand, 6 2 A 7 500 500 350 Beige silty sand, 6 2 A 7 500 500 400 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, 6 2 A 10 500 500 500 Beige silty sand, 6 2 A 10 500 500 500 Light grey/beige silty sand, minor root content 6 2								
6 2 A 3 500 500 150 Beige silty sand, 6 2 A 4 500 500 200 Beige silty sand, 6 2 A 5 500 500 300 Beige silty sand, 6 2 A 6 500 500 300 Beige silty sand, 6 2 A 7 500 500 350 Beige silty sand, 6 2 A 8 500 500 450 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, 6 2 A 10 500 500 450 Beige silty sand, 6 2 A 10 500 500 500 Elight grey/beige silty sand, orange/yellow clay at base 6 2 B 1 500 500 500 Elight grey/beige silty sand, minor root content 6 2<				-				
6 2 A 4 500 500 200 Beige silty sand, 6 2 A 5 500 500 300 Beige silty sand, 6 2 A 7 500 500 350 Beige silty sand, 6 2 A 7 500 500 450 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, 6 2 A 10 500 500 500 Beige silty sand, orange/yellow clay at base 6 2 B 1 500 500 500 Beige silty sand, minor root content 6 2 B 3 500 500 100 Beige silty sand, 6 2 B								
6 2 A 5 500 500 250 Beige silty sand, 6 2 A 6 500 500 350 Beige silty sand, 6 2 A 8 500 500 400 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, 6 2 A 9 500 500 500 Beige silty sand, 6 2 A 10 500 500 500 Beige silty sand, 6 2 A 10 500 500 500 Beige silty sand, orange/yellow clay at base 6 2 B 1 500 500 500 Beige silty sand, minor root content 6 2 B 1 500 500 150 Beige silty sand, 6 2 B 3 500 500 150 Beige silty sand, 6 2 B	6		Α					
6 2 A 6 500 500 300 Beige silty sand, 6 2 A 7 500 500 450 Beige silty sand, 6 2 A 8 500 500 450 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, 6 2 A 9 500 500 500 Beige silty sand, 6 2 A 10 500 500 500 Beige silty sand, minor root content 6 2 B 1 500 500 100 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 100 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 100 Light grey/beige silty sand, 8 6 2 B 4 500 500 200 Beige silty sand, 8 8 8 500 500 <t< td=""><td>6</td><td>2</td><td>Α</td><td>4</td><td></td><td></td><td></td><td></td></t<>	6	2	Α	4				
6 2 A 7 500 500 350 Beige silty sand, 6 2 A 8 500 500 400 Beige silty sand, 6 2 A 9 500 500 500 Beige silty sand, 6 2 A 10 500 500 500 Beige silty sand, orange/yellow clay at base 6 2 B 1 500 500 500 Light grey/beige silty sand, minor root content 6 2 B 2 500 500 150 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 150 Beige silty sand, 6 2 B 4 500 500 200 Beige silty sand, 6 2 B 4 500 500 250 Beige silty sand, 6 2 B 7 500 500 350 Beige silty sand, 6 <td>6</td> <td>2</td> <td>Α</td> <td>5</td> <td></td> <td></td> <td></td> <td>Beige silty sand,</td>	6	2	Α	5				Beige silty sand,
6 2 A 8 500 500 400 Beige silty sand, 6 2 A 9 500 500 450 Beige silty sand, 6 2 A 10 500 500 500 Beige silty sand, orange/yellow clay at base 6 2 B 1 500 500 500 Light grey/beige silty sand, minor root content 6 2 B 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 150 Beige silty sand, 6 2 B 3 500 500 150 Beige silty sand, 6 2 B 4 500 500 250 Beige silty sand, 6 2 B 6 500 500 300 Beige silty sand, 6 2 B 7 500 500 350 Beige silty sand, 6 <td>6</td> <td>2</td> <td>Α</td> <td>6</td> <td></td> <td></td> <td></td> <td>Beige silty sand,</td>	6	2	Α	6				Beige silty sand,
6 2 A 9 500 500 450 Beige silty sand, Beige silty sand, orange/yellow clay at base 6 2 B 1 500 500 Light grey/beige silty sand, minor root content 6 2 B 2 500 500 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 Light grey/beige silty sand, minor root content 6 2 B 4 500 500 200 Beige silty sand, 6 2 B 4 500 500 200 Beige silty sand, 6 2 B 5 500 500 200 Beige silty sand, 6 2 B 6 500 500 300 Beige silty sand, 6 2 B 7 500 500 400 Beige silty sand,	6	2	Α	7	500			Beige silty sand,
6 2 A 10 500 500 500 Beige silty sand, orange/yellow clay at base 6 2 B 1 500 500 500 Light grey/beige silty sand, minor root content 6 2 B 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 150 Beige silty sand, 6 2 B 4 500 500 200 Beige silty sand, 6 2 B 5 500 500 250 Beige silty sand, 6 2 B 6 500 500 300 Beige silty sand, 6 2 B 7 500 500 350 Beige silty sand, 6 2 B 8 500 500 450 Beige silty sand, 6 2 B 9 500 500 500 Beige silty sand, 6 <td>6</td> <td>2</td> <td>Α</td> <td>8</td> <td>500</td> <td></td> <td></td> <td>Beige silty sand,</td>	6	2	Α	8	500			Beige silty sand,
6 2 B 1 500 500 50 Light grey/beige silty sand, minor root content 6 2 B 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 150 Beige silty sand, 6 2 B 4 500 500 200 Beige silty sand, 6 2 B 4 500 500 200 Beige silty sand, 6 2 B 5 500 500 500 500 6 2 B 6 500 500 350 Beige silty sand, 6 2 B 7 500 500 350 Beige silty sand, 6 2 B 8 500 500 450 Beige silty sand, 6 2 B 10 500 500 Beige silty sand, 6 2 B 11	6	2	Α	9				Beige silty sand,
6 2 B 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 B 3 500 500 150 Beige silty sand, 6 2 B 4 500 500 200 Beige silty sand, 6 2 B 5 500 500 250 Beige silty sand, 6 2 B 6 500 500 300 Beige silty sand, 6 2 B 6 500 500 350 Beige silty sand, 6 2 B 8 500 500 350 Beige silty sand, 6 2 B 8 500 500 450 Beige silty sand, 6 2 B 10 500 500 500 Beige silty sand, 6 2 B 11 500 500 550 Beige silty sand, orange/yellow clay at base 6 2	6	2	Α	10	500	500		Beige silty sand, orange/yellow clay at base
6 2 B 3 500 500 150 Beige silty sand, 6 2 B 4 500 500 200 Beige silty sand, 6 2 B 5 500 500 250 Beige silty sand, 6 2 B 6 500 500 300 Beige silty sand, 6 2 B 7 500 500 350 Beige silty sand, 6 2 B 8 500 500 400 Beige silty sand, 6 2 B 9 500 500 450 Beige silty sand, 6 2 B 10 500 500 500 Beige silty sand, 6 2 B 11 500 500 500 Beige silty sand, orange/yellow clay at base 6 2 C 1 500 500 Beige silty sand, minor root content 6 2 C 2	6	2	В	1	500	500	50	Light grey/beige silty sand, minor root content
6 2 B 4 500 500 200 Beige silty sand, 6 2 B 5 500 500 250 Beige silty sand, 6 2 B 6 500 500 300 Beige silty sand, 6 2 B 7 500 500 350 Beige silty sand, 6 2 B 8 500 500 400 Beige silty sand, 6 2 B 9 500 500 450 Beige silty sand, 6 2 B 10 500 500 Beige silty sand, 6 2 B 11 500 500 Beige silty sand, 6 2 B 12 500 500 Beige silty sand, orange/yellow clay at base 6 2 C 1 500 500 Beige silty sand, minor root content 6 2 C 2 500 500 Beige silt	6	2	В	2	500	500	100	Light grey/beige silty sand, minor root content
6 2 B 5 500 500 250 Beige silty sand, 6 2 B 6 500 500 300 Beige silty sand, 6 2 B 7 500 500 350 Beige silty sand, 6 2 B 8 500 500 400 Beige silty sand, 6 2 B 9 500 500 450 Beige silty sand, 6 2 B 10 500 500 500 Beige silty sand, 6 2 B 11 500 500 550 Beige silty sand, orange/yellow clay at base 6 2 B 12 500 500 50 Light grey/beige silty sand, minor root content 6 2 C 2 500 500 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 Beige silty sand, minor root content	6	2	В	3	500	500	150	Beige silty sand,
6 2 B 6 500 500 300 Beige silty sand, 6 2 B 7 500 500 350 Beige silty sand, 6 2 B 8 500 500 450 Beige silty sand, 6 2 B 10 500 500 500 Beige silty sand, 6 2 B 11 500 500 550 Beige silty sand, orange/yellow clay at base 6 2 B 12 500 500 500 Beige silty sand, orange/yellow clay at base 6 2 C 1 500 500 Beige silty sand, minor root content 6 2 C 2 500 500 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 Beige silty sand,	6	2	В	4	500	500	200	Beige silty sand,
6 2 B 7 500 500 350 Beige silty sand, 6 2 B 8 500 500 400 Beige silty sand, 6 2 B 9 500 500 450 Beige silty sand, 6 2 B 10 500 500 500 Beige silty sand, 6 2 B 11 500 500 550 Beige silty sand, orange/yellow clay at base 6 2 B 12 500 500 50 Light grey/beige silty sand, minor root content 6 2 C 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 Beige silty sand,	6	2	В	5	500	500	250	Beige silty sand,
6 2 B 7 500 500 350 Beige silty sand, 6 2 B 8 500 500 400 Beige silty sand, 6 2 B 9 500 500 450 Beige silty sand, 6 2 B 10 500 500 500 Beige silty sand, 6 2 B 11 500 500 550 Beige silty sand, orange/yellow clay at base 6 2 B 12 500 500 50 Light grey/beige silty sand, minor root content 6 2 C 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 Beige silty sand,	6	2	В	6	500	500	300	
6 2 B 8 500 500 400 Beige silty sand, 6 2 B 9 500 500 450 Beige silty sand, 6 2 B 10 500 500 Beige silty sand, 6 2 B 11 500 500 500 6 2 B 12 500 500 Beige silty sand, orange/yellow clay at base 6 2 C 1 500 500 Eight grey/beige silty sand, minor root content 6 2 C 2 500 500 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 Beige silty sand,	6		В	7	500		350	
6 2 B 9 500 500 450 Beige silty sand, 6 2 B 10 500 500 500 Beige silty sand, 6 2 B 11 500 500 500 Beige silty sand, orange/yellow clay at base 6 2 C 1 500 500 Light grey/beige silty sand, minor root content 6 2 C 2 500 500 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 Beige silty sand,	6	2	В	8	500	500	400	
6 2 B 10 500 500 500 Beige silty sand, 6 2 B 11 500 550 Beige silty sand, orange/yellow clay at base 6 2 B 12 500 500 Beige silty sand, orange/yellow clay at base 6 2 C 1 500 500 Light grey/beige silty sand, minor root content 6 2 C 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 150 Beige silty sand,	6			9				
6 2 B 11 500 500 550 Beige silty sand, 6 2 B 12 500 500 600 Beige silty sand, orange/yellow clay at base 6 2 C 1 500 500 50 Light grey/beige silty sand, minor root content 6 2 C 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 150 Beige silty sand,								
6 2 B 12 500 500 600 Beige silty sand, orange/yellow clay at base 6 2 C 1 500 500 50 Light grey/beige silty sand, minor root content 6 2 C 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 150 Beige silty sand,								
6 2 C 1 500 500 50 Light grey/beige silty sand, minor root content 6 2 C 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 150 Beige silty sand,								
6 2 C 2 500 500 100 Light grey/beige silty sand, minor root content 6 2 C 3 500 500 150 Beige silty sand,								
6 2 C 3 500 500 150 Beige silty sand,								
v , ,	6							
I U I Z I U I T I JUUI JUUI ZUUI I I I I I I I I I I I I I I I I	6	2	C	4	500	500		Beige silty sand,

6	2	С	5	500	500	250		Beige silty sand,
6	2	С	6	500	500			Beige silty sand,
6	2	С	7	500	500	350		Beige silty sand,
6	2	С	8	500	500	400		Beige silty sand,
6	2	С	9	500	500	450		Beige silty sand,
6	2	С	10	500	500			Beige silty sand,
6	2	С	11	500	500	550		Beige silty sand, orange/yellow clay at base
6	2	D	1	500	500	50		Light grey/beige silty sand, minor root content
6	2	D	2	500	500	100	Ceramic insulator fragment	Light grey/beige silty sand, minor root content
6	2	D	3	500	500	150	_	Beige silty sand,
6	2	D	4	500	500	200		Beige silty sand,
6	2	D	5	500	500	250		Beige silty sand,
6	2	D	6	500	500	300		Beige silty sand,
6	2	D	7	500	500	350		Beige silty sand,
6	2	D	8	500	500	400		Beige silty sand,
6	2	D	9	500	500			Beige silty sand,
6	2	D	10	500	500			Beige silty sand,
6	2	D	11	500	500	550		Beige silty sand,
6	2	D	12	500	500			Beige silty sand, orange/yellow clay at base
6	2	Е	1	500	500	50		Light grey/beige silty sand, minor root content
6	2	Е	2	500	500			Light grey/beige silty sand, minor root content
6	2	Е	3	500	500			Beige silty sand,
6	2	Е	4	500	500			Beige silty sand,
6	2	E	5	500	500			Beige silty sand,
6	2	E	6	500	500			Beige silty sand,
6	2	Е	7	500	500			Beige silty sand,
6	2	Е	8	500	500			Beige silty sand,
6	2	Е	9	500	500			Beige silty sand,
6	2	Е	10	500	500			Beige silty sand, orange/yellow clay at base
7	1	Α	1	500	500			Dark brown humic sandy loam, minor charcoal
7	1	Α	2	500	500		2 brown glass frags	Black/grey ashy deposit with fire cracked rock and slag
7	1	Α	3	500	500			Mid brown silty sand, damp and loose
7	1	Α	4	500	500			Mid brown silty sand, damp and loose
7	1	Α	5	500	500		1 Lgreen glass frag	Mid brown silty sand, damp and loose
7	1	Α	6	500	500			Mid brown silty sand, damp and loose
7	1	Α	7	500	500			Mid brown silty sand, damp and loose
7	1	Α	8	500	500			Mid brown silty sand, damp and loose
7	1	Α	9	500	500			Mid brown silty sand, damp and loose
7	1	Α	10	500	500			Mid brown silty sand, damp and loose
7	1	В	1	500	500			Dark orangey brown loose sand - imported fill
7	1	В	2	500	500	140		Dark brown damp silty sand, minor small gravel

7	1	В	3	500	500	240		Dark brown damp silty sand, minor small gravel
7	1	В	4	500	500	320		Dark brown damp silty sand, minor small gravel
7	1	В	5	500	500		1 flat white ceramic frag	Dark brown damp silty sand, minor small gravel
7	1	В	6	500	500	500	4 rusty modern nails, 1 clear glass frag,	Dark brown damp silty sand, minor small gravel
7	1	В	7	500	500	560	+ rusty modern rialis, i clear glass rrag,	Dark brown damp silty sand, minor small gravel
7	1	В	8	500	500	620	3 clear glass frags, 1 white ceramic frag	Dark brown damp silty sand, minor small gravel
7	1	В	9	500	500	670	Jo clear glass rrags, i writte ceramic mag	Dark brown damp silty sand, minor small gravel
7	1	В	10	500	500	710		Dark brown damp silty sand, minor small gravel
7	1	С	1	500	500	710	1 purple glass fragment	Dark brown damp sitty sand, millor small graver Dark orangey brown loose sand - imported fill
7	1	C	2	500	500	140	i purpie grass rraginent	Dark brown damp silty sand, minor small gravel
7	1	C	3	500	500	240	1 clear glass fragment	Dark brown damp silty sand, minor small gravel
7	1	C	4	500	500	320	l clear glass fragment	Brown damp silty sand, minor small gravel
7	1	С	5	500	500	410	1 alogs alogs frogment	Brown damp silty sand, minor small gravel
7	1	С	6	500	500	500	1 clear glass fragment	
7	•	_	•					Brown damp silty sand, minor small gravel
	1	С	7	500	500	560		Brown damp silty sand, minor small gravel
7	1	С	8	500	500	620		Brown damp silty sand, minor small gravel
7	1	С	9	500	500	670		Brown damp silty sand, minor small gravel
7	1	С	10	500	500	710		Brown damp silty sand, minor small gravel
7	1	D	1	500	500	50		Very compact fine silty mid brown sand
7	1	D	2	500	500	100		Very compact fine silty mid brown sand
7	1	D	3	500	500	150		Very compact fine silty mid brown sand
7	1	D	4	500	500	200		Very compact fine silty mid brown sand
7	1	D	5	500	500	250	1 brown, 1 clear opalised glass frags	Very compact fine silty mid brown sand
7	1	D	6	500	500	300		Very compact fine silty mid brown sand
7	1	D	7	500	500	350		Very compact fine silty mid brown sand
7	1	D	8	500	500	400		Very compact fine silty mid brown sand
7	1	D	9	500	500	450		Very compact fine silty mid brown sand
7	1	D	10	500	500	500		Very compact fine silty mid brown sand, blocky peds
7	1	D	11	500	500	550		Very compact fine silty mid brown sand, blocky peds
7	1	D	12	500	500	600		Very compact fine silty mid brown sand, blocky peds
7	1	Е	1	500	500	50		Very compact fine silty mid brown sand
7	1	Е	2	500	500	100	2 clear glass frags, opalised	Very compact fine silty mid brown sand
7	1	E	3	500	500	150	1 green glass frag, 1 fragment white ceramic thick plate/bowl base	Very compact fine silty mid brown sand
7	1	Е	4	500	500	200		Very compact fine silty mid brown sand
7	1	Е	5	500	500	250	White ceramic frag, green glass frag	Very compact fine silty mid brown sand
7	1	Е	6	500	500	300	3.0	Very compact fine silty mid brown sand
7	1	Е	7	500	500	350		Very compact fine silty mid brown sand
7	1	Е	8	500	500	400		Very compact fine silty mid brown sand
7	1	E	9	500	500	450		Very compact fine silty mid brown sand
7	1	E	10	500	500	500		Very compact fine silty mid brown sand, blocky peds
			. •	000	000	000		in the state of th

7	1	E	11	500	500	550		Very compact fine silty mid brown sand, blocky peds
7	1	Е	12	500	500	600		Very compact fine silty mid brown sand, blocky peds
7	1	F	1	500	500	50		Very compact fine silty mid brown sand
7	1	F	2	500	500	100	blue and white ceramic frag, clear glass frag	Very compact fine silty mid brown sand
7	1	F	3	500	500	150		Very compact fine silty mid brown sand
7	1	F	4	500	500	200		Very compact fine silty mid brown sand
7	1	F	5	500	500	250		Very compact fine silty mid brown sand
7	1	F	6	500	500	300		Very compact fine silty mid brown sand, blocky peds
7	1	F	7	500	500	350		Very compact fine silty mid brown sand, blocky peds
7	1	F	8	500	500	400		Very compact fine silty mid brown sand, blocky peds
7	1	F	9	500	500	450		Very compact fine silty mid brown sand, blocky peds
7	1	F	10	500	500	500		Very compact fine silty mid brown sand, blocky peds
7	1	F	11	500	500	550		Very compact fine silty mid brown sand, blocky peds
7	1	F	12	500	500	600		Very compact fine silty mid brown sand, blocky peds, sparse quartz rolled gravel

Artefact Records

					General							Platform							Dorsal Surface			Re	etouch	n/Use	!	Notes
PAD	Transect	Probe	Level	No	Col	Raw Mat	Tech Cat	L	M W	T Max	Mass	Plat Type	Plat Surf	Plat Thick	Term	Cortex %	Cortex Type	Dorsal Ridge		Scars Q2	Scars Q3	% Q1	% Q2	% Q3	% Q4	
1	1	Α	4	1	Brown	Sil	DF			14					F	0										
1	1	Α	6	1	Red/Br	CGS	PF			17		FOCAL	1	4												Broken in excavation
1	1	Α	6	2	Red/Br	CGS	FP			33																Broken in excavation, all probably the same artefact, but no conjoining
1	1	Α	6	3	Red/Br	CGS	FP			25																edges
1	1	Α	6	4	Red/Br	CGS	FP			15																
1	1	В	5	1	White	Quartz	Flake	26	11	4 28		FOCAL	1	4	F	0		N	2							
1	1	С	2	1	White	Quartz	Flake	16	17	5 19		FOCAL	1	5	Ax	10	Pebble	N	1							
2	1	Α	12	1	White	Quartz	Flake	23	16	7 22		FOCAL	1	2	Ax			N	2							
3	1	Е	5	1	Lgreen	Glass	scraper	75	35	8 75																Bottle glass fragment with edge damage to margins indicating retouch and use. Found with 3 small glass flakes <10mm and 3 glass frags. Excav damage has created a fresh flake, which was retained.