

# Proposed Residential Development, 2100 Thompsons Road and 1425 Pound Road, Clyde North

## Cultural Heritage Management Plan



**OAAV Management Plan Identifier: 11869**

**Sponsor: Campbell Park Property Developments Pty Ltd**

**Cultural Heritage Advisor: David Rhodes**

**Authors: Kathleen Hislop, John Young, Matthew Barker and Lauren Prossor**

**August 26, 2013**



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ABN: 73 116 621 884 ACN: 116 621 88

# Title Page

ACTIVITY:	Proposed Residential Subdivision
LOCATION:	2100 Thompsons Road and 1425 Pound Road, Clyde North
LEVEL OF ASSESSMENT:	Desktop, Standard and Complex
SIZE OF ACTIVITY:	Large
OAAV PLAN IDENTIFIER:	11869
DATE OF COMPLETION:	August 26, 2013
SPONSOR:	Campbell Park Property Developments Pty Ltd
ABN:	24 138 263 644
CULTURAL HERITAGE ADVISOR:	David Rhodes
AUTHORS:	Kathleen Hislop, John Young, Matthew Barker and Lauren Prossor

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Gary Watkins, Jaeden Williams, Wenzel Carter, Michael Williams – Field Representatives

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### **Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc.**

Joe Armstrong, Trevor Downe, Kerrie Xiberras, Craig Terrick, Michael (Willy) Xiberras, Gary Galway – Field Representatives

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Aboriginal Heritage Act 2006  
Section 65

Cultural Heritage Management Plan – Notice of Approval

**CHMP NAME:** Proposed Residential Development, 2100 Thompsons Road and  
1425 Pound Road, Clyde North

**CHMP NUMBER:** 11869

**SPONSOR:** Campbell Park Property  
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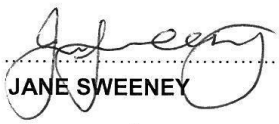
**Cultural Heritage Advisor(s):** David Rhodes

**Author(s):** Kathleen Hislop, John Young, Matthew Barker and Lauren Prossor

**Cover date:** 26 August 2013

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**Received for approval:** 26 August 2013

TO BE COMPLETED BY THE SECRETARY (OR DELEGATE)	Yes	No
<b>I have considered the Evaluation Report for this CHMP and:</b>		
<i>I am satisfied that the CHMP has been prepared in accordance with the standards prescribed for the purposes of section 53 (in the Aboriginal Heritage Regulations 2007 and the Approved Form).</i>	✓	
<i>I am satisfied that the CHMP adequately addresses the matters set out in section 61.</i>	✓	
<i>In considering this application, I consulted with and considered the views of Aboriginal persons or bodies I considered relevant to the application.</i>	✓	
<i>I have given proper consideration to any relevant human rights</i>	✓	
<p>I, Jane Sweeney, Acting Director Heritage Services, Office of Aboriginal Affairs Victoria, acting under authority delegated to me by the Secretary, Department of Premier and Cabinet, and pursuant to section 65(2) of the <i>Aboriginal Heritage Act 2006</i> hereby <u>approve / refuse to approve</u> this cultural heritage management plan:</p>		
<p>Signed:  JANE SWEENEY</p>		
<p>Dated: 18/9/13</p>		
<ul style="list-style-type: none"><li>• This notice of approval should be inserted after the title page and bound with the body of the management plan.</li><li>• The recommendations in this management plan are now compliance requirements. Officers from the Department of Premier and Cabinet may attend the subject land to monitor compliance with the recommendations.</li></ul>		

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## Executive Summary

### Introduction

This Cultural Heritage Management Plan has been undertaken at the request of Campbell Park Property Developments Pty Ltd. A Cultural Heritage Management Plan (CHMP) is a mandatory requirement for the proposed activity because:

- All or part of the activity area is an area of cultural heritage sensitivity (*Aboriginal Heritage Regulations 2007*, Division 1, 6(a)); and
- The proposed activity is a high impact activity (*Aboriginal Heritage Regulations 2007*, Division 1, 6(b)).

The Activity Area falls within two areas of cultural sensitivity as defined in the *Aboriginal Heritage Regulations 2007*.

1. The Koo Wee Rup Plain geological unit lies within the Activity Area (*Aboriginal Heritage Regulations 2007* r. 31 (1) and (3) (Koo Wee Rup Plain) :

#### **r. 31 Koo Wee Rup Plain**

- (1) Subject to subregulation (2), the Koo Wee Rup Plain is an area of cultural heritage sensitivity.
- (3) In this regulation, ***Koo Wee Rup Plain*** means an area identified as "Qrm" on the following Geological Survey of Victoria 1:250,000 map series sheets—
  - (a) SJ55-9 entitled "Queenscliff" (second edition, 1997);
  - (b) SJ55-10 entitled "Warragul" (second edition, 1997).

2. The Activity Area is within 50m of a registered cultural heritage place (*Aboriginal Heritage Regulations 2007* r. 22 (2) (Registered cultural heritage place) :

#### **r. 22 Registered cultural heritage places**

- (2) Subject to subregulation (3), land within 50 metres of a registered cultural heritage place is an area of cultural heritage sensitivity.

The proposed works are for a residential subdivision. This is a high impact activity as defined in the *Aboriginal Heritage Regulations 2007* r. 46 (1) (a) (Subdivision of Land):

#### **r. 46 Subdivision of Land**

- (1) The subdivision of land into three or more lots is a high impact activity if—
  - (a) the planning scheme that applies to the activity area in which the land to be subdivided is located provides that at least three of the lots may be used for a dwelling or may be used for a dwelling subject to the grant of a permit;

This CHMP is comprised of desktop, standard and complex level assessments.



## **Location of the Activity Area**

The Activity Area encompasses the parcel of land known as 2100 Thompsons Road and 1425 Pound Road, Clyde North, Lot 1\PS433177, Lot 2\PS433177, Lot 2\PS300094, Lot 3\PS300094, Lot 4\PS300094, Parish of Cranbourne, County of Mornington, City of Casey.

The Activity Area is located within the suburb of Clyde North, approximately 40km southeast of Melbourne CBD (Map 1).

## **Activity Description**

The proposed activity is for a residential, medical and commercial development (Map 2). The northern region of the Activity Area will contain a medical precinct, business and retail outlets, high density housing and a retirement village. A strip across the centre of the Activity Area and the land through the eastern region will comprise standard and medium density housing. The electricity easement (approximately 160m wide) will remain along the southern boundary running east-west. Two open space reserves, each approximately 1ha (10,000m<sup>2</sup>) in size are proposed for the eastern and central regions of the Activity Area. The eastern open space reserve lies over the northernmost dam. Small systems of wetland/drainage reserve are also present in the northwestern boundary region of the Activity Area across part of the floodplain. A wetland will be created in the south-eastern region of the Activity Area as a water catchment or reservoir. The location lies over the prior watercourse and the southernmost dam and will continue into the property to the south of the Activity Area, covering a total of 3.4ha (340,000m<sup>2</sup>).

## **Results of the Assessment**

### **Desktop Assessment**

The desktop assessment for the Activity Area has allowed a site prediction model to be developed. A site prediction model is intended for use as an indication of the types of archaeological sites that may occur in a given area. The site prediction model can later be tested against the results of the field survey and/or sub-surface testing.

In general, the following statements can be made about the results of the desktop assessment for the current Activity Area:

- There are 263 registered Aboriginal Places located within the geographic region. The majority of the registered Aboriginal Places are Artefact Scatters (n=198, 68%). The Object Collection component (n=68, 23%) is an anomalous entry as the majority (n=59) of these collections are in storage at a cultural heritage advisor's office. Low Density Artefact Distributions (n=20, 7%), Scarred Trees (n=5, 2%) and Earth Features (n=1, <1%) are also represented in the geographic region. Artefact scatters and low density artefact finds are the most likely site types to be located within the Activity Area. As the land has been cleared of all native vegetation, it is highly unlikely that trees with cultural scarring would be present;
- The most archaeologically sensitive landforms in the geographic region are low rises or dunes. Gaughwin (1981), and Rhodes and Bell (2004) disagree on the importance of proximity to a watercourse for site distribution, with Gaughwin stating that most sites will be located within 100m of a watercourse, while Rhodes and Bell (2004) state that there is no correlation between the location of sites and proximity to a watercourse. All agree, however, that given the archaeological sensitivity of the geographic region, no landform can be considered to not contain sites;
- There is some potential for Aboriginal burial sites to be present within the dunes in the geographical region, although they are most likely to occur in sandy deposits (Feldman & Long

2006). The acidic soils commonly associated with sand tend to degrade *in situ* skeletal remains and other organic remains (e.g. charcoal, faunal deposits);

- The Activity Area is located 500m southwest of Cardinia Creek and approximately 4km from the former Koo Wee Rup Swamp, both of which were rich resource bases for Aboriginal people and are known to be archaeologically sensitive;
- The distribution of registered Aboriginal Places within the geographic region is closely related to patterns of settlement and resource use by Aboriginal people over a long period of time. Most of the Aboriginal Places within the geographic region are associated with waterways and prior waterways. Documented routes of movement by Aboriginal people in this region indicate a strong reliance on movement along waterways towards Koo Wee Rup Swamp to the east and southeast; and
- The Activity Area is not considered to have been subject to significant ground disturbance as defined in the *Aboriginal Heritage Regulations 2007*. Conclusive evidence for significant ground disturbance in the Activity Area is limited to the construction of the sheds, the installation of the power transmission towers, the damming of the prior watercourse and the grading of vehicle tracks.

The site prediction model developed for the Activity Area suggests that it is likely that Aboriginal Places will occur within the Activity Area, particularly if there are areas of sandy well-drained soils and low rises. These landforms are less prone to flooding and are known to have been used as campsites by Aboriginal people in the past. The majority of archaeological sites are likely to be buried deposits of stone artefacts.

The desktop assessment has shown that there is a high potential for Aboriginal Places to be located within the Activity Area. This is due to the access which would have been available to natural resources both within, and in proximity to, the Activity Area and the known potential for Aboriginal archaeological sites within the region. However, vegetation clearance and agricultural activities are likely to have resulted in some disturbance to, or destruction of, surface or shallow sub-surface sites.

While there is the potential for culturally sensitive landforms to exist within the Activity Area, and also for the Activity Area to have been significantly disturbed by past land use activities, these predictions cannot be confirmed by the desktop assessment alone. Further work in the form of standard (field survey) and complex (sub-surface testing) assessments are required to comprehensively assess the cultural sensitivity of the landforms and whether Aboriginal cultural heritage is present within the Activity Area.

### **Standard Assessment**

The field survey was conducted by John Young and Matthew Barker (Heritage Insight Pty Ltd), Stephen Compton (BLCAC) and Joe Armstrong from the (WTLCHC) on March 25, 2011 as part of an initial due diligence assessment. The entire Activity Area was inspected by the field team (Map 5).

Three artefact locations comprising two surface artefact scatters and an isolated surface artefact (VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1)) were identified during the field survey for the standard assessment. In addition to this, three areas of potential archaeological sensitivity were identified (Section 6.3).

No caves, cave entrances, rock shelters or scarred trees were identified during the field survey. The Aboriginal cultural material identified during the field survey was located in association with the dams where ground surface visibility was 100%. The lack of evidence of Aboriginal Places in other locations

of the Activity Area is more likely to be due to the poor ground surface visibility characterising the balance of the Activity Area rather than an absence of Aboriginal Places.

Ground disturbance within the Activity Area appears to have been limited to the construction of the sheds, power transmission towers, dams, vehicle tracks and fences. It is noted, however, that the Activity Area is a farming property and as such can be reasonably expected to have been subject to a degree of ground disturbance as a result of agricultural pursuits, i.e. ploughing and grazing. In addition to this, the Activity Area is almost devoid of native vegetation, the removal of which would also have caused ground disturbance, though to what extent is unclear.

Previous archaeological research has demonstrated that Aboriginal archaeological sites are likely to be located on sandy, well-drained topographically higher ground. There is some disagreement about the influence of proximity to water on the distribution of Aboriginal Places with Gaughwin (1981) stating that Aboriginal Places will be located within 100m of a watercourse whilst Rhodes and Bell (2004) state that low rises are the most archaeologically sensitive landforms, even those located some distance from a watercourse. However, given the high sensitivity for Aboriginal sites, no landform can be considered as having no potential for sites.

The Activity Area contains the landforms identified in previous archaeological research as being archaeologically sensitive. Much of the southern half of the Activity Area is an area of sandy, well-drained topographically higher ground. It is also located in close proximity to a prior watercourse. In addition to this, the area around the prior watercourse has been demonstrated to be archaeologically sensitive as Aboriginal cultural material in the form of stone artefacts was located along its banks. Rhodes and Bell (2004) state that low rises are the most archaeologically sensitive landform. In the area designated the low-lying floodplain landform, there are a number of discrete low rises which may also contain Aboriginal Places.

The standard assessment has therefore confirmed the results of the site prediction model.

It was not possible to conclusively assess the archaeological sensitivity of the Activity Area by a surface survey owing to low ground surface visibility. However, it is apparent that the Activity Area has not been subject to significant ground disturbance as defined in the *Aboriginal Heritage Regulations 2007*. It was thus considered necessary that the Activity Area be investigated by means of a complex assessment. The complex assessment focussed on the areas of archaeological sensitivity identified during the standard assessment but also tested the areas considered to be of low archaeological sensitivity, i.e. the floodplain, to sufficiently test the archaeological site prediction model.

### **Complex Assessment**

**Phase One:** Phase One of the complex assessment was carried out by John Young, Matthew Barker, Lauren Prossor and Susan Pfeffer (Heritage Insight Pty Ltd), Iris (Izzy) Pepper (BLCAC) and Trevor Downe, Kerrie Xibberas and Craig Terrick (WTLCHC). Phase One sub-surface testing was undertaken over ten days, September 5 – 16, 2011. A representative of the Boon Wurrung Foundation Ltd (BWFL) was unable to attend during Phase One sub-surface testing for the complex assessment.

Phase One of the complex assessment involved the hand excavation of five 1x1m test pits, two 500x500mm test pits, thirteen 400x400mm shovel test probes (two transects and two radials probes) and the mechanical excavation of twelve 2x0.6m backhoe transects. The location of the test pits, shovel test probes and backhoe transects is shown in Map 7.

Five areas containing sub-surface artefacts were located during Phase One of the complex assessment (Section 8). These areas were the focus of the Phase Two testing for the complex assessment. The largest concentrations of stone artefacts were located in association with the prior watercourse/dams. Artefacts in TP2 were at the far north-eastern boundary of the Activity Area and in the vicinity of smaller streams



that no longer pass through the property due to artificial drainage works in the area. The artefact in TP4 was located on the crest of the rise in the southwest region of the Activity Area and was not associated with any watercourses.

No Aboriginal cultural material was identified in the floodplain soils in the north-western region of the Activity Area. This area is not considered to be a location suitable for Aboriginal cultural activities owing to the waterlogging of the soil profile and it is therefore unlikely that Aboriginal archaeological sites will be identified in this area.

All of the stone artefacts located in the Activity Area were located in unconsolidated sand or sandy clay deposits. In the main, the artefact bearing layers have not been subject to ground disturbance.

The landforms identified as being of potential archaeological sensitivity after the standard assessment have indeed demonstrated the presence of Aboriginal cultural material. The projected archaeological sensitivity of the landforms has been modified to reflect the density of artefacts identified during Phase One of the complex assessment (Map 18).

**Phase Two:** Phase Two of the complex assessment was carried out by David Rhodes, Kathleen Hislop, Luke Falvey, Paul Freestone and Samantha Brown (Heritage Insight Pty Ltd) with the assistance of Iris (Izzy) Pepper, Wayne Pepper and Sean Kelly (BLCAC), Gary Watkins, Jaeden Williams, Wenzel Carter and Michael Williams (BWFL), and Craig Terrick, Michael (Willy) Xiberras and Gary Galway (WTLCHC). Phase Two sub-surface testing was undertaken over six days, January 21 – 30, 2013.

Phase Two of the complex assessment involved the machine excavation of fifteen backhoe transects and 91 radial probes (shovel and backhoe test probes). The locations of the sub-surface testing from Phase Two are shown in Map 9. Testing focussed on the testing locations from Phase One that contained artefacts and a more in-depth assessment of the high sensitivity placed on the eastern region of the Activity Area where the prior watercourse and small discrete rises are present.

A further five areas containing sub-surface artefacts were located during Phase Two of the complex assessment (Section 8, Map 9). The largest densities of stone artefacts were located around TP5, TP7 and BHT09. The two test pit locations are located within the proximity of the prior watercourse/dams, whereas BHT09 is located in the proximity to a prior wetland on the eastern boundary of the Activity Area (wetland drained during the nineteenth or twentieth century) and a small stream that fed into the wetland (also now drained and channelized).

Several discrete rises were tested with the backhoe and each was found to have some evidence of Aboriginal cultural activities. Other than the examples provided above, the artefact densities were very low at these locations.

The landforms identified as being of potential archaeological sensitivity after the standard assessment and the revised sensitivity after the Phase One testing have indeed demonstrated the presence of Aboriginal cultural material.

## **Conclusions**

Four Aboriginal Places (VAHR 7921-1456 and 7921-1464 - 1466) were identified in both surface and sub-surface contexts within the Activity Area through Phases One and Two. These are further discussed in Section 8 and are represented in Map 19.

The site prediction model and desktop assessment indicated there was a high potential for Aboriginal sites to be located within the Activity Area due the proximity of water resources and the potential sensitivity of known landforms located within the property. However, some ground disturbance was expected in relation to vegetation clearance, agricultural activities and the installation of the electricity

towers across the southern region of the property. Some ground disturbance was also expected in relation to the construction of the dams along the prior watercourse. The presence of a large number of sites across the geographic region, particularly in association to watercourses, indicated that the likelihood of finding further Aboriginal archaeological sites within the Activity Area was highly likely.

The field survey identified three surface artefact locations in close association with the prior watercourse/dams where ground surface visibility was 100%. Poor ground surface visibility was a major constraint on the effectiveness of the field survey in general, as thick grass was present across the majority of the property. Ground disturbance was confirmed in relation to the construction of the dams as well as along fencelines, tracks and the electricity easement. Due to poor ground surface visibility it was not possible to properly assess all sensitive landforms within the Activity Area and therefore a sub-surface testing program was undertaken.

In regards to the desktop and standard assessment conclusions, the complex assessment was able to identify the extent of soil disturbance within the Activity Area and was also able to comprehensively test for Aboriginal cultural heritage. The testing identified that soil disturbance was minimal below the topsoil, except in the vicinity of known disturbance zones (listed above). The complex assessment was also able to confirm that Aboriginal cultural heritage was present on each of the sensitive landforms identified during the desktop and standard assessments.

#### **Aboriginal Cultural Heritage Located in the Activity Area**

Aboriginal cultural heritage was identified during both Phase One and Phase Two of the sub-surface testing within the Activity Area (see below). In total, four new Aboriginal Places were registered (VAHR 7921-1456 and 7921-1464 - 1466). The site locations can be found in Map 19. Five Aboriginal Places were registered by AHMS during field survey for CHMP 12083 (VAHR 7921-1410 - 7921-1413 and 7921-1415) (Map 19). This brings the total number of sites within the Activity Area to nine.

The main conclusions that have been drawn from the cultural heritage assessment are:

- Four new Aboriginal sites (VAHR 7921-1456 and 7921-1464 - 1466) were recorded within the Activity Area, comprising stone artefact scatters in surface and sub-surface contexts;
- The soil profiles within the Activity Area indicated that there had been minimal disturbance that was generally limited to the topsoil context. Soils on top of the rise have most likely suffered greater disturbance due to the proximity to the buildings, fencing and pine trees, whereas the deeper soils on the floodplain, terraces and sandy rises were still undisturbed below the topsoil;
- Thirteen artefacts were identified in surface concentrations near the prior watercourse/dams. The remainder of artefact material located during this CHMP was in sub-surface contexts ranging in depth from 50mm and 1000mm. Sub-surface artefacts in the southern region of the Activity Area were located between 200mm and 500mm, whereas artefacts in the north-eastern region were found at depths up to 1000mm;
- Silcrete was the dominant raw material utilized across the Activity Area, although quartz and quartzite were also represented in higher numbers in the artefacts locations in the north-eastern region of the property. Quartz and quartzite were also more likely to be present at depths greater than 500mm at these locations;
- Three backed blades, two points, one core and one retouched artefact were recorded in VAHR 7921-1464 (Thompsons Rd, Clyde North 2). Two backed blades and three retouched artefacts were recorded in VAHR 7921-1465 (Thompsons Rd, Clyde North 3). Two retouched artefacts were recorded in VAHR 7921-1466 (Thompsons Rd, Clyde North 4). One retouched artefact

was recorded in VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1). The artefacts within the Activity Area were mostly flakes and flaked pieces;

- Artefacts located on the higher elevations may have been deposited as a result of cultural activities within temporary campsites. Artefacts along the bank of the prior watercourse and on low-lying rises may have been influenced by inundation and slope wash during the past before arriving at their present location;
- Quartz and quartzite was excavated from deeper contexts at VAHR 7921-1466 (Thompsons Rd, Clyde North 4) indicating a change in raw material utilisation over time, although the sample size of the artefact assemblage is very small and may not truly represent site activities at this location; and
- The presence of backed artefacts within the individual site assemblages may indicate that the sites were initially occupied during the early Holocene. VAHR 7921-1464 (Thompsons Rd, Clyde North 2) and VAHR 7921-1466 (Thompsons Rd, Clyde North 4) are more likely to represent the remains of short term campsites, occupied prior to the arrival of Europeans and within the last 2,000 years.

### **Section 61 Matters**

Harm to VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415 cannot be avoided because the City of Casey requires that open space be unencumbered within developments. The Aboriginal Places located within the Activity Area are unable to be placed under the protection of an open space reserve. Section 10 outlines the salvage requirements for VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415 that must be completed prior to the proposed activity commencing.

The above issues are summarised in relation to each Aboriginal Place located within the Activity Area in Table 20.

There are measures needed for the management of the sites VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415, particularly in relation to the curation and treatment of the cultural material found during the complex assessment. These management measures are discussed in detail in Section 10.2.

There are several contingency plans that may be necessary during the project. In particular, it is necessary to have a contingency in place for the following:

- Unexpected discovery of isolated or dispersed cultural material and for the unexpected discovery of a burial; and
- Reviewing compliance with the Management Plan and mechanisms for remedying non-compliance, particularly in relation to the creation of the cultural heritage reserve and for breaches in the management of the cultural heritage reserve.

These and other contingency plans are discussed in detail in Section 11.3.



## **Management Recommendations**

Please note that on approval the management recommendations contained in this CHMP become compliance requirements.

### **General Recommendation: Site Induction/Cultural Awareness Training**

In order to provide a system for notification of the discovery of Aboriginal cultural heritage during construction works, it will first be necessary to provide an induction for any future project managers and construction workers in regards to the discovery of Aboriginal cultural heritage on-site.

A site induction or inductions must be held with project managers and any construction workers on-site. The purpose of the induction/s will be to describe items of Aboriginal cultural heritage to personnel engaged in construction, to create an awareness of Aboriginal cultural value and to inform personnel about the recommendations of the CHMP and the procedure for reporting suspected Aboriginal cultural heritage contained within the contingencies of the CHMP. This induction must be presented by representatives of the relevant Aboriginal communities in association with a cultural heritage advisor. This induction must be arranged and the costs met by the Sponsor or site contractors.

There will also be a need for a system of reporting any possible Aboriginal cultural heritage items which are discovered. This must be built into any development or environmental management plan (EMP) for the site. Contingency plans for notifying the discovery of Aboriginal cultural heritage are contained in Section 11 and *must* be incorporated into the development or Environmental Management Plan for the project. A copy of this management plan must be held on-site at all times.

### **General Recommendation: Post-activity Treatment of the Aboriginal Cultural Heritage**

This recommendation relates to the treatment of the Aboriginal cultural heritage from VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415 and any subsequent cultural material located under the contingency arrangements (Section 11). The artefacts located during the complex assessment and subsequent salvage and surface collection activities must be retained by the cultural heritage advisor until the site works have been completed.

The following treatment should be applied to the stone artefacts removed from VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415:

- The artefacts will be catalogued and placed in a durable container together with labels identifying their provenance and catalogue numbers;
- At the conclusion of works the artefacts will be relocated to a secure location in a durable container, together with details of provenance and a copy of the artefact catalogue and management plan;
- The artefacts will be re-buried at a location agreed upon in consultation with the relevant Aboriginal communities and the Sponsor; and
- The location of the re-buried artefacts will be recorded by the cultural heritage advisor and subsequently recorded with the Victorian Aboriginal Heritage Register (VAHR).

## **Specific Cultural Heritage Management Recommendations**

### **1. VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1)**

#### **Management Recommendation 1**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1). For this reason, it is therefore recommended that both the surface and sub-surface components of the site be salvaged. A methodology for the collection of the surface artefacts is provided in Recommendation 2. A hand-excavation salvage methodology is contained below in Recommendation 3. This must comprise a minimum of one 2x1m hand-excavated salvage pit between BHT05, BHT05 R2 and BHT05 R5 and one 2x1m hand-excavated salvage pit between BHT14, BHT14 R3 and BHT14 R4 (Figures 4 and 5).

#### **Management Recommendation 2: Surface Collection**

VAHR 7921-1456 included thirteen surface artefacts in the vicinity to the dams along the prior watercourse. The location of each of the surface artefacts was recorded with a differential GPS and left in the position in which it was originally located (Figure 3). As such, all the surface artefacts must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

#### **Management Recommendation 3: Hand Salvage Excavation**

VAHR 7921-1456 included sub-surface artefacts that were removed for further analysis during the complex assessment. Two zones of low density sub-surface artefacts within VAHR 7291-1456 are of particular interest in relation to the nature of site occupation and activities within the north-eastern region of the Activity Area (BHT05 and BHT14). As such, a 2x1m hand-excavated salvage pit must be excavated at each of these two locations to further assess the relationship between Aboriginal cultural activities identified at BHT05 and BHT14 to VAHR 7921-1466 (Figures 4 and 5). The locations for these 2x1m salvage pits are between BHT05, BHT05 R2 and BHT05 R5, and BHT14, BHT14 R3 and BHT14 R4 (Figures 4 and 5).

Each 2x1m salvage pit will be excavated by controlled hand excavation in order to salvage any of the cultural material that would otherwise be affected by the proposed residential development. This methodology will allow an extensive area to be examined and maximise the potential of the investigation to locate *in situ* features as described above.

A qualified and experienced archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL) must undertake this excavation. The salvage methodology must be as follows:

- The trench must be hand-excavated in arbitrary spits or by strata where identified and the excavation should determine the spatial relationship between the artefacts and stratigraphic layers. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified

shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;

- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

## **2. VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2)**

### **Management Recommendation 1**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2). For this reason, it is therefore recommended that archaeological hand salvage be undertaken. This must comprise a minimum of one 2x2m hand-excavated salvage pit placed adjacent to TP05 R3 (Figure 6). A hand-excavation salvage methodology is contained below in Recommendation 2. In addition to this, an area measuring 32m<sup>2</sup> must be machine-excavated across further sections of the site (Figure 6). A machine-excavation salvage methodology is contained in Recommendation 3.

### **Management Recommendation 2: Hand Salvage Excavation**

Although VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2) was located and artefacts were removed for further analysis during the complex assessment, the nature of the landform and geological context in which the site is located means that there is a high potential for further archaeological material to exist as sub-surface deposits.

In particular, the area within the vicinity of TP05 R3 was noted as being of highest artefact density and should be the focus of archaeological salvage (Figure 6). It is considered that this area has the potential to contain *in situ* features specified as hearths, knapping floors and dense artefact deposits which may provide further information about Aboriginal life within the region and activities occurring on the site. A program of hand salvage is recommended for this region of VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2).

The hand salvage must comprise the excavation of a minimum of one 2x2m hand-excavated salvage pit placed adjacent to TP05 R3 (Figure 6). The pit will be excavated by controlled hand excavation in order to salvage any of the cultural material that would otherwise be affected by the proposed residential development. This methodology will allow an extensive area to be examined and maximise the potential of the investigation to locate *in situ* features as described above.

A qualified and experienced archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) must undertake this excavation. The salvage methodology must be as follows:

- The trench must be hand-excavated in arbitrary spits or by strata where identified, and the excavation should determine the spatial relationship between the artefacts and stratigraphic



layers. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;

- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

### **Management Recommendation 3: Machine Salvage Excavation**

It is recommended that a machine salvage excavation be carried out on an area of 32m<sup>2</sup> within VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2), in this case using a backhoe with a mud bucket (Figure 6). The salvage excavation must be carried out by an archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL). A backhoe is recommended in this case as the complex assessment testing has demonstrated that the artefact density within this region of the site is very low and the soils are extremely dry and compacted, making it unsafe to hand-excavate such a large area by hand.

The salvage excavation will comprise of two trenches: 20x1m and 12x1m (Figure 6). The length of the trenches will allow for site usage comparisons across a larger section of the site. The salvage methodology must be as follows:

- The excavation should be carried out in spits of 100mm to the depth of the basal clay so that a reasonable sample of artefacts can be collected and later analysed. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified shell midden) is located within the salvage trench, machine excavation must stop and the feature must be hand-excavated. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;
- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved by mechanical sieve, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

### 3. VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3)

#### **Management Recommendation 1**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3). For this reason, it is therefore recommended that both the surface and sub-surface components of the site be salvaged. A methodology for the collection of the surface artefacts is provided in Recommendation 2. A hand-excavation salvage methodology is contained below in Recommendation 3. This must comprise a minimum of one 2x2m hand-excavated salvage pit placed adjacent to TP07 (Figure 7).

#### **Management Recommendation 2: Surface Collection**

VAHR 7921-1465 included a surface artefact scatter. The location of each of the surface artefacts was recorded with a differential GPS and left in the position in which it was originally located (Figure 7). As such, all the surface artefacts must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to any sub-surface salvage excavation.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

#### **Management Recommendation 3: Hand Salvage Excavation**

Although VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3) was located and artefacts were removed for further analysis during the complex assessment, the nature of the landform and geological context in which the site is located means that there is a high potential for further archaeological material to exist as sub-surface deposits.

In particular, the area within the vicinity of TP07 was noted as being of highest artefact density and should be the focus of archaeological salvage (Figure 7). It is considered that this area has the potential to contain *in situ* features specified as hearths, knapping floors and dense artefact deposits which may provide further information about Aboriginal life within the region and activities occurring on the site. A program of hand salvage is recommended for this section of VAHR 7921-1465.

The hand salvage must comprise the excavation of a minimum of one 2x2m hand-excavated salvage pit placed adjacent to TP07 (Figure 7). The pit will be excavated by controlled hand excavation in order to salvage any of the cultural material that would otherwise be affected by the proposed residential development. This methodology will allow an extensive area to be examined and maximise the potential of the investigation to locate *in situ* features as described above.

A qualified and experienced archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) must undertake this excavation. The salvage methodology must be as follows:

- The trench must be hand-excavated in arbitrary spits or by strata where identified, and the excavation should determine the spatial relationship between the artefacts and stratigraphic layers. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified

shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;

- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

#### **4. VAHR 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4)**

##### **Management Recommendation 1**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4). For this reason, it is therefore recommended that archaeological hand salvage be undertaken. Due to the artefacts being spread through the sand to a much deeper level at this location and the potential for multiple occupation layers, this must comprise a minimum of one 5x5m hand-excavated salvage pit placed between BHT09 R2 and BHT09 R3 (Figure 8). A hand-excavation salvage methodology is contained below in Recommendation 2.

##### **Management Recommendation 2: Hand Salvage Excavation**

Although VAHR 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4) was located and artefacts were removed for further analysis during the complex assessment, the nature of the landform, geological context and differing artefact contextual data associated with the site means that there is a high potential for further archaeological material to exist as sub-surface deposits.

In particular, the area within the vicinity of BHT09 R2 and BHT09 R3 was noted as being of highest artefact density and should be the focus of archaeological salvage (Figure 8). It is considered that this area has the potential to contain *in situ* features specified as hearths, knapping floors and dense artefact deposits which may provide further information about Aboriginal life within the region and activities occurring on the site. A program of hand salvage is recommended for this region of VAHR 7921-1466.

The hand salvage must comprise the excavation of a minimum of one 5x5m hand-excavated salvage pit placed between BHT09 R2 and BHT09 R3 (Figure 8). The pit will be excavated by controlled hand excavation in order to salvage any of the cultural material that would otherwise be affected by the proposed residential development. This methodology will allow an extensive area to be examined and maximise the potential of the investigation to locate *in situ* features as described above.

A qualified and experienced archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) must undertake this excavation. The salvage methodology must be as follows:

- The trench must be hand-excavated in arbitrary spits or by strata where identified, and the excavation should determine the spatial relationship between the artefacts and stratigraphic layers. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified

shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;

- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

## **5. VAHR 7921-1410 (Clyde Creek IA 1)**

### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1410 (Clyde Creek IA 1). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1410 (Clyde Creek IA 1) comprised an isolated surface artefact. The location of the surface artefact was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

## **6. VAHR 7921-1411 (Clyde Creek IA 2)**

### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1411 (Clyde Creek IA 2). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1411 (Clyde Creek IA 2) comprised an isolated surface artefact. The location of the surface artefact was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

## **7. VAHR 7921-1412 (Clyde Creek IA 3)**

### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1412 (Clyde Creek IA 3). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1412 (Clyde Creek IA 3) comprised an isolated surface artefact. The location of the surface artefact was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

## **8. VAHR 7921-1413 (Clyde Creek IA 4)**

### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1413 (Clyde Creek IA 4). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1413 (Clyde Creek IA 4) comprised an isolated surface artefact. The location of the surface artefact was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.



**9. VAHR 7921-1415 (Clyde Creek 1)**

**Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1415 (Clyde Creek 1). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1415 (Clyde Creek 1) comprised a surface artefact scatter of two artefacts. The location of the surface artefact scatter was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact scatter must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

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## **Abbreviations**

ASL – Above Sea Level  
BHT – Backhoe Transect  
BWFL – Boon Wurrung Foundation Ltd  
BLCAC – Bunurong Land Council Aboriginal Corporation  
CBD – Central Business District  
CHA – Cultural Heritage Advisor  
CHMP – Cultural Heritage Management Plan  
EMP – Environmental Management Plan  
EVC – Ecological Vegetation Class  
OAAV – Office of Aboriginal Affairs Victoria  
PAS – Potential Archaeological Significance  
SGD – Significant Ground Disturbance  
STP – Shovel Test Probe  
TP – Test Pit  
WTLCCHC – Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc.

## **Part One: Assessment**

### **1.0 Introduction**

#### **Reasons for Preparing a Cultural Heritage Management Plan**

This Cultural Heritage Management Plan has been undertaken at the request of Campbell Park Property Developments Pty Ltd. A Cultural Heritage Management Plan (CHMP) is a mandatory requirement for the proposed activity because:

- All or part of the activity area is an area of cultural heritage sensitivity (*Aboriginal Heritage Regulations 2007*, Division 1, 6(a)); and
- The proposed activity is a high impact activity (*Aboriginal Heritage Regulations 2007*, Division 1, 6(b)).

The Activity Area falls within two areas of cultural sensitivity as defined in the *Aboriginal Heritage Regulations 2007*.

1. The Koo Wee Rup Plain geological unit lies within the Activity Area (*Aboriginal Heritage Regulations 2007* r. 31 (1) and (3) (Koo Wee Rup Plain) :

#### **r. 31 Koo Wee Rup Plain**

- (1) Subject to subregulation (2), the Koo Wee Rup Plain is an area of cultural heritage sensitivity.
- (3) In this regulation, ***Koo Wee Rup Plain*** means an area identified as "Q<sub>rm</sub>" on the following Geological Survey of Victoria 1:250,000 map series sheets—
  - (a) SJ55-9 entitled "Queenscliff" (second edition, 1997);
  - (b) SJ55-10 entitled "Warragul" (second edition, 1997).

2. The Activity Area is within 50m of a registered cultural heritage place (*Aboriginal Heritage Regulations 2007* r. 22 (2) (Registered cultural heritage place) :

#### **r. 22 Registered cultural heritage places**

- (2) Subject to subregulation (3), land within 50 metres of a registered cultural heritage place is an area of cultural heritage sensitivity.

The proposed works are for a residential subdivision. This is a high impact activity as defined in the *Aboriginal Heritage Regulations 2007* r. 46 (1) (a) (Subdivision of Land):

#### **r. 46 Subdivision of Land**

- (1) The subdivision of land into three or more lots is a high impact activity if—
  - (b) the planning scheme that applies to the activity area in which the land to be subdivided is located provides that at least three of the lots may be used for a dwelling or may be used for a dwelling subject to the grant of a permit;

### **Sponsor for the Cultural Heritage Management Plan**

The Sponsor for this CHMP is Campbell Park Property Developments Pty Ltd (ABN 24 138 263 644).

### **Notice of Intent to Prepare a CHMP**

A Notice of Intent to Prepare a CHMP (Appendix 1) was submitted to the Deputy Director of the Office of Aboriginal Affairs Victoria pursuant to Section 54 of the *Aboriginal Heritage Act 2006* on August 26, 2011. The Office of Aboriginal Affairs Victoria responded on September 2, 2011 and allocated this CHMP with the project number 11869.

### **Name, Qualifications and Experience of Cultural Heritage Advisor**

The cultural heritage advisor who conducted this CHMP is David Rhodes. David is a professional archaeologist with over 22 years of experience in the conduct of cultural heritage assessments into Aboriginal and non-Aboriginal heritage in Victoria. He has a BA (archaeology major) from the University of New England and MA (Prelim) from La Trobe University.

The main author of this report is Kathleen Hislop, who has a BArch (Hons) from La Trobe University. Kathleen has five years of experience as a professional archaeologist working in the fields of Aboriginal and non-Aboriginal cultural heritage. She has experience in undertaking both field assessments and management in relation to Aboriginal cultural heritage in south-eastern Australia.

### **Location of the Activity Area**

The Activity Area encompasses the parcel of land known as 2100 Thompsons Road and 1425 Pound Road, Clyde North, Lot 1\PS433177, Lot 2\PS433177, Lot 2\PS300094, Lot 3\PS300094, Lot 4\PS300094, Parish of Cranbourne, County of Mornington, City of Casey.

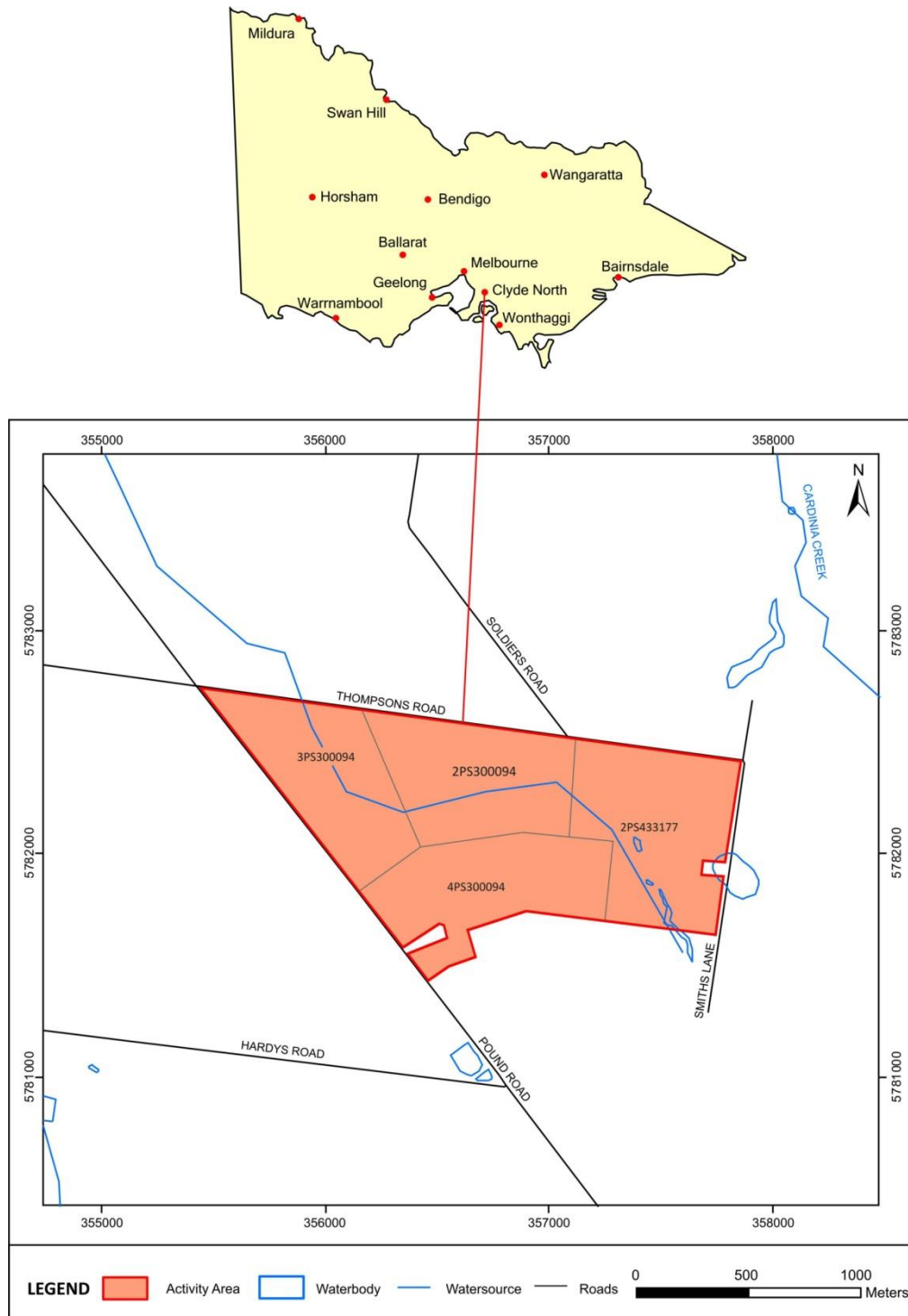
The Activity Area is located within the suburb of Clyde North, approximately 40km southeast of Melbourne CBD (Map 1).

### **Land Owners**

The land at 2100 Thompsons Road and 1425 Pound Road, Clyde North, is currently owned by Campbell Property Developments Pty Ltd.

### **RAPs with Responsibility for the Activity Area**

At present there is no Registered Aboriginal Party (RAP) with the responsibility for the Activity Area. The OAAV is currently administering the region until a Registered Aboriginal Party (RAP) is appointed, in accordance with Section 54 of the *Aboriginal Heritage Act 2006*. The Secretary is evaluating the plan under s.65 (1) (b) (i).



**Map 1: Location of the Activity Area - 2100 Thompsons Road and 1425 Pound Road, Clyde North (Lot 1\PS433177, Lot 2\PS433177, Lot 2\PS300094, Lot 3\PS300094 and Lot 4\PS300094, City of Casey, Parish of Cranbourne, County of Mornington)**

## 2.0 Activity Description

The proposed activity is for a residential, medical and commercial development (Map 2). The northern region of the Activity Area will contain a medical precinct, business and retail outlets, high density housing and a retirement village. A strip across the centre of the Activity Area and the land through the eastern region will comprise standard and medium density housing. The electricity easement (approximately 160m wide) will remain along the southern boundary running east-west. Two open space reserves, each approximately 1ha (10,000m<sup>2</sup>) in size are proposed for the eastern and central regions of the Activity Area. The eastern open space reserve lies over the northernmost dam. Small systems of wetland/drainage reserve are also present in the northwestern boundary region of the Activity Area across part of the floodplain. A wetland will be created in the south-eastern region of the Activity Area as a water catchment or reservoir. The location lies over the prior watercourse and the southernmost dam and will continue into the property to the south of the Activity Area, covering a total of 3.4ha (340,000m<sup>2</sup>).

### 2.1 Statement of Potential Impacts

The proposed development will involve some degree of soil disturbance to both surface and buried land surfaces. Activities which will occur during the course of the development are:

- Site preparation, which will include site clearance, where unwanted rubbish, vegetation and rocks will be removed from the site;
- Stripping/removing topsoil, utilising heavy machinery. This will occur to a depth of 75-200mm. The topsoil will be stockpiled for later use in topsoiling for nature strips and allotments within the Activity Area;
- Installation of a sewer pipeline and drainage, utilising heavy machinery through the excavation of open cut trenches only. The soil 1m to either side of the trench may be disturbed during this work;
- Excavation for the road pavement, utilising heavy machinery, including shaping of the nature strips to their final levels. The road itself is then constructed within this excavation; and
- Installation of services (electricity, telecommunications, gas, water) within the previously disturbed nature strips, utilising heavy machinery. As the trench excavations will be relatively shallow and narrow, disturbance either side of the trench will be of minimal impact.

A summary of typical trench widths and depths for each construction activity are provided below (Table 1).

**Table 1: Average widths and depths of potential impacts**

Activity	Width of Trench (m)	Depth of Trench (m)
Roads	6.4 – 8.4	0.5 – 1.2
Drainage	0.9 – 3.0	1.0 – 4.0
Drainage Reserve/Wetland	240 x 160	0.3 – 1.5
Sewer reticulation	0.9 – 2.0	1.0 – 5.0
Water reticulation	0.3 – 1.0	0.8 – 1.0
Electricity	0.3 – 1.0	0.6 – 0.9
Telecommunications	0.3 – 1.0	0.3 – 0.6
Gas	0.3 – 1.0	0.6 – 0.9
Roads	6.4 – 8.4	0.5 – 1.2



### **Landscaping Works**

Landscaping within the designated open spaces and the individual properties will typically be in the form of garden bed planting and re-grassing.

### **Wetland**

The wetland will incorporate both shallow marsh areas and a sediment pond. The vegetation will comprise species native to the area.

## **3.0 Extent of Activity Area Covered by the CHMP**

The Activity Area is located at 2100 Thompsons Road and 1425 Pound Road, Clyde North, in the City of Casey, Parish of Cranbourne, County of Mornington. The Activity Area covers a stretch of land approximately 170ha (1,700,000m<sup>2</sup>) in size known as Lot 1\PS433177, Lot 2\PS433177, Lot 2\PS300094, Lot 3\PS300094 and Lot 4\PS300094. The Activity Area is currently utilised as pasture land for grazing cattle and is bound to the north by Thompsons Road, to the east by Smiths Lane, to the south by undeveloped agricultural land and to the west by Pound Road. A power easement runs east-west along the southern boundary of the Activity Area (Figure 1).





St. Germain Masterplan  
Thompsons Road, Clyde North  
St. Germain - Developments

Clarke  
Hopkins  
Clarke

**BW**

Beveridge Williams  
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X	xx.xx.xx	Description of Amendments
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Scale (A1) 1:4000  
(A3) 1:8000

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Map 2: Development plan



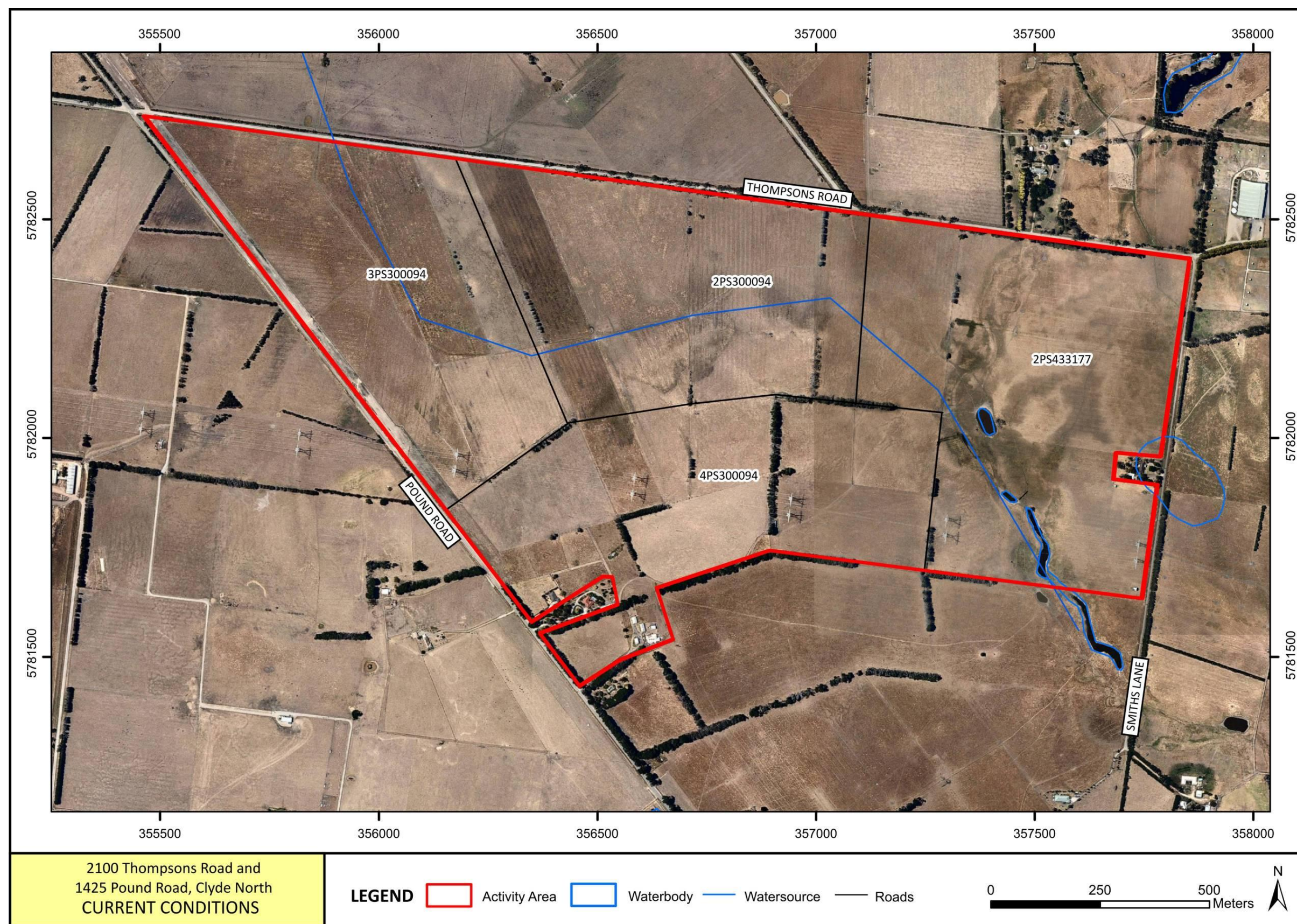


Figure 1: Current conditions within the Activity Area



## **4.0 Documentation of Consultation**

A Notice of Intent to Prepare a CHMP (Appendix 1) was submitted to the Deputy Director of the Office of Aboriginal Affairs Victoria (OAAV) pursuant to Section 54 of the *Aboriginal Heritage Act 2006* on August 26, 2011. A notice of acceptance was received from the OAAV on September 2, 2011 and this CHMP was allocated the project number 11869.

At the time the Notice of Intent to Prepare a CHMP was submitted to the Secretary, no Registered Aboriginal Parties (RAP/s) were present for the Activity Area. Pursuant with Section 65 of the Act, the Acting Director informed the Sponsor that the OAAV would evaluate the CHMP upon submission.

### **4.1 Consultation in Relation to the Assessment**

As no RAPs have yet been appointed for the Activity Area, representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC), and Boon Wurrung Foundation Ltd (BWFL) were contacted and invited to participate in the standard (field survey) and complex assessments.

### **4.2 Participation in the Conduct of the Assessment**

A field survey was undertaken in association with the initial due diligence assessment. The field survey was undertaken on March 25, 2011 by John Young and Matthew Barker (Heritage Insight Pty Ltd), with the assistance of Stephen Compton (BLCAC) and Joe Armstrong (WTLCCHC). A representative of the Boon Wurrung Foundation Ltd (BWFL) was unable to attend at the time of the field survey.

Phase One of the complex assessment was undertaken over ten days (September 5 – 16, 2011) by John Young, Matthew Barker, Lauren Prossor and Susan Pfeffer (Heritage Insight Pty Ltd), with the assistance of Iris (Izzy) Pepper (BLCAC) and Trevor Downe, Kerrie Xiberras and Craig Terrick (WTLCCHC). A representative of the Boon Wurrung Foundation Ltd (BWFL) was unable to attend during Phase One sub-surface testing for the complex assessment.

Phase Two of the complex assessment was undertaken over six days (January 21 – 30, 2013) by David Rhodes, Kathleen Hislop, Luke Falvey, Paul Freestone and Samantha Brown (Heritage Insight Pty Ltd), with the assistance of Gary Watkins, Jaeden Williams, Wenzel Carter and Michael Williams (BWFL), Iris (Izzy) Pepper, Wayne Pepper and Sean Kelly (BLCAC), and Craig Terrick, Michael (Willy) Xiberras and Gary Galway (WTLCCHC).

### **4.3 Consultation in Relation to the Recommendations**

Formal consultation regarding the results of the complex assessment and recommendations for the CHMP was not undertaken with the BLCAC, WTLCCHC and BWFL. A summary of the complex assessment results and recommendations was emailed to the BLCAC, WTLCCHC and BWFL for comment prior to submission of the CHMP for evaluation on August 5, 2013.

### **4.4 Summary Outcomes of Consultation**

A summary of the complex assessment results and recommendations was emailed to the BLCAC, WTLCCHC and BWFL on August 5, 2013 for comment prior to submission of the CHMP for evaluation. The WTLCCHC responded on August 7, 2013 that they supported the cultural significance assessment and the salvage program outlined in the specific cultural heritage management recommendations. No comments were received from the BLCAC or BWFL.

## **5.0 Report on the Results of the Desktop Assessment**

In accordance with the *Aboriginal Heritage Regulations 2007* s.56 (1) this section contains the results of the desktop assessment.

### **5.1 Methodology for Desktop Assessment**

The aim of the desktop assessment was to produce an archaeological site prediction model to assist in the design of fieldwork and subsequent management recommendations. The desktop assessment involved a review of:

- Standard ethnographic sources to identify the likely traditional owners and a review of any written and oral local history regarding Aboriginal people in the area;
- Environmental resources available to Aboriginal people within the region of the Activity Area;
- The site registry at the OAAV and previous archaeological studies, to identify any previously registered Aboriginal archaeological sites either within or surrounding the activity area, and the results of previous archaeological assessments;
- The land-use history of the Activity Area, particularly evidence for the extent and nature of past land disturbance; and
- The landforms or geomorphology of the Activity Area and identification and determination of the geographic region of which the Activity Area forms a part that is relevant to the Aboriginal cultural heritage that may be present in the Activity Area.

This information was used to produce an archaeological site prediction model. The site prediction model assists in determining the type of archaeological sites which may potentially occur within the Activity Area, the possible contents of these sites, the possible past use of the landscape by Aboriginal people and the likely extent of ground disturbance to archaeological sites.

### **5.2 Results of the Desktop Assessment**

#### **5.2.1 Search of the Victorian Aboriginal Heritage Register**

The Victorian Aboriginal Heritage Register (VAHR), accessed through Aboriginal Cultural Heritage Register and Information System (ACHRIS), was searched to identify any previously registered Aboriginal Places within the geographic region surrounding the Activity Area, as well as the results of previous archaeological assessments. The Register was accessed on March 10, 2011 as part of an initial due diligence report for the Activity Area. An updated search was undertaken on September 2, 2011 prior to the Phase One sub-surface testing, and also on February 26, 2013.

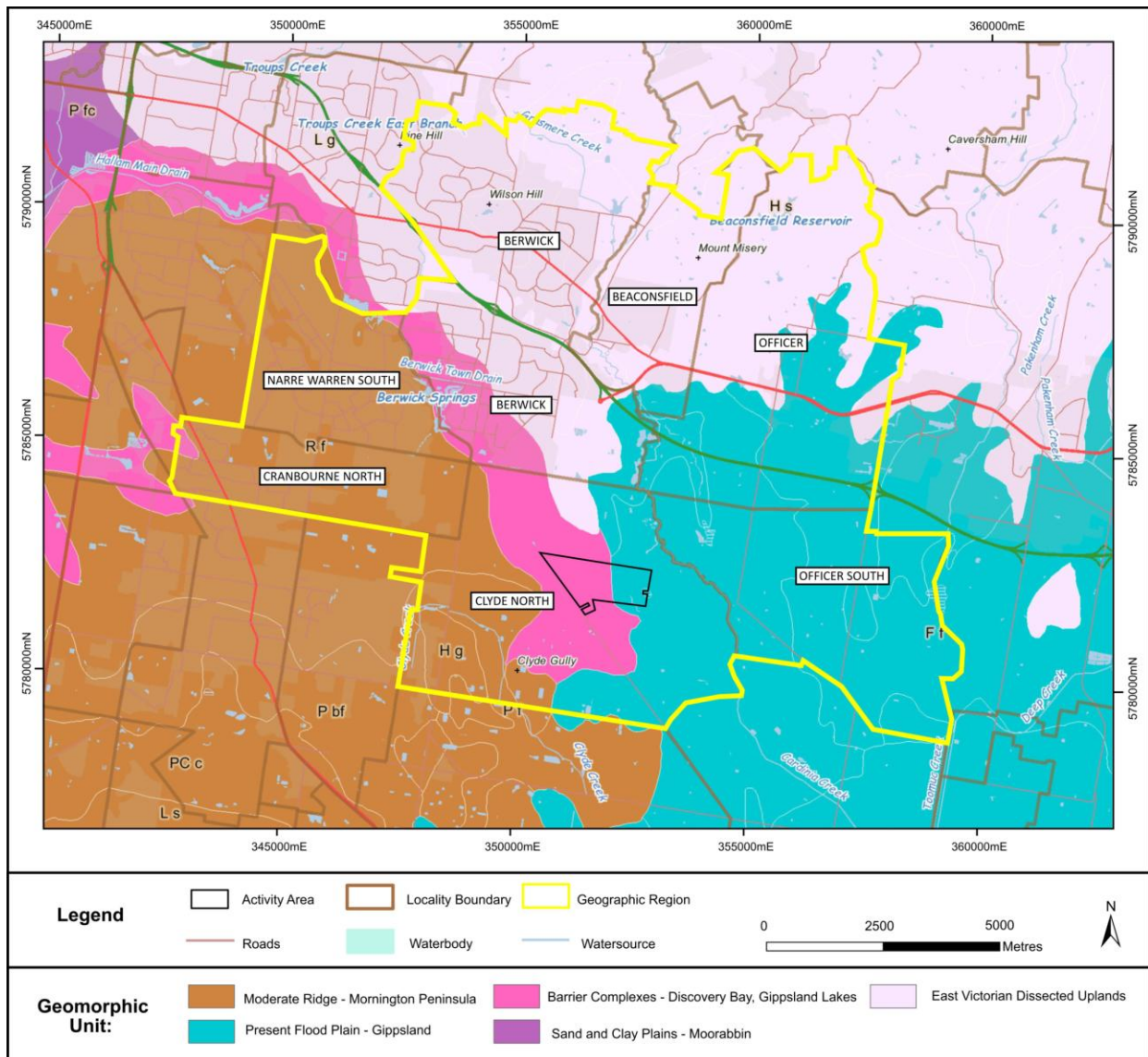


## 5.2.2 The Geographic Region

The geographic region for the Activity Area is the localities of Beaconsfield, Officer, Berwick, Narre Warren South, Cranbourne North, Clyde North and Officer South. These localities are the eastern-most localities in the City of Casey and the western-most localities in the Cardinia Shire Council.

This region is considered relevant to the current investigation as the environmental conditions are representative of the broader City of Casey and Cardinia Shire Council and, by extension, the Port Phillip and Western Port region as a whole.

The location of the Activity Area within the geographic region is shown in Map 3.



Map 3: Geographic region in relation to the Activity Area

### **5.2.3 Landforms and Geomorphology of the Activity Area**

#### **Description of Geology, Landforms and Soils**

The western half of the Activity Area is situated within the geomorphic unit Barrier Complexes – Discovery Bay, Gippsland Lakes, whilst the eastern half of the Activity Area is situated within the geomorphic unit Present Flood Plain – Gippsland. The landform of the Activity Area is Present Flood Plain (DPI Biodiversity Interactive Map, Accessed 12/04/2011).

The geology of the Activity Area is complex and includes ‘Unnamed swamp and lake deposits’ (Qm1), ‘Unnamed alluvium’ (Qa1), ‘Murrindindi Supergroup’ (Sm) and ‘Baxter sandstone’ (Nxx). The ‘Unnamed swamp and lake deposits’ geology covers most of the western third of the Activity Area, except for small patches of ‘Baxter sandstone’ and ‘Murrindindi Supergroup’. The ‘Unnamed alluvium’ geology is predominantly found across the northern half of the remainder of the Activity Area, with ‘Baxter sandstone’ and ‘Murrindindi Supergroup’ found across the southern region. ‘Unnamed swamp and lake deposits’ are an area of cultural sensitivity in the *Aboriginal Heritage Regulations 2007* (r.31), identified as ‘Koo Wee Rup Plain’. The ‘Unnamed swamp and lake deposits’ and ‘Unnamed alluvium’ rock formations are recent sediments that formed during the Holocene (11ka – present day) (DSE Geovic Interactive Map, Accessed 12/04/2011). The Baxter sandstone deposits date to the Tertiary Period, the oldest age being Miocene (23 - 5.3Ma) and the youngest age being Pliocene (5.3 - 2.5Ma). During the Holocene, sediments derived from Baxter sandstone were reworked by wind action into the sand dunes and sand sheets which are prevalent in the region to the west of the Activity Area.

The soils in the western half of the Activity Area are described as peats and peaty clays with low compaction whilst the soils in the eastern half of the Activity Area are described as yellow duplex soils with moderate compaction. The Australian Soil Classifications identify the geomorphological unit across the Activity Area as brown kurosols (alluvium: loose, unconsolidated sediment which has been eroded, reshaped by water in some form, and redeposited in a non-marine setting) (DPI Biodiversity Interactive Map, Accessed 12/04/2011). Brown kurosols have a sandy texture and are strongly acidic. Soils are generally shallow, sitting on a medium to heavy clay at approximately 450 – 500mm (McKenzie et al. 2004, p.282).

Table 2 summarises the geological, geomorphological and climatic information for the area.

**Table 2: Summary of land system data encompassing the Activity Area**

Land system Code - Land systems of Victoria at 1: 250,000	Landsystem Description	
8.5FfQ7-1 (Western half of the Activity Area)  9.1FfQ7-4 (Eastern half of the Activity Area)	<b>Geomorphic Unit:</b>	Western half of the Activity Area: Barrier Complexes - Discovery Bay, Gippsland Lakes Eastern half of the Activity Area: Present Flood Plain - Gippsland
	<b>Landform:</b>	Present flood plain
	<b>Geology:</b>	Qm1 - Unnamed swamp and lake deposits Qa1 - Unnamed alluvium Nxx - Baxter sandstone Sm - Murrindindi Supergroup
	<b>Lithology:</b>	Qm1 - Paludal: lagoon and swamp deposits: silt, clay Qa1 - Fluvial: alluvium, gravel, sand, silt Nxx - Fluvial: sandstone, conglomerate, siltstone, ironstone Sm - Marine: mudstone, sandstone
	<b>Soils:</b>	Brown kurosol (alluvium) Western half: Peats, peaty clays with low compaction, pH 5.5 - 6.5 Eastern half: Yellow duplex soils with moderate compaction, pH <5.5
	<b>Pre-1750 EVCs:</b>	EVC 897 Plains Grassland/Plains Grassy Woodland Mosaic EVC 48 Heathy Woodland
	<b>Climate:</b>	Mean Max. Temp: 25.6° February (high); 13.3° July (low). Mean Min. Temp: 14.0° February (high); 6.1° July (low) Mean Rainfall: 86.5mm September (high); 41.2mm March (low)
	<b>Water Sources:</b>	Temporary: Streams and small wetland within Activity Area Permanent: Cardinia Creek

### **Soils and Geomorphology Report (van de Graaff & Woolums 2011)**

Heritage Insight Pty Ltd requested van de Graaff & Associates Pty Ltd carry out a geomorphological survey of soils and landforms within the Activity Area for the purpose of identifying any areas that may have an increased potential for containing evidence of Aboriginal occupation. The assessment concentrated on the slopes of Gordon Hill and the narrow alluvial plain created by the unnamed stream.

Eight locations were examined. Two of the locations were on the floodplain associated with the unnamed stream and six were on the slope and crest of the hill. Van de Graaff and Woolums considered it likely that the sandy rises found on the low-lying portions of the Activity Area were remnants of channel migration processes. These sandy rises were excellent locations for hunting or fishing as they provided the best access to the water and were likely to contain artefacts (van de Graaff & Woolums 2011). The other area considered likely to contain sites was the eastern slope of Gordon Hill.

The full report is provided in Appendix 2.

## **5.2.4 Resources Available to Aboriginal People within the Activity Area**

### **Plant Resources and Pre-Contact Vegetation**

Typically foraging communities, Aboriginal people would have traversed the extent of their traditional lands obtaining resources from known locations.

The Activity Area was located primarily within one Ecological Vegetation Community (EVC) prior to 1750. This EVC, Plains Grassland/Plains Grassy Woodland Mosaic (EVC 897), occupied 90% of the Activity Area. No specific description of Plains Grassland/Plains Grassy Woodland (EVC 897) exists, therefore an individual description of the two EVCs which characterise the mosaic EVC is provided below.

Plains Grassland occurs on lowland plains on fertile clay loams of Quaternary and Tertiary origin. It is characterised by a very low density or complete absence of trees and shrubs, although occasional trees such as Buloke (*Allocasuarina luehmannii*) may be present. The ground layer is dominated by perennial grasses, including Spider Grass (*Enteropogon acicularis*), Wallaby Grasses (*Austrodanthonia* spp.), Spear grasses (*Austrostipa* spp.) and perennial herbs such as composites (daisies) and chenopods (saltbushes). A large number of annual herbs are also a feature of this vegetation type (DPI Biodiversity Interactive Map, Accessed 12/04/2011). Plains Grassy Woodland is comprised of open, grassy eucalypt woodland occurring in low rainfall areas of fertile soils on flats and gently undulating plains at low elevations. The understorey consists of a few sparse shrubs over a diverse grassy, herb-rich ground layer (Oates & Taranto 2001).

The remaining 10% of the Activity Area was characterised by an EVC identified as Heathy Woodland (EVC 48). Heathy Woodland occurs on low hills and rises, plains and slopes and is generally associated with deep, uniform-textured, nutrient-poor sands. Vegetation is dominated by low eucalypt woodland over narrow-leaved shrubs except where frequent fire has reduced the understorey structure to a dense cover of bracken (Oates & Taranto 2001).

Plants were extensively exploited by Aboriginal people for food, medicine and fibres for weaving. Plant components used would have included berries, fungi, roots, tubers, bulbs, leaves, and pith from fleshy plants, seeds and sap. Gum was also collected from wattle and stored in known locations for seasons when food was less abundant (Zola & Gott 1992). The following table lists common plants found within this vegetation community that would have been utilised by Aboriginal people.

**Table 3: Native plants utilised by Aboriginal people (Department of Sustainability and Environment - EVC Benchmarks; Zola & Gott 1992; Gray 2010; Centre for Plant Biodiversity Research 2010)**

Plant Species	Uses
<i>Themeda triandra</i> Kangaroo Grass	Leaf and stem fibres used to make string for fishing nets. Seeds ground to make flour.
<i>Eleocharis sphacelata</i> Tall Spike-sedge	Whole stems used for weaving mats, split stems used for weaving bags.
<i>Acacia mearnsii</i> Black Wattle	Gum used as a sugar source. Possibly used as an ingredient in a type of cement. Used to treat indigestion.
<i>Pteridium esculentum</i> Austral Bracken	Underground stems were a staple food. Young stems used to relieve stinging and itching from insect bites.
<i>Poa</i> sp. Tussock-grass	Fibre used to make string for nets, bags, baskets and mats.
<i>Lomandra</i> sp. Mat-rush	Leaves used for making baskets.
<i>Allocasuarina</i> sp. She-oak	Shoots and young cones used for food. Wood used for weapons.
<i>Acacia melanoxylon</i> Blackwood	Bark used to treat rheumatism. Wood made into spear-throwers, shields and clubs. Ground leaves used to stun fish in the water.

The Activity Area has long been cleared of most native vegetation, and there are several exotic plant species present.

### **Information on Fauna of the Activity Area**

A number of animals would have been present within the Activity Area and the wider region, and are likely to have been hunted by Aboriginal people. It is unlikely that there were any specific fauna used by Aboriginal people in the past concentrated within the Activity Area itself that were not equally as abundant within the surrounding areas. More than 100 species of birds are recorded within the geographic region; many of these are water birds and raptors. A range of small mammals and marsupials would have been found in the area including kangaroos, wallabies, possums, koalas, dunnarts and echidnas. Reptile and amphibian species recorded in the region include skinks, Blue-tongue lizards, several species of snake and a variety of frogs (Viridans Biological Database 2013).

### **Climate**

Temperature averages at Cranbourne Botanic Gardens (1990 - current) indicate a cold to hot maximum average of 13.3° in July to 25.6° in February. Minimum average temperatures throughout the year range from 6.1° in July to 14.0° in February. The average annual rainfall for the area is 795.5mm (Bureau of Meteorology Website, Accessed 05/03/2011).

### **Water Resources**

The named watercourse in closest proximity to the Activity Area is Cardinia Creek, located approximately 500m to the east (Map 1). However, an unnamed stream bisects the Activity Area and a second unnamed stream crosses through the northeast corner. These streams may have provided a source of potable water during wetter periods.

Prior to Europeans arriving in Victoria, the Activity Area was located between two very large former swamps. Koo Wee Rup Swamp (The Great Swamp) was located approximately 4km to the east and Carrum Swamp (The Little Swamp) approximately 12km to the west. Up until the late nineteenth century, the Koo Wee Rup Swamp extended over an area of approximately 40,000ha (400,000,000m<sup>2</sup>) (Victorian Resources Online Website, Accessed 12/04/2011).

A review of the 1788 wetland categories indicated that there was a small wetland located on the eastern boundary of the Activity Area (DPI Biodiversity Interactive Map, Accessed 12/04/2011). This wetland was fed by water from the unnamed stream crossing the north-eastern corner of the Activity Area and was one of a number of small wetlands dotted between Carrum Swamp and Koo Wee Rup Swamp.

### **Stone Resources**

No stone resources and outcrops suitable for the manufacture of stone tools are found within the Activity Area, although flakeable stone from which to make tools was available within the surrounding region. Chert, silcrete and quartz are available inland on the Mornington Peninsula, while marine flint is commonly found on beaches as large nodules washed ashore from an unknown source on the Bass Strait ocean floor (Sullivan 1981, pp.9-10). George McCrae recounted finding outcrops of milky quartz and quartz crystals 'several inches in length' in the southern-facing gullies on the southern Mornington Peninsula in the 1840s and 1850s (McCrae 1911, p.20). Reef quartz may have been quarried from areas on the Mornington Peninsula, including Devilbend Creek (Ellender 1991, p.10), where sedimentary deposits interface with intrusive volcanics (granite). Chert could also be found at Devilbend. Sandstone and slate could be found at Baxter on the Mornington Peninsula (Weaver 1992). Locally available robust and sharpened shell edges may have been used for some cutting functions and calcarenite may serve as an abrasive, pounder or as a grinding stone. Ochre used for decorating objects and for body paint was reputed by Protector Thomas to have been obtained from an unknown source near Mount Eliza (Thomas cited in Sullivan 1981, p.9).



### 5.2.5 Aboriginal Places in the Geographic Region

At the time of the initial due diligence assessment (March 2011), the Activity Area had not been subject to previous archaeological assessment and no Aboriginal Places had been recorded on the property. Between the Phase One and Two components of the complex assessment (Section 7) a Precinct Structure Plan (PSP) CHMP (CHMP 12083 In progress) was commenced that incorporated the Activity Area (Kennedy et al. 2012). The following results are taken from the updated ACHRIS search on February 26, 2013 and include the Aboriginal Places and assessment associated with the PSP (Table 4).

Many sites have been recorded in the geographic region. There are 263 registered Aboriginal Places within the geographic region. The vast majority of components are Artefact Scatters (n=198, 68%). The Object Collection component (n=68, 23%) is an anomalous entry as the majority (n=59) of these collections are in storage at a cultural heritage advisor's office. Low Density Artefact Distributions (n=20, 7%), Scarred Trees (n=5, 2%) and Earth Features (n=1, <1%) are also represented in the geographic region. A summary of all Aboriginal Places within 200m of the Activity Area is presented in Table 5 and a full listing of Aboriginal Places for the geographic region is provided in Appendix 3.

**Table 4: Summary of registered Aboriginal Places in the geographic region**

Component Type	Frequency (No.)	Frequency (%)
Artefact Scatter	198	68
Earth Feature	1	<1
Low Density Artefact Distribution	20	7
Object Collection	68	23
Scarred Tree	5	2
<b>Total Components</b>	<b>292</b>	
<b>Total Registered Places</b>	<b>263</b>	

At the time of the initial due diligence assessment, one sub-surface artefact scatter (VAHR 7921-1038) was located less than 50m from the north-western boundary of the Activity Area (Table 5). This was the only Aboriginal Place located within 200m of the Activity Area in 2011. The 2013 ACHRIS search identified seven Aboriginal Places within 200m of the Activity Area (Table 5). Five of these sites are within the Activity Area and are associated with the prior watercourse. They were registered during the course of the field survey for CHMP 12083 (Kennedy et al. 2012). Other than VAHR 7921-1038, mentioned above, the only other Aboriginal Place within 200m is one Low Density Artefact Distribution (VAHR 7921-1439) was registered in association with the continuation of the prior watercourse into the property on the south-eastern boundary (Map 4; Table 5). A further 14 Aboriginal Places are located 200m to 1km from the Activity Area. The Aboriginal Places within 200m of the Activity Area, or within the Activity Area, are low density artefact scatters comprised of mostly silcrete or quartz.



**Table 5: Previously recorded Aboriginal Places within 200m of the Activity Area**

VAHR ID	Distance to Activity Area	Proximity to Freshwater	Place Type	Place Contents	Landform
7921-1038 Thompson Road 1	<50m	50m (prior watercourse)	Sub-surface artefact scatter	9 artefacts (quartz, crystal quartz)	Plain - flat ground
7921-1410 Clyde Creek IA 1	0m	<10m (prior watercourse)	Isolated surface artefact	1 artefact (silcrete)	Creekline
7921-1411 Clyde Creek IA 2	0m	<10m (prior watercourse)	Isolated surface artefact	1 artefact (quartz)	Creekline
7921-1412 Clyde Creek IA 3	0m	<10m (prior watercourse)	Isolated surface artefact	1 artefact (silcrete)	Creekline
7921-1413 Clyde Creek IA 4	0m	<10m (prior watercourse)	Isolated surface artefact	1 artefact (silcrete)	Creekline
7921-1415 Clyde Creek 1	0m	<10m (prior watercourse)	Surface artefact scatter	2 artefacts (silcrete, quartzite)	Creekline
7921-1439 Smiths Lane, Clyde North LDAD 1	<80m	<10m (prior watercourse)	Surface artefacts	2 artefacts (silcrete, quartz)	-

In addition to this, there are also two Historic Reference Reports in the geographic region. The first, Cardinia Creek Camp, is recorded as a ‘place people camped/lived around town’. The historical association with Cardinia Creek Camp is as follows:

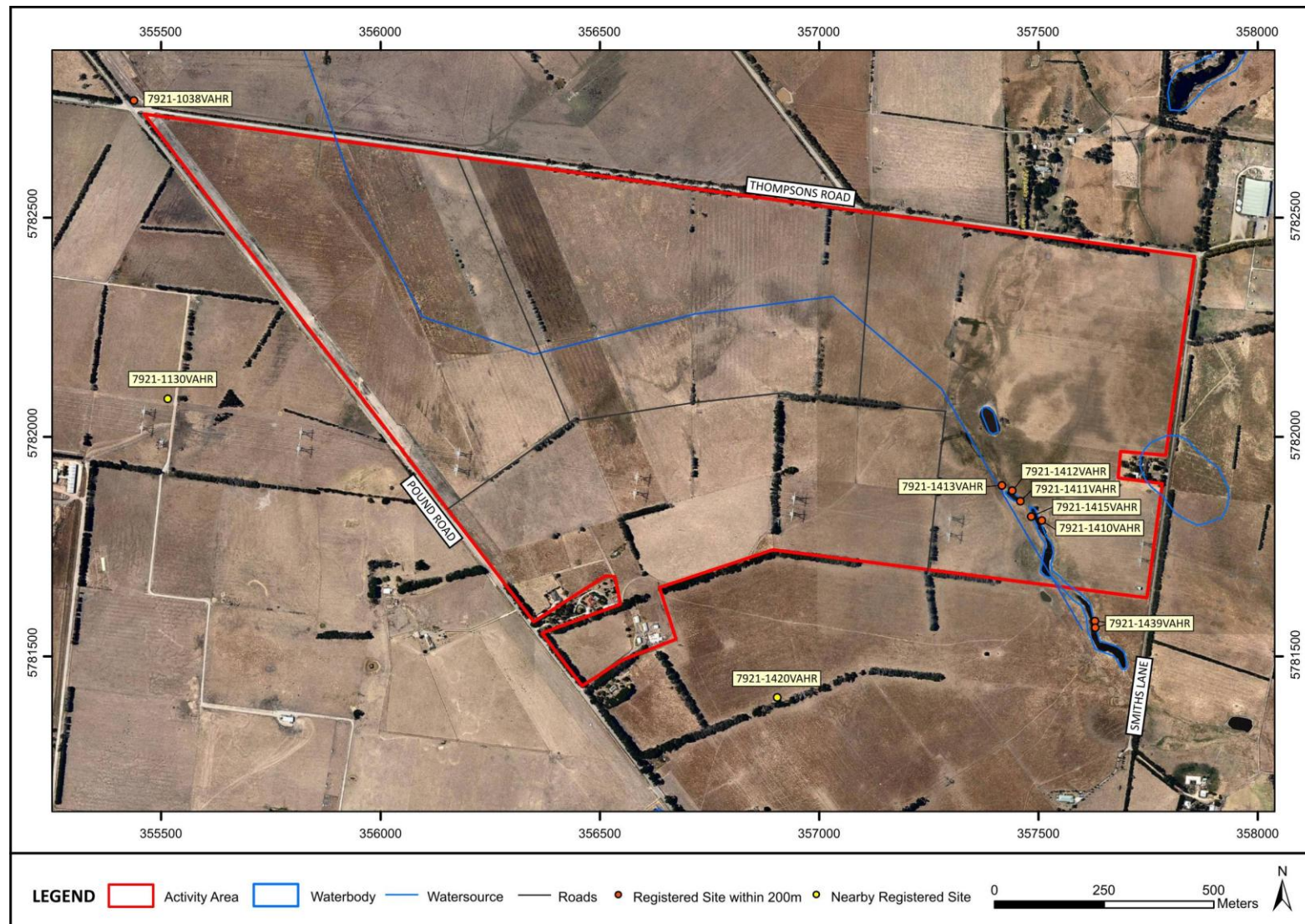
In the early days of settlement numerous aborigines were about the district but now only occasional relics of them are found...The late Mrs Hobbs, as a child, remembered them on Cardinia Creek. She has a musical box, turned by hand, which was of great interest to the natives, and they gathered round to hear the music (Beaumont et al. 1959, p.34).

The second, Ghin Ghin Bean Station, is recorded as a ‘property where people are known to have lived/camped’. The historical association with Ghin Ghin Bean Station is as follows:

Ghin Ghin Bean Station was on the Cardinia Creek, about four miles south of Beaconsfield. The property of 2000 acres of freehold and many thousands of acres of Crown Lease, was taken up by Robert Henry...In the summer of 1857, on the 6<sup>th</sup> of February, a terrible fire swept the greater portion of the colony and the day has gone down in history as Black Thursday...The local aborigines sagely declared that the “bright fellow” (pointing towards the sun) had got the blight in his eye...The native name Ghin Ghin Bean, is said to mean Deep Dark Waters and refers to the Deep Water Hole in the creek which gave the name to the property and which was owned later by the Burnt family (Beaumont et al. 1959, pp.12-13).

and,

In this hole the blacks used to spear fish which they would barter with Mr Henry for other food. The fish were plentiful and of great size in those days, head and tail extending over an old-time milk dish (Beaumont et al. 1959, pp.12-13).



Map 4: Sites within 200m of the Activity Area

### **5.2.6 Previous work in the Geographic Region**

There have been numerous archaeological surveys in the geographic region. In general, these studies have shown that there is a high probability that Aboriginal Places will occur in association with landforms such as dunes and coastlines, and that the most common Aboriginal Place types are likely to be artefact scatters and where suitable trees remain, culturally modified trees (scarring). A full list of reports for the geographic region is presented in Appendix 4.

#### **Regional Studies**

Several regional studies have been carried out in the geographic region which encompasses the Activity Area. These studies have provided additional information in regards to the Aboriginal archaeological record, further refining our understanding of past Aboriginal lifeways in this area prior to European settlement.

#### **Melbourne 2030 Casey Cardinia Growth Area. Aboriginal Archaeological Desktop Report (Feldman & Long 2006)**

This study assesses the distribution of Aboriginal archaeological sites based on known and potential site locations, with a view to establishing their implications for future growth in the Casey-Cardinia Growth Area.

Feldman and Long propose six landscape zones with discrete archaeological characteristics that define the Casey-Cardinia Growth Area study area. The present Activity Area is located at a point within the Casey-Cardinia Growth Area where Zone 1: Major Drainage Corridors, Zone 2: Intermediate Plains and Zone 6: Cranbourne Massif intersect.

These zones are described by Feldman and Long (2006, pp.27-28) as:

- Zone 1 - the foothills and intermediate plains drained by the four major creek complexes (Cardinia Creek, Toomuc Creek, Deep/Pakenham Creek and Ararat/Back Creek). These creeks have been a focus for Aboriginal occupation in the recent past. The creek margins are associated with comparatively dense artefact scatters and scarred trees;
- Zone 2 - a slightly elevated band of flat or undulating land bordering the northern foothills and Koo Wee Rup Swamp to the south. This region has been dominated by agriculture and urban development. The archaeological record is dominated by stone artefact occurrences on alluvial flats and outwash fans associated with creeks draining the foothills. These occur as comparatively dense, localised scatters and diffuse isolated finds. There is the potential for buried deposits to occur to a depth of 800mm, possibly in association with a complex of palaeo-landforms (prior and former stream channels), obscured below the current alluvial land surface. Scarred trees, a notably significant site type in this region due to their rarity, may also occur within stands of native remnant vegetation in this zone; and
- Zone 6 - an area of undulating plains centred on an elevated ridge of volcanics and sedimentary rock (Cranbourne Massif). This region is characterised by widespread sand drifts (Cranbourne Sands). Today the area is dominated by irrigated agriculture and urban development. The archaeology is dominated by localised dense scatters of stone artefacts associated with sand drifts, ridgelines and drainage lines, within a broader diffuse scatter of isolated artefacts occurring widely in the landscape. Burials may occur within sand deposits.

### **Shire of Cardinia Urban Growth Corridor Aboriginal Heritage Study (Rhodes & Bell 2004)**

This report presents the results of an Aboriginal heritage study for the Urban Growth Corridor in the Shire of Cardinia. The corridor stretches between the east bank of Cardinia Creek in the west and Mt Ararat in the east.

The purpose of the study was to develop a predictive model for Aboriginal site location within the study area that could be used to develop planning policy for determining Aboriginal cultural heritage requirements for planning applications within the Urban Growth Corridor. In formulating the site prediction model, Rhodes and Bell relied on soil mapping. However, owing to the limitations of soil mapping, it was not possible to map different areas of potential archaeological sensitivity for the whole of the study corridor, but only for the area between Cardinia and Toomuc Creek.

Rhodes and Bell suggested that on deep alluvial sandy soils, Aboriginal archaeological sites are likely to be found on the surface, but may also occur at some considerable depth. On heavy clay soils, Aboriginal archaeological sites are more likely to be located close to the surface (300mm depth). There is no specific distance from major watercourses at which sub-surface Aboriginal archaeological sites may be found. Aboriginal archaeological sites on both landforms have been found at distances greater than 1.5km from existing watercourses.

A total of 15 Aboriginal archaeological sites were recorded within the study area. Twelve of the Aboriginal archaeological sites located were situated on the floodplain, two in the hills formed on Silurian bedrock and one on a hill formed on granite at Greenhills.

The survey confirmed most of the site prediction model statements. Sites were recorded in shallow deposits in the hills while on the floodplain sites were identified in deeper alluvial deposits. Most of the raw materials for tool manufacture are imported and there are very few formal tools in the assemblage.

### **Berwick-Pakenham Corridor Aboriginal Archaeology (Smith 1991)**

This report presents the results of an archaeological survey of the Berwick-Pakenham residential growth corridor. The corridor stretches between Dandenong and Bunyip and encompasses the suburbs of Dandenong, Berwick, Pakenham and Cranbourne.

A total of 62 previously unrecorded sites were located and recorded. Of these sites 32 were artefact scatters, 13 were isolated artefacts, 15 were scarred trees and two were collections made by local landowners. Smith concluded that the availability and occurrence of water most influences site location within the corridor. The highest site densities occurred in areas of the corridor containing abundant water and other resources.

Smith considered that land within the proximity of permanent water courses and swamps were areas of potential archaeological sensitivity.

### **Sites of Archaeological Significance in the Western Port Catchment (Gaughwin 1981)**

Gaughwin recorded 266 Aboriginal archaeological sites, thirteen of which were found within an area referred to as “Top of the Bay” (a landform that equates to Sullivan’s “northern plains”). Near the present Activity Area, the highest site and artefact densities were found to occur on the sandy ridges of the Cranbourne area, particularly those associated with water. Gaughwin considered that the sites located on these sandy ridges were situated to take advantage of resources associated with swamp depressions. The site prediction model formulated by Gaughwin for the “Top of the Bay” landform is applicable to the current Activity Area:

- Artefact scatters and isolated artefacts are the most likely site type to occur within this unit;



- Most sites will be within 100m of a water source, including rivers, creeks, swamps, ponds, springs, coastline, lagoons and soaks;
- The highest site densities will be found in the Cranbourne Sands, and high dry ground such as ridges and hummocks;
- Lowest site densities will be found along the foreshore and in low-lying areas such as past swamps;
- It is highly unlikely that scarred tree sites will be located within the region due to the lack of suitable trees; and
- Surface scatters will be dominated by silcrete, quartz and chert artefacts.

### **Localised Studies**

At the time the due diligence for the current Activity Area was written (2011), there were no reports that specifically incorporated the Activity Area. During 2012, between the two sub-surface testing phases for this CHMP (Section 7), a Precinct Structure Plan (PSP) CHMP was undertaken that incorporated the Activity Area (CHMP 12083, in progress, see below). Reports particularly relevant to the current Activity Area are presented below. Other reports of relevance to the Activity Area are presented in Table 6. A full list of reports in the geographic region is provided in Appendix 4.

### **Clyde Creek (PSP 54) and Thompsons Road (PSP 53) Precinct Structure Plans Cultural Heritage Management Plan DRAFT (Kennedy et al. 2012)**

AHMS prepared a desktop and standard level CHMP for the Precinct Structure Plans (PSP) 53 and 54. PSP 53 contains the present Activity Area. This report is still in draft form. Site prediction modelling indicated that the most likely site types within the PSP area were isolated artefacts, surface artefact scatters and sub-surface artefact scatters. Scarred trees may be present if remnant native vegetation is of a mature age. Higher density and complexity of site was considered likely within 200m of waterways and wetlands, on crest landforms and the 'Cranbourne Sands', in close proximity to stone resources and near major confluences and resource intersections. Predictive modelling was used for establishing the archaeological potential within the PSP area. Factors used in the modelling were a combination of likely density, integrity and research value of archaeological deposits using a probabilistic approach.

Field survey was undertaken and an attempt was made to sample all landforms present within the PSP area. Field survey was focussed on the high to very high sensitivity areas (along Clyde Creek, the unnamed watercourse running through the current Activity Area and regions containing 'Cranbourne Sands').

Five Aboriginal Places were recorded during the field survey (VAHR 7921-1410 – 1413 and 7921-1415). These Places were all within the one property in close proximity to the dams where the prior watercourse is located. The sites were all surface artefacts.

The CHMP proposes that complex assessments should take a landform-based approach to testing and outlined a minimum area of testing per 100ha allocated to varying levels of sensitivity.

### **Proposed Residential Subdivision of 105 Smiths Lane, Clyde North Cultural Heritage Management Plan DRAFT (Prossor & Rhodes 2013)**

Heritage Insight prepared a voluntary CHMP for the property at 105 Smiths Lane, Clyde North. This report is still in draft form. The desktop assessment indicated that there is a high potential for Aboriginal archaeological sites to be located within the Activity Area either on the surface or as sub-surface deposits of stone artefacts. However, in the past there have been several factors that would have

heavily disturbed sections of the property. These include the construction of a Motocross track in the 1970s within the region of the dam (highest sensitivity area within the property) and possibly sand extraction prior to this.

The field survey located one new Aboriginal Place (VAHR 7921-1439 Smiths Lane, Clyde North LDAD 1). The site comprised two stone artefacts eroding from the embankment on the east side of the prior watercourse that continues into the present Activity Area. This embankment was also the location of the Motocross track. Two areas or landform elements were identified as having the potential to contain archaeological deposits. One area was a sandy rise adjacent to the west bank of the creek line. The second was a level bench situated mid-slope approximately 132m west of the creek line.

The complex assessment followed the recommendations contained in the Clyde Creek (PSP 54) and Thompsons Road (PSP 53) Precinct Structure Plans Cultural Heritage Management Plan (Kennedy et al. 2012) and was landform-based. The landforms within the property were assessed as being of high and moderate sensitivities. This CHMP is still in progress.

#### **Subdivision of Land 1505-1525 (Lot 2) Pound Road, Clyde North Cultural Heritage Management Plan (Murphy & Rymer 2012)**

Archaeology at Tardis prepared a voluntary CHMP for the property at 1505-1525 (Lot 2) Pound Road, Clyde North. The desktop assessment identified the most likely site type to be present within the property as artefact scatters on undulating sandy-silt landforms, a landform which is also present within the current activity area.

The field survey found no Aboriginal cultural material on the surface, although the ground visibility conditions were not conducive for effective field survey. Surface visibility was reduced to less than 10% due to thick grass with excellent ground surface visibility encountered below windrows and isolated trees, around dams, water troughs and gates. The standard assessment confirmed the presence of archaeologically sensitive landforms within the activity area, but the significance of these could not be assessed by field survey alone.

A complex assessment was undertaken by excavating at grid points across a 100mx100m grid laid over the property. Two new Aboriginal Places were recorded (VAHR 7921-1420 & 7921-1426). Both sites were isolated artefacts (VAHR 7921-1420 - silcrete flake at 50 - 100mm; VAHR 7921-1426 - quartz flake at 200 - 250mm) and were assessed as having extremely low significance. The artefacts reflected either casual discard or loss with neither site considered to have research potential.



**Table 6: Previous local studies undertaken in the geographic region, relevant to the Activity Area (continues over page)**

Author & Project	Investigation Type	Results
<i>Cultural Heritage Management Plan for the Growth Areas Station, Cardinia Road, Pakenham</i> (Ricardi et al. 2010)	CHMP	<p>The archaeological survey revealed that the activity area had been significantly disturbed by past activities. The northern section of the activity area is bordered by recently constructed houses and the construction footprint of these houses appears to include much of this section of the activity area, including scraping and levelling. The area within the rail corridor has also been previously disturbed due to the construction of the track. The area has been moulded up to raise the track and fill has been placed throughout this section of the activity area. The southern section of the activity area also appears to have undergone some scraping and levelling and fill was noted in some sections of high ground surface visibility as well as soil stockpiles. Telstra and sewerage services as well as dirt tracks were also noted during the survey.</p> <p>No Aboriginal archaeological sites, rock shelters or culturally modified trees were located in the activity area during the survey.</p>
<i>PSP No. 16 Cranbourne North (Stage 2) - Corner Thompsons and Clyde Road</i> (Day 2010)	CHMP	<p>The desktop assessment indicated that a single Aboriginal archaeological site (VAHR 7921-0989) is located within the Activity Area. In addition to this, a number of artefact scatters were located in close proximity to the western boundary of the Activity Area on the Cranbourne Sands landform which were recorded during work for CHMP 10531. The standard assessment included a systematic ground survey of the entire activity area; however no further Aboriginal archaeological sites were located. This was attributed to poor ground surface visibility. A single unregistered Aboriginal archaeological site was identified during the complex assessment and the site extent of the previously registered Aboriginal archaeological site was further defined. The two Aboriginal archaeological sites in the Activity Area are located on elevated ground.</p>
<i>Crown Allotment 29, Thompson Road, Cranbourne North: Residential Subdivision.</i> (Murphy & Dugay-Grist 2009)	CHMP	<p>The CHMP combines a desktop study and a ground surface survey and, due to extremely poor ground surface visibility, a complex assessment within defined areas of potential sensitivity. As a result of the complex assessment, nine Aboriginal archaeological sites (VAHR 7921-0986 to 7921-0994) were located and recorded within the activity area.</p> <p>No evidence of occupation and exploitation by pre-contact Aboriginal people in the past was recorded within the activity area in low-lying areas during the standard assessment and complex assessment. Nine sub-surface stone artefact scatters were recorded on the Cranbourne Sands landform during the complex cultural heritage assessment (VAHR 7921-0986 to 7921-0994). The proposed residential subdivision was considered to have the potential to impact on registered sites and landforms of moderate to high sensitivity.</p>

Author & Project	Investigation Type	Results
<i>Victorian Desalination Project - Cranbourne Extension of the Power Supply Alignment, Cranbourne, Victoria: Aboriginal Cultural Heritage Management Plan</i> (Ford et al. 2009)	CHMP	<p>This report details the findings of a complex CHMP. The desktop assessment indicated that there are five previously recorded Aboriginal archaeological sites located within the activity area: Cranbourne Terminal 1 (VAHR 7921-0533), Cranbourne Terminal 2 (VAHR 7921-0534), Cranbourne Terminal 3 (VAHR 7921-0535), Cranbourne Terminal 4 (VAHR 7921-0536) and Dunscombe 4 (VAHR 7921-0545).</p> <p>The archaeological survey identified a number of areas of sensitivity and identified one new Aboriginal archaeological site, Clairmont AS 1 (VAHR 7921-1133). The sub-surface testing program established the extent of the two previously recorded sites that the Sponsor proposed to impact upon: Cranbourne Terminal 3 (VAHR 7921-0535) and Cranbourne Terminal 4 (VAHR 7921-0536). The sub-surface testing program also established the nature, extent and significance of the Aboriginal archaeological site recorded during the survey, Clairmont AS 1 (VAHR 7921-1133). In addition, the sub-surface testing program identified four new Aboriginal archaeological sites: Lydal AS (VAHR 7921-1132), Lydal Isolated Artefact (VAHR 7921-1131), Cleveland Park AS 1 (VAHR 7921-1129) and Cleveland Park AS 2 (VAHR 7921-1130).</p>
<i>VicUrban's Residential Subdivision Project at Officer, Victoria Cardinia Road Precinct</i> (Vines et al. 2008)	CHMP	<p>Vines <i>et al</i> conducted a complex CHMP which included a pedestrian survey and sub-surface testing of the proposed Vic Urban residential development in Officer, Victoria. Three new archaeological sites were recorded during the pedestrian survey. Two of these were artefact scatters and one was an isolated artefact. A sub-surface testing program was then conducted with 32 mechanical transects and five hand-excavated test pits. Three new artefact scatters and seven new isolated artefacts were located during this program. Of these, five were situated within proximity to Gum Scrub Creek and the remaining five on the lower slopes of rises within the landscape.</p>

Author & Project	Investigation Type	Results
<i>Brookford Estate 545 Berwick-Cranbourne Road, Clyde North</i> (Murphy & Rymer 2007)	Test Excavation	<p>This report presents the results of a sub-surface testing investigation of the proposed Brookford Estate, located at 545 Berwick-Cranbourne Road, Clyde North. A cultural heritage assessment and site survey of the study area had previously been conducted by the consultants. During the initial assessment, three Aboriginal archaeological sites were recorded, including a surface stone artefact scatter (VAHR 7921-0494) and isolated stone artefact sites (VAHR 7921-0492 and 7921-0493). Each site was assessed as having low scientific significance. Two areas of archaeological sensitivity for Aboriginal cultural material were identified in the northwest and southeast corner of the study area and these were assessed as having low-moderate and low sensitivity respectively.</p> <p>A program of sub-surface testing was recommended for clarification of the Aboriginal archaeological cultural heritage values of the study area. Prior to this, limited community monitoring was conducted in the southeast area resulting in the identification of one new Aboriginal site low-density sub-surface stone artefact scatter (VAHR 7921-0786). No historic sites or areas of historic archaeological sensitivity were identified.</p> <p>Sub-surface testing resulted in the clarification of the archaeological nature of the four previously recorded Aboriginal archaeological sites. An additional three Aboriginal archaeological sites were recorded during sub-surface testing. At the conclusion of the sub-surface testing, a meeting was held with the relevant Aboriginal groups to discuss the findings and future management of the archaeological resources within Brookford Estate. MSF Diversified Group agreed to preserve, <i>in situ</i>, two of the largest sites (VAHR 7921-0833 and 7921-0834) within areas of open space. Both community groups supported this outcome and MSF Diversified Group agreed to fund a monitoring program at the remaining site locations to collect a sample of material which will be relocated to the preserved site locations.</p>
<i>Eastern Irrigation Scheme Archaeological Assessment</i> (Long et al. 2004)	Survey	<p>This report presents the results of an archaeological assessment of the proposed Eastern Irrigation Scheme in the Cranbourne district. The archaeological assessment was comprised of a desktop investigation and a field survey of the study area to identify and record any Aboriginal and historical archaeological sites located within the study area and to determine the implications of future development on cultural heritage values.</p> <p>The field survey identified eight new Aboriginal archaeological sites (VAHR 7921-0620 – 0626 and 7921-0656), all of which were artefact scatters located in association with sand drifts and/or elevated points on the Cranbourne Volcanics landform.</p> <p>No new historical archaeological sites were identified during the field survey.</p> <p>Long et al. concluded that given the high archaeological potential of sand drifts and other raised landforms that occur within the Cranbourne area, it was advisable that a programme of sub-surface testing be undertaken to determine the presence/absence of Aboriginal cultural heritage material prior to the construction of the pipeline network.</p>

Author & Project	Investigation Type	Results
<p><i>Stage 1 and 2 Cultural Heritage Survey of Clyde-Five Ways Road, Pound Road to Ballarto Road, Victoria</i> (Atkinson et al. 2010)</p>	<p>Survey</p>	<p>This report presents the results of the Stage 1 and Stage 2 cultural heritage investigations of the Berwick-Cranbourne Road/Clyde Five-Ways Road between Pound Road and Ballarto Road. The cultural heritage investigation comprised a desktop assessment and field survey of the 500m-wide corridor followed by a survey of the preferred realignment options 2 and 3. The two options are located in an area recognised for its high potential for Aboriginal archaeological sites. At the time of the archaeological investigation, two Aboriginal archaeological sites had been recorded in the option corridors.</p> <p>The field survey resulted in four Aboriginal archaeological sites being recorded. VAHR 7921-0499 consisted of a microlithic silcrete scraper found in a ploughed field east of Clyde Road. VAHR 7921-0500 was an artefact scatter consisting of 17 artefacts (nine silcrete and eight quartz). Fifteen of the artefacts were flakes, with one silcrete core and one quartz scraper. The core was of a similar fine-grained pink-grey silcrete as the scraper found in VAHR 7921-0499. The site was located in a ploughed field on the top of a ridge, north of Ballarto Road. It is likely that the artefact scatter extends beyond the ploughed zone that was amenable to survey. VAHR 7921-0501 is an isolated silcrete flake located north of Ballarto Road on a market garden path. The site is located at the base of the hill on which VAHR 7921-0500 was recorded. VAHR 7921-0569 is an isolated red silcrete flake found embedded in an area eroded by rabbits on a hillside south of the South Gippsland railway line.</p>

## **Conclusions and Synthesis of Previous Archaeological Work**

Based on a review of previous archaeological studies in the geographic region, it is clear that the Activity Area is located within an area of high to moderate Aboriginal archaeological potential. The number of sites previously recorded in the region demonstrates that it was utilised intensively by Aboriginal people in the past.

The results of previous studies indicate that the most likely site types to occur in the Activity Area are artefact scatters, which account for the vast majority of sites recorded in the geographic region. Surface scatters are likely to be dominated by silcrete, quartz and chert artefacts. Gaughwin (1981) states that it is unlikely that scarred tree sites will be located within the region due to the lack of suitable trees.

Gaughwin (1981) states that most sites will be within 100m of a watercourse, including rivers, creeks, swamps, ponds, springs, coastline, lagoon and soaks. However, Rhodes and Bell (2004) state that there is no specific distance from major watercourses at which sub-surface Aboriginal archaeological sites may be found. Gaughwin (1981) identifies the Cranbourne Sands and high ground such as ridges and hummocks as the landforms most likely to contain the highest site densities. The lowest site densities will be found along the foreshore and in low-lying areas such as past swamps.

The local archaeological studies discussed above, particularly CHMPs, demonstrate that Aboriginal Places in the geographic region are most likely to be located on low rises or dunes, even those located some distance from potable water.

Given the high sensitivity of the geographic region for Aboriginal sites, all landforms must be considered to potentially contain sites.

### **5.2.7 Historical and Ethno-Historical Accounts in the Geographic Region**

This section of the report discusses historical evidence for Aboriginal people within the Activity Area. It is included to discuss observations of Aboriginal culture at the time of early European settlement, which are useful to the development of a predictive model for Aboriginal site location. However, the historical record in relation to Aboriginal people in the Activity Area should be used with caution.

The history of Aboriginal land-use on the property can be gleaned from several different sources, which can include written European historical accounts after 1835, Aboriginal oral history and tradition, and archaeological evidence. In this case, the interpretation of the Aboriginal history of the Activity Area relies heavily upon archaeology and written European history.

#### **Aboriginal Pre-Contact History**

At the time of contact, the central portion of what is now the State of Victoria was occupied by Aboriginal people who shared a common language and political, social, religious and economic affiliations and who identified themselves as *Kulin*, the label meaning ‘man’ in the dialect spoken in the Melbourne region. The area of land occupied by the *Kulin* people extended as far north as present day Echuca, west as the Richardson River, Mt Avoca, Fiery Creek and Mt Emu Creek, south to the Victorian coastline and east to the Tarwin River and Wilsons Promontory (Clark 1990).

Amongst the *Kulin*, political, social and economic relationships were shaped by affiliation with the main unit of social organisation (the clan) and affiliation with one of two groups linked with creation ancestors. A clan was usually formed from a number of related families (a lineal descent group), which claimed guardianship over a particular tract of land (Howitt 1904, p.41).

The two groups (described as moieties by western anthropologists) linked with creation ancestors were *Waa* the Australian Raven, and *Bunjil*, the Wedge-tailed Eagle (Barwick 1984, p.105). Moiety affiliation was determined at birth by the group/moiety affiliation of the father and the father’s clan (Barwick

1984, p.105; Clark 1990). In traditional *Kulin* law, moiety and clan affiliation determined marriage. Individuals were required to marry outside their clan and to a person belonging to the opposite moiety.

Marriage had an extremely important influence on social and economic relationships and individuals could acquire considerable status and economic power through marriage ties, in particular men who could afford to support more than one wife. Senior men who acquired economic power and a high social status and prestige were known as *arweet* in the *Bun wurrung* dialect and *ngurungaeta* in the *Woi wurrung* dialect (Barwick 1984, p.106). These people had the right to negotiate or direct land use in relation to a specific area of land or 'Country'; for example, the men with whom Batman negotiated his 'treaty' in 1835 were *ngurungaeta* and *arweet* from *Woi wurrung* and *Bun wurrung* clans. This tradition is continued by contemporary communities, where it is usually the elders who make decisions in relation to community matters (Rhodes & Bell 2004, p.27).

According to traditional Aboriginal belief, a dreamtime ancestor, *Lohan*, created the land between the mouth of the Yarra River and Wilsons Promontory. The country created by *Lohan* was known as the *marr-nebeek* (Brough-Smythe 1878 in Barwick 1984, p.115). A dialect of the East Kulin language known as *Bun wurrung* was the required form of speech within the *marr-nebeek*. There are some inconsistencies in the published information about the clans who occupied the *marr-nebeek* and it is thought that the *marr-nebeek* country was not entirely occupied by clans speaking the *Bun wurrung* dialect. It is possible that the land within the Activity Area was shared country, similar to that described by Barak of the *Woi wurrung* as 'half bad country'.

There is obviously more detailed research required into both European sources and Aboriginal oral history, to try and clarify the clans within the region of the Activity Area and their relationships to particular areas of country. It does seem clear, however, that the land within the Activity Area was part of the *marr-nebeek* country, of which the clans speaking the *Bun wurrung* dialect were guardians.

### ***Bun wurrung* Clans**

The *Bun wurrung* (*Bunurong*) were one of four 'dialectal tribes' comprising the East Kulin language group (Barwick 1984). Much of the information on the *Bun wurrung* came from members of neighbouring groups – such as William Barak of the *Wurundjeri balluk* – rather than *Bun wurrung* people themselves. Hence, such information cannot be regarded uncritically as an accurate account of the *Bun wurrung* lifestyle. Early ethnographic accounts of the *Bun wurrung* were also describing people whose lifestyle was suffering under white invasion and settlement (Thomson & Matic 2006, p.10).

William Thomas, Assistant Protector of Aborigines in the Western Port district (1839 – 1849), spent much of his time travelling with *Bun wurrung* people between his hut at Arthur's Seat, the Aboriginal reserve which he established at Narre Narre Warren during 1841, and the Aboriginal camps around Melbourne (Sullivan 1981, p.25; Cannon 1983). This extensive travel through *Bun wurrung* territory enabled Thomas to argue that the *Bun wurrung* claimed "all the country south of the Yarra River, whose creeks and inlets fall into the sea from the Werribee River west to the Tarwin River, east of Cape Patterson" (Thomas papers Vol.7 17/1/1860 in Clark 1990, p.363).

The *Bun wurrung* clan with traditional rights to land for the region in which the study area is located are the *Mayune balug* 'people of the swamp' (Clark 1990, pp.364, 366–367). The *Mayune balug* were responsible for the land around the Cranbourne area, the upper Mornington Peninsula and the head of Western Port Bay to the south and east of Carrum Swamp (Clark 1990, pp.366–367). At the time of European settlement, 'Budgery Tom' (1797/8-1848) is identified as *arweet* or clan head (Clark 1990, p.363) of the *Mayune balug*.



## ***Woi wurrung* Clans**

The *Woi wurrung* were composed of four clans, occupying the Yarra and Maribyrnong watersheds. The northern boundary was marked by the Great Dividing Range, the western boundary by the Werribee River and the southern boundary by Port Phillip Bay. *Woi wurrung* lands extended from Mt. Baw Baw westward to Mt. William and Mt. Macedon (Barwick 1984; Clark 1990, p.379).

According to Barwick (1984) and Clark (1990), the *Wurundjeri balug* (*Wurundjeri-balluk*) clan occupied the region around the Yarra River. This large clan was divided into two patrilineal, occupying adjacent localities: the *Wurundjeri willam* on the Yarra from its sources at Mt. Baw Baw to its junction with the Saltwater (Maribyrnong) River; and the *Baluk willam* extending south to Dandenong (Barwick 1984, p.122). The *Wurundjeri willam* patriline was further subdivided into three groups or ‘mobs’, which were probably family groups, and who had their own clan head (*ngurungaeta*). Each family group held a specific area within the larger clan area and belonged to the *waa* moiety.

Clark (1990, pp.385–386) does not list a *ngurungaeta* for the *Baluk willam* clan. Morundalk was identified as a clan head during the early to mid-1800s. He was jailed and deported to Sydney in May 1838, but on returning in September 1839, is recorded as having reminisced about guiding John Batman’s party in June 1835 to the winter camp where the treaty was negotiated.

## **Aboriginal Post-Contact History**

First contact between *Bun wurrung* people and Europeans was with whalers and sealers prior to 1803 (sealing began in Bass Strait in 1798), as European huts were discovered by Grimes at Boneo in January of that year (Rogers 1957). The fact that whalers and sealers had arrived early in the history of the colony is further substantiated by entries in Robinson’s journal (26 December 1836 cited in Plomley 1987, p.405), where he records an account of the early kidnapping of *Bun wurrung* women:

Matilda the VDL native woman pointed out the spot a few miles down the harbour at Point Nepean where she said George Meredith and his crew of sealers stole the native women. The men’s names were Brown, Mr. West the master of the schooner, and a man named Billy...said there was plenty of black fellows, some on the Port Phillip side some outside, sea coast. Said the sealers were afraid of the Port Phillip natives. Said they employed her to entice them. George Meredith stole the, I think she said, four women, took them...and then sold them to the [other] sealers there. I am informed that Munro bought one (G.A.Robinson Journal entry, 26 December 1836 in Plomley 1987, p.405).

Spillane also wrote that when Flinders ascended Arthurs Seat in 1802, he found evidence of Aboriginal campsites and heaps of oyster shells near the summit. Looking south, he could see smoke from their fires (Spillane 1971).

It was not until 1835 that John Batman as representative of Tasmanian investors and pastoralists ventured to make claims on the land around Melbourne and Geelong through a “trinket treaty” with the *Woi wurrung* (Spreadborough & Anderson 1983, p.xxiv).

During 1839, the British Colonial Government established an Aboriginal Protectorate in what is now Victoria. A Chief Protector, G. A. Robinson, and four Assistant Protectors were appointed to administer the Protectorate. William Thomas was appointed Assistant Protector for the Port Phillip and Western Port Districts and had extensive contact with traditional *Bun wurrung* people during the early years of European settlement (Cotter 2001, pp.1–2). Thomas travelled with groups of *Bun wurrung* and related *Woi wurrung* people on seasonal movements around the Mornington Peninsula and Western Port, producing a map in 1841, showing the locations of *Bun wurrung* campsites and routes of movement.

Thomas recorded most of the limited documented information regarding the lifestyle of the *Woi wurrung* and *Bun wurrung* peoples occupying the littoral between Port Phillip Bay and Western Port Bay, however other settlers and travellers such as Daniel Bunce (1856a; 1856b) and George Haydon (1846) have contributed to a broader picture of Aboriginal life across the region in the decade following European settlement (Allen et al. 2008, p.45). In general, they observed clans living a hunter-gatherer lifestyle, moving within their lands to make use of seasonal plant and animal resources (e.g. Thomas noted that coastal clans used to travel by canoe to French Island in the centre of Western Port Bay to obtain eggs), trading opportunities and to meet ritual and kinship obligations.

Thomas noted that favourite foods of the *Bun wurrung* and *Woi wurrung* were kangaroo and possum, and that they had the 'greatest abhorrence' for snakes (Thomas cited in Sullivan 1981, p.22). Women caught many smaller creatures such as bandicoots, rats and lizards (Thomas cited in Sullivan 1981, p.22). It is probable that many womens' subsistence and other activities were not seen or recorded by Thomas, either through his lack of interest or because the women carried them out away from the presence of men.

Fires were commonly lit by Aboriginal people in the coastal area of Port Phillip and were seen by early explorers (Sullivan 1981, p.23). Fires were mainly lit to maintain pathways through dense scrub, to increase the fertility of the land, to drive game and quite probably as a smoke screen to hide behind or to warn off or confuse intruders.

Just prior to, and overlapping, the period of British exploration and settlement, the *Bun wurrung* were involved in a long-running dispute with the *Gunai Kurnai* people from Gippsland. According to William Barak, the conflict was a dispute over resources, which resulted in heavy casualties being suffered by the *Bun wurrung*. Many *Gunai Kurnai* raids occurred to abduct *Bun wurrung* women. According to Barwick (1984), the *Yowengerra* had almost been completely annihilated by 1836, largely as a result of attacks from the *Gunai Kurnai*. During 1833 - 1834 around 60-70 *Bun wurrung* people were killed in a raid by *Gunai Kurnai* while they were camped to the north of Carrum Swamp (Rhodes 2003).

In 1841, a camping reserve of 340 hectares for the *Bun wurrung* people was established at Mordialloc. By 1856, many of the *Bun wurrung* people had moved to the Mordialloc Station. The reserve continued operating until 1878, when the remaining Aboriginal people were transferred to the Mission at Coranderrk where many *Woi wurrung* people were living, which had opened in the 1860s.

Today, the descendants of the Kulin are increasingly attempting to reassert their traditional rights, religion and law in respect to management of Country and this is particularly evident in the area of Aboriginal heritage (Rhodes & Bell 2004, p.27). The descendants of the *Bun wurrung* are represented today in the Bunurong Land Council Aboriginal Corporation and the Boon Wurrung Foundation Ltd, and are regarded as the traditional owners and custodians of the area. The Wurundjeri Tribe Land and Compensation Cultural Heritage Council represent the descendants of the *Woi wurrung*.

No specific references to the occupation of the land around the study area by *Bun wurrung* or *Woi wurrung* people were found during the background research carried out for this assessment though they potentially travelled through the region based on Thomas' accounts. However, it is possible that such evidence may exist in unpublished historical sources. A review of unpublished sources was beyond the scope of this project.

### **Routes of Movement in the Geographic Region**

Historical references to movement of Bunurong people through the area note that there were several routes of movement, one of which was Cardinia Creek to the east (Smith 1991, p.14). Anecdotal local history reproduced by Roberts (Roberts 1985, p.6) suggests that Aboriginal people moved down from the hills (to the north of Pakenham) during summer months, probably following paths along waterways such as Cardinia Creek and Toomuc Creek, finally entering Koo Wee Rup Swamp during the driest season to hunt eels and blackfish. Parts of the swamp were also burnt during the summer months to aid

in hunting animals such as possums, wombats and wallabies (Roberts 1985, p.6). When the swamp was drained during the nineteenth and twentieth centuries, dense layers of burnt ti-tree were found in the upper layers of the swamp, testifying to this activity (Roberts 1985, p.6).

### **Oral History relating to the Activity Area**

No specific oral history from the Bunurong Land Council Aboriginal Corporation, Boon Wurrung Foundation Ltd or Wurundjeri Tribe Land and Compensation Cultural Heritage Council has been provided in relation to the Activity Area.

Although the Aboriginal communities have not provided any specific information about the Aboriginal cultural heritage at this site, it should be clearly understood that contemporary Aboriginal people are the custodians of a rich and diverse knowledge about the history, society, spiritual beliefs, material and intangible culture of their people. The modern Aboriginal people retain considerable traditional knowledge and are an active contemporary community with a distinct cultural identity and spiritual beliefs, whose roots extend more than 40,000 years into the past.

### **5.2.8 Land Use History of the Activity Area**

A detailed history of the European settlement of the Cranbourne region is beyond the scope of this assessment. The following information is provided in order to establish factors that have impacted on the Activity Area and the effect this would have on Aboriginal archaeological sites.

The Ruffy brothers are reportedly the first squatters to have permanently settled in the Cranbourne district, arriving from Van Diemen's Land in 1836. They took up the extensive run 'Tomaque' with a total area of 32,000 acres between Dandenong and Cranbourne, part of which was later known as 'Tongala' (Gunson 1984, p.19; Berwick-Pakenham Historical Society 1994, p.2). Progress in developing the land around Cranbourne was slow due to the extensive Koo Wee Rup Swamp. However, William Lyall, (who purchased the land in the swamp area) assisted in organising the drainage of the Koo Wee Rup Swamp to enable its use as farmland.

During the 1850s, enormous squatting empires were forming, and around this time the larger of these runs were being divided and sold as freehold in an effort to rein in these huge pastoral enterprises (Figure 2). The Cranbourne and Lyndhurst townships were first surveyed by H.B Foote in 1852, and were reserved out of the surrounding pastoral runs 'Mayune', 'Towbeet' and 'Barkers Heifer Station' (Spreadborough & Anderson 1983). Between 1852 and 1856, blocks were sold around Dandenong, Narre Warren, along Cardinia Creek, around Cranbourne and between Cranbourne, Port Phillip Bay and Carrum Swamp. Many blocks were partially cleared for cash crops of wheat and barley. Land in the region was considered to be excellent farmland and had the advantage of being accessible to the markets of Melbourne, particularly after the arrival of the railway line to Cranbourne in 1888 (Murphy 2001, p.6).

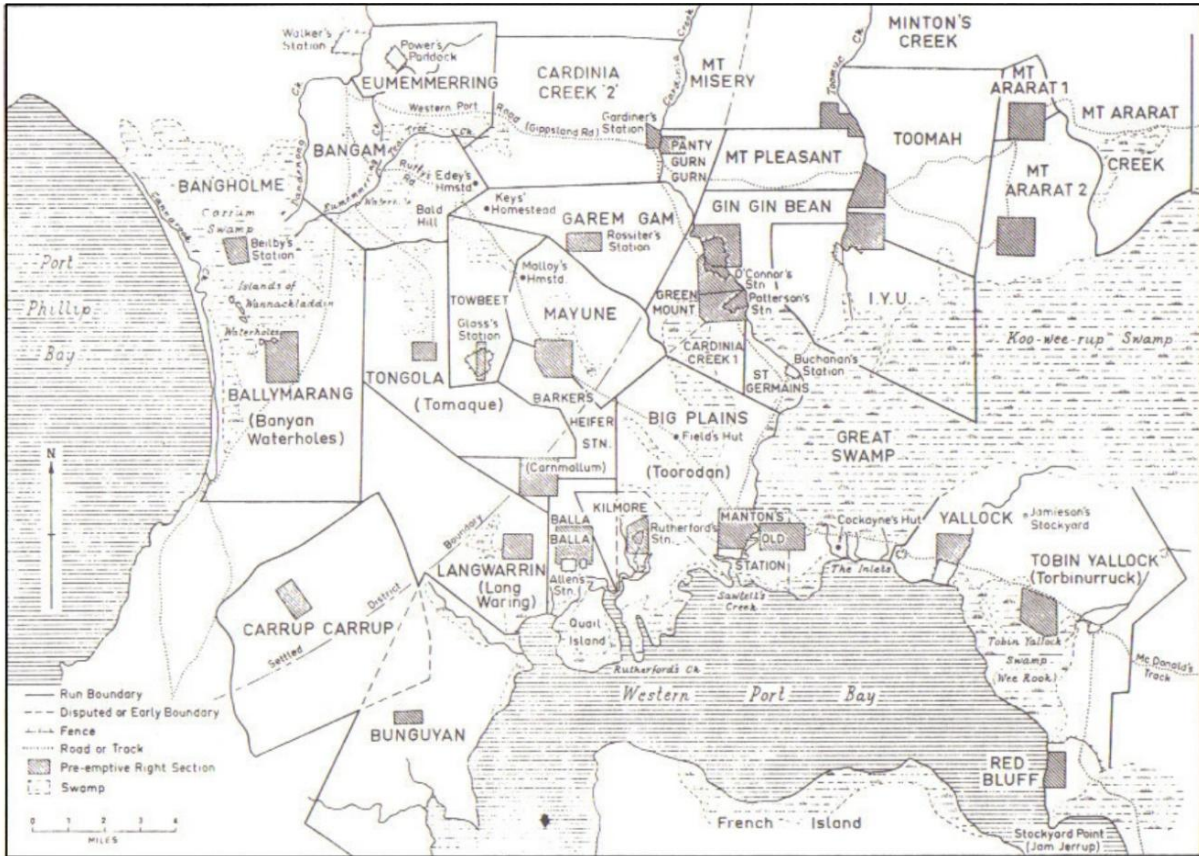


Figure 2: Plan of squatting runs in the region of the Activity Area (Gunson 1984)

### Clyde North

The suburb of Clyde North is centred around Berwick – Cranbourne Road and was the original Clyde township before it moved to the area around the railway station to the south. Clyde Post Office opened on January 25, 1864. In 1915 it was renamed Clyde North, when Clyde Railway Station office was renamed Clyde.

Much of Clyde North, to the east of Berwick-Cranbourne road, is outside the main growth corridor and is distinctly rural in nature. The land in this area is used for a mixture of market gardening (notably around Pattersons Road) and dairy farming. The land is relatively flat and most of the roads are maintained as dirt roads.

### The Activity Area

During the twentieth century, aerial photography has allowed the viewer to analyse changes in land use activities. A range of historical aerial photographs, spanning 1960-1989, were inspected. The aerial photographs indicate that the Activity Area has never been subject to development of any kind, and has, at least since 1960, been cleared of native vegetation.

A 1960 aerial photograph shows the Activity Area as being cleared of native vegetation and the northern paddocks having been recently ploughed. Pines had, by this time, been planted on some of the paddock boundaries. The sheds located in the south-western corner of the property had also been constructed. The channel of the prior watercourse is also visible in the eastern half of the Activity Area along with two dams. A 1970 aerial photograph shows the Activity Area as being in much the same condition as that of the 1960 aerial photograph. The primary points of difference are that evidence for recent ploughing is visible across all but the southernmost paddocks in the Activity Area and the



westernmost paddocks appear to have been subject to contour ploughing. There are now three dams on the prior watercourse and therefore some modification is likely to have happened to them between 1960 and 1970. A 1989 aerial photograph shows little alteration to the activity Area since the 1970 photograph. Changes and activities identifiable in the photograph include the power transmission towers (not present in 1970) and evidence of recent ploughing in the northern paddocks of the Activity Area.

The construction of the sheds in the Activity Area would have caused significant ground disturbance as would the installation of the power transmission towers, the damming of the prior watercourse and any grading of the vehicle tracks. However, it should be noted that the percentage of the Activity Area impacted by these activities is very small and that there is no evidence for significant ground disturbance as defined in the *Aboriginal Heritage Regulations 2007* beyond the noted activities above.

Certainly the removal of the native vegetation prior to 1960 would have caused ground disturbance but to what extent is unknown. Indeed, the extent of ground disturbance caused by the removal of the vegetation would be highly dependent on the methodology by which the vegetation was cleared. The Activity Area has been continuously ploughed since 1960 which would have resulted in disturbance to any surface or near surface Aboriginal Places. Ploughing is not considered to be significant ground disturbance as defined in the *Aboriginal Heritage Regulations 2007*. In addition to this, the grazing of livestock would result in disturbance to any surface or near surface Aboriginal Places and can increase the rate of erosion.

### 5.3 Site Prediction Model

The desktop assessment for the Activity Area has allowed a site prediction model to be developed. A site prediction model is intended for use as an indication of the types of archaeological sites that may occur in a given area. The site prediction model can later be tested against the results of the field survey and/or sub-surface testing.

In general, the following statements can be made about the results of the desktop assessment for the current Activity Area:

- There are 263 registered Aboriginal Places located within the geographic region. The majority of the registered Aboriginal Places are Artefact Scatters (n=198, 68%). The Object Collection component (n=68, 23%) is an anomalous entry as the majority (n=59) of these collections are in storage at a cultural heritage advisor's office. Low Density Artefact Distributions (n=20, 7%), Scarred Trees (n=5, 2%) and Earth Features (n=1, <1%) are also represented in the geographic region. Artefact scatters and low density artefact finds are the most likely site types to be located within the Activity Area. As the land has been cleared of all native vegetation, it is highly unlikely that trees with cultural scarring would be present;
- The most archaeologically sensitive landforms in the geographic region are low rises or dunes. Gaughwin (1981), and Rhodes and Bell (2004) disagree on the importance of proximity to a watercourse for site distribution, with Gaughwin stating that most sites will be located within 100m of a watercourse, while Rhodes and Bell (2004) state that there is no correlation between the location of sites and proximity to a watercourse. All agree, however, that given the archaeological sensitivity of the geographic region, no landform can be considered to not contain sites;
- There is some potential for Aboriginal burial sites to be present within the dunes in the geographical region, although they are most likely to occur in sandy deposits (Feldman & Long 2006). The acidic soils commonly associated with sand tend to degrade *in situ* skeletal remains and other organic remains (e.g. charcoal, faunal deposits);
- The Activity Area is located 500m southwest of Cardinia Creek and approximately 4km from the former Koo Wee Rup Swamp, both of which were rich resource bases for Aboriginal people and are known to be archaeologically sensitive;
- The distribution of registered Aboriginal Places within the geographic region is closely related to patterns of settlement and resource use by Aboriginal people over a long period of time. Most of the Aboriginal Places within the geographic region are associated with waterways and prior waterways. Documented routes of movement by Aboriginal people in this region indicate a strong reliance on movement along waterways towards Koo Wee Rup Swamp to the east and southeast; and
- The Activity Area is not considered to have been subject to significant ground disturbance as defined in the *Aboriginal Heritage Regulations 2007*. Conclusive evidence for significant ground disturbance in the Activity Area is limited to the construction of the sheds, the installation of the power transmission towers, the damming of the prior watercourse and the grading of vehicle tracks.

The site prediction model developed for the Activity Area suggests that it is likely that Aboriginal Places will occur within the Activity Area, particularly if there are areas of sandy well-drained soils and low rises. These landforms are less prone to flooding and are known to have been used as campsites by Aboriginal people in the past. The majority of archaeological sites are likely to be buried deposits of stone artefacts.

## **5.4 Conclusions from the Desktop Assessment**

The desktop assessment has shown that there is a high potential for Aboriginal Places to be located within the Activity Area. This is due to the access which would have been available to natural resources both within, and in proximity to, the Activity Area and the known potential for Aboriginal archaeological sites within the region. However, vegetation clearance and agricultural activities are likely to have resulted in some disturbance to, or destruction of, surface or shallow sub-surface sites.

While there is the potential for culturally sensitive landforms to exist within the Activity Area, and also for the Activity Area to have been significantly disturbed by past land use activities, these predictions cannot be confirmed by the desktop assessment alone. Further work in the form of standard (field survey) and complex (sub-surface testing) assessments are required to comprehensively assess the cultural sensitivity of the landforms and whether Aboriginal cultural heritage is present within the Activity Area.

## **6.0 Report on the Results of the Standard Assessment**

In accordance with Clause 8, Schedule 2 of the *Aboriginal Heritage Regulations 2007*, this section contains the results of the standard assessment (field survey).

### **6.1 Methodology for Standard Assessment**

A standard assessment is a surface archaeological survey. This may locate evidence of surface sites but will not necessarily find buried archaeological deposits. The methodology for the standard assessment is informed by the desktop assessment and the site prediction model.

The field survey was carried out by a team of four people over a four hour period. The ground surface of the entire Activity Area was inspected during the survey.

Surface survey was employed in order to:

- Identify any surface evidence of cultural heritage sites; and
- Identify areas of potential sensitivity for sub-surface deposits of Aboriginal cultural material.

The method of inspection involved the field team walking 10m apart along transects in each paddock as indicated in Map 5. It was necessary to vary the survey transects on occasion to avoid the shedding, power transmission towers, vegetation and dams.

Areas in which there was bare ground surface exposure were inspected closely. The general percentage (%) of ground surface visibility was recorded throughout the Activity Area. All evidence of prior ground disturbance was also recorded. All mature trees within the Activity Area were examined for the presence of scars. The Activity Area was also examined for the presence of caves, cave entrances or rock shelters. A range pole with increments of 200mm was included in all photographs.

If any surface archaeological sites were located during the assessment, the following would be undertaken:

- Complete a standard recording form;
- Photograph the general location of the surface site and cultural material; and
- Draw a plan of the site in relation to landmarks within the Activity Area and prominent man-made and local features.

A discussion of the results of the survey took place on-site with the field representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC) and the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC). A representative of the Boon Wurrung Foundation Ltd (BWFL) was unable to attend at the time of the standard assessment.

## **6.2 Results of Ground Survey**

### **6.2.1 Area Surveyed**

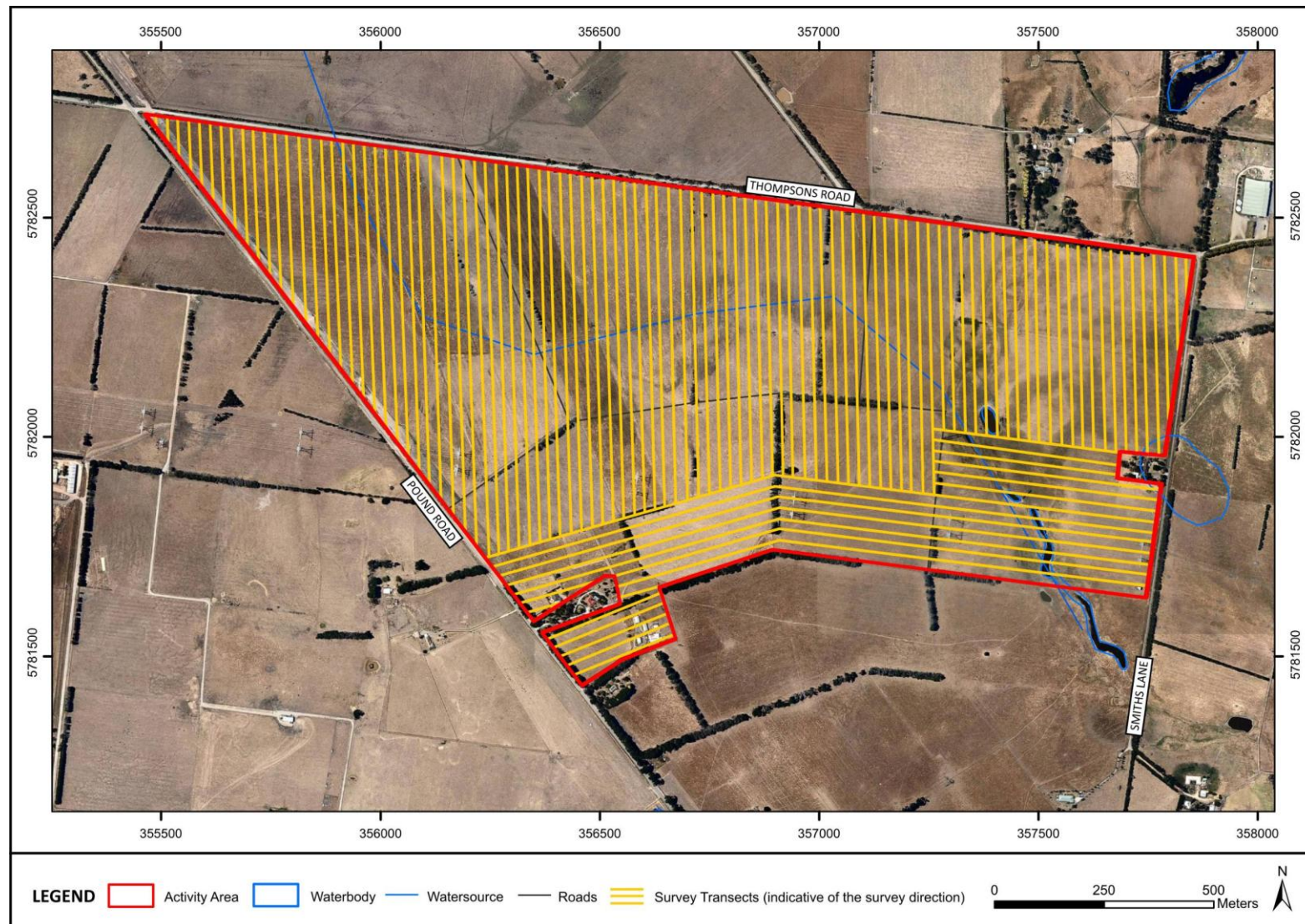
The field survey was conducted by John Young and Matthew Barker (Heritage Insight Pty Ltd), Stephen Compton (BLCAC) and Joe Armstrong from the (WTLCCHC) on March 25, 2011 as part of an initial due diligence assessment. The entire Activity Area was inspected by the field team (Map 5).

### **6.2.2 Ground Surface Visibility and Other Constraints on Field Survey**

Ground surface visibility across the entire Activity Area was poor due to the dense pasture grass which covered most of the property. In addition to this, the vehicle tracks, sheds and power transmission towers also obscured the ground surface. The average ground surface visibility was estimated to be less than 5% although visibility was higher around the dams (100%), at the farm gates (100%), on vehicle tracks (50-70%), around the base of trees (30-50%) and along fences (10-30%). The exposed surface soils of much of the Activity Area were a brown sandy loam. However, around the dams, the exposed surface soils were greyish brown sand. The sandy soils around the dams are likely to be associated with the prior watercourse that was located in this region. The effective survey coverage was estimated at <1%.

Low ground surface visibility was considered to be the only obstacle encountered during the field survey.





Map 5: Survey area and survey transects

### **6.2.3 Survey Results**

The topography of the Activity Area is characterised by a large, elevated landform (rise) that occupies the majority of the southern half of the Activity Area and a low-lying floodplain landform that occupies much of the northern half of the Activity Area (Table 7). These two landforms are bisected by the dams/prior watercourse in the eastern region of the Activity Area. The rise is terraced and comprises a sequence of areas of elevated flat ground and gentle declines (Table 7). The area occupied by the terraced rise is shown in Map 6. The low-lying floodplain has several discrete small rises located across its extent through the eastern and north-eastern regions of the Activity Area. The northern section of the prior watercourse, visible as a narrow channel, runs across the low-lying floodplain and intersects with the northern boundary of the Activity Area at the location of the wooden stockyards in Lot 2\PS300094 (Table 7).

The Activity Area is comprised of four parcels of land:

- Lot 3\PS300094 is approximately 39.6ha (396,000m<sup>2</sup>) - north-western region;
- Lot 2\PS300094 is approximately 39.9ha (399,000m<sup>2</sup>) - north-central region;
- Lot 2\PS433177 is approximately 48.7ha (487,000m<sup>2</sup>) - eastern region; and
- Lot 4\PS300094 is approximately 42.8ha (428,000m<sup>2</sup>) - south-western region.

There were no structures in Lot 3\PS300094. This parcel contained no remnant native vegetation and was characterised by a dense coverage of pasture grass and a number of pine trees. No Aboriginal Places were identified in Lot 3\PS300094.

There was a wooden stockyard in Lot 2\PS300094. This parcel contained remnant native vegetation (an old eucalypt). The eucalypt was examined for evidence of scarring but none was identified. Aside from the old eucalypt this parcel was characterised by a dense coverage of pasture grass and a number of pine trees. No Aboriginal Places were identified in Lot 2\PS300094.

There were power transmission towers in the southern region of Lot 2\PS433177. This parcel contained no remnant native vegetation and was characterised by a dense coverage of pasture grass and a number of pine trees. This parcel also contains three large dams (Table 7). The aerial photographs examined as part of the desktop assessment indicated that a prior watercourse was located in this parcel. It is likely that the dams are located along this prior watercourse, being a low point in the landscape. Three Aboriginal Places were identified in Lot 2\PS433177. All three were located within proximity of the dams/prior watercourse location.

A number of sheds and the continuation of the power transmission towers were located in Lot 4\PS300094. This parcel contained no remnant native vegetation and was characterised by a dense coverage of pasture grass, a number of pine trees, and vehicle tracks. No Aboriginal Places were identified in Lot 4\PS300094.

### **Ground Disturbance**

Localised ground disturbance is associated with the construction of the sheds in the southern part of Lot 4\PS300094. The installation of the power transmission towers would have caused localised significant ground disturbance at a number of locations across the rise. That said, the power transmission towers are located within an easement across Lot 3\PS300094, Lot 4\PS300094 and Lot 2\PS433177 and although lying within the Activity Area, will not be subject to residential subdivision. The extent of ground disturbance associated with the creation of the dams is not known. Stephen Compton (spokesperson for the BLCAC) stated that the area between the northern and central dams



appeared to have had soil removed. The construction of the vehicle tracks and the installation of fencing would also have resulted in localised ground disturbance (Table 7).

Although several activities were noted as having caused ground disturbance to parts of the Activity Area, these only resulted in localised levels of disturbance. No areas of significant ground disturbance were noted within the Activity Area.

**Table 7: Photographs from the standard assessment (Photos by M. Barker 25/03/2011) (cont. over page)**



**Plate 1: Example of vehicle tracks in the Activity Area**



**Plate 2: Example of a fence line in the Activity Area**



**Plate 3: Centre paddock of Lot 4\PS300094 on rise, facing north. Note lack of ground surface visibility**



**Plate 4: Rise overlooking floodplain near the northern extent of the rise, facing north**



**Plate 5: Example of elevated flat ground overlooking dams or prior watercourse, facing east**



**Plate 6: Channel of prior watercourse to the north of the northernmost dam, facing southeast**



**Plate 7: Northernmost dam, facing south**



**Plate 8: Southernmost dam, facing north**



**Plate 9: Example of exposed ground surface in the paddocks**



**Plate 10: Power transmission easement, facing west**



#### **6.2.4 Aboriginal Cultural Heritage Identified During the Standard Assessment**

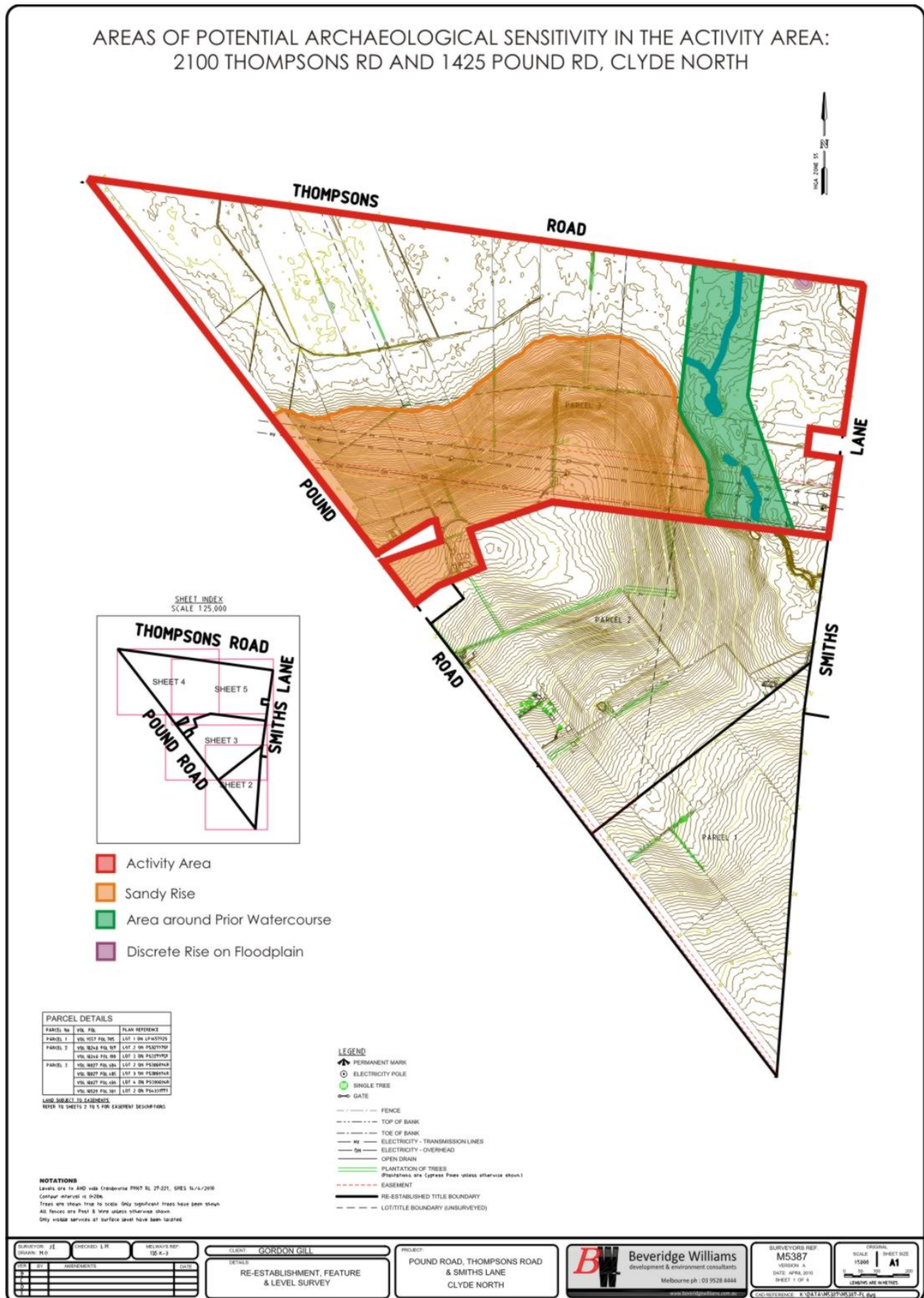
Three previously unrecorded surface artefact locations comprising two artefact scatters and an isolated artefact were recorded within the Activity Area during the field survey (VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1)). The two artefact scatter locations were on soils eroding out of the banks of the dams and one artefact was to the northwest of the dams (see Section 7.2, Map 9). These locations place them in direct association with the prior watercourse. The surface artefacts are discussed further in Section 8.

#### **6.3 Areas of Potential Archaeological Sensitivity**

Three locations within the Activity Area were identified as areas of potential archaeological sensitivity (PAS) (Map 6).

- The rise in the south-western region is terraced and comprises a sequence of elevated flat ground and gentle declines. This rise overlooks the location of the prior watercourse, now the location of the dams. Stephen Compton (spokesperson for the BLCAC) stated that whilst the entire rise must be considered to be a PAS, it is more likely that sub-surface Aboriginal Places would be located within the areas of elevated flat ground;
- The series of dams along the southern section of the prior watercourse are considered to be a PAS for sub-surface artefact deposits as this area has already confirmed the presence of surface artefacts (Sections 6.2.4 and 8) and is quite likely to also contain sub-surface artefact deposits as well. The extent of ground disturbance associated with the creation of the dams is not known. Stephen Compton (spokesperson for the BLCAC) stated that the area between the northern and central dams appeared to have had soil removed; and
- A number of discrete sandy rises are located across the floodplain regions of the Activity Area. The discrete rises are also identified as PAS as sandy rises have a well-documented association with Aboriginal Places. It is considered unlikely that the balance of the low-lying floodplain will contain Aboriginal Places.





Map 6: Areas of potential archaeological sensitivity (PAS) identified during the field survey

## **6.4 Conclusions from the Ground Survey**

Three artefact locations comprising two surface artefact scatters and an isolated surface artefact (VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1)) were identified during the field survey for the standard assessment. In addition to this, three areas of potential archaeological sensitivity were identified (Section 6.3).

No caves, cave entrances, rock shelters or scarred trees were identified during the field survey. The Aboriginal cultural material identified during the field survey was located in association with the dams where ground surface visibility was 100%. The lack of evidence of Aboriginal Places in other locations of the Activity Area is more likely to be due to the poor ground surface visibility characterising the balance of the Activity Area rather than an absence of Aboriginal Places.

Ground disturbance within the Activity Area appears to have been limited to the construction of the sheds, power transmission towers, dams, vehicle tracks and fences. It is noted, however, that the Activity Area is a farming property and as such can be reasonably expected to have been subject to a degree of ground disturbance as a result of agricultural pursuits, i.e. ploughing and grazing. In addition to this, the Activity Area is almost devoid of native vegetation, the removal of which would also have caused ground disturbance, though to what extent is unclear.

Previous archaeological research has demonstrated that Aboriginal archaeological sites are likely to be located on sandy, well-drained topographically higher ground. There is some disagreement about the influence of proximity to water on the distribution of Aboriginal Places with Gaughwin (1981) stating that Aboriginal Places will be located within 100m of a watercourse whilst Rhodes and Bell (2004) and state that low rises are the most archaeologically sensitive landforms, even those located some distance from a watercourse. However, given the high sensitivity for Aboriginal sites, no landform can be considered as having no potential for sites.

The Activity Area contains the landforms identified in previous archaeological research as being archaeologically sensitive. Much of the southern half of the Activity Area is an area of sandy, well-drained topographically higher ground. It is also located in close proximity to a prior watercourse. In addition to this, the area around the prior watercourse has been demonstrated to be archaeologically sensitive as Aboriginal cultural material in the form of stone artefacts was located along its banks. Rhodes and Bell (2004) state that low rises are the most archaeologically sensitive landform. In the area designated the low-lying floodplain landform, there are a number of discrete low rises which may also contain Aboriginal Places.

The standard assessment has therefore confirmed the results of the site prediction model.

It was not possible to conclusively assess the archaeological sensitivity of the Activity Area by a surface survey owing to low ground surface visibility. However, it is apparent that the Activity Area has not been subject to significant ground disturbance as defined in the *Aboriginal Heritage Regulations 2007*. It was thus considered necessary that the Activity Area be investigated by means of a complex assessment. The complex assessment focussed on the areas of archaeological sensitivity identified during the standard assessment but also tested the areas considered to be of low archaeological sensitivity, i.e. the floodplain, to sufficiently test the archaeological site prediction model.

## **7.0 Report on the Results of the Complex Assessment**

In accordance with Clause 8, Schedule 2 and Clause 9, Schedule 2 of the *Aboriginal Heritage Regulations 2007*, this section contains the results of the complex assessment.

### **7.1 Aims of the sub-surface testing/excavation**

Due to the low ground surface visibility which characterised the majority of the Activity Area, it was not possible to assess the archaeological sensitivity of the Activity Area by surface survey (Section 6.2.2). It was therefore considered necessary that the areas of potential archaeological sensitivity identified during the standard assessment be investigated by means of a complex assessment.

#### **Phase One**

Owing to the large size of the Activity Area it was agreed with Campbell Property Developments Pty Ltd that an initial preliminary complex assessment (Phase One) would be the most appropriate manner by which to assess these areas of archaeological sensitivity. It was agreed that a backhoe would be used to excavate 2x0.6m transects on the floodplain as it was considered unlikely that Aboriginal cultural heritage would be located in this part of the Activity Area. It was further agreed that hand excavation of a sample of the landforms identified as being of potential archaeological sensitivity would be undertaken to establish if Aboriginal Places are located in these areas. The overall aim of the preliminary complex assessment was to refine the size of the area which would need to be subject to a more in-depth sub-surface testing program and to determine if the proposed activity is likely to harm Aboriginal cultural heritage.

#### **Phase Two**

The results of Phase One of the complex assessment identified that the rise and the eastern region of the Activity Area would require further sub-surface testing as five sub-surface artefact scatter locations were identified in this area. A program of further testing was undertaken (Phase Two) to specifically investigate the artefact sites found during Phase One and to sample the landform in the eastern region in a more systematic and detailed fashion. A 100m grid was placed over the eastern region of the Activity Area. As there are a number of discrete rises present across the eastern paddocks, grid points that fell on or near these rises were then targeted for backhoe testing. Grid points located near to rises were adjusted in order to test the higher sensitivity of the rise rather than the floodplain. Backhoe transects during this phase were labelled using their grid reference number.

### **7.2 Methodology for Complex Assessment**

Phase One of the complex assessment was carried out by John Young, Matthew Barker, Lauren Prossor and Susan Pfeffer (Heritage Insight Pty Ltd), Iris (Izzy) Pepper (BLCAC) and Trevor Downe, Kerrie Xibberas and Craig Terrick (WTLCHC). Phase One sub-surface testing was undertaken over ten days, September 5 – 16, 2011. A representative of the Boon Wurrung Foundation Ltd (BWFL) was unable to attend during Phase One sub-surface testing for the complex assessment.

Phase Two of the complex assessment was carried out by David Rhodes, Kathleen Hislop, Luke Falvey, Paul Freestone and Samantha Brown (Heritage Insight Pty Ltd) with the assistance of Iris (Izzy) Pepper, Wayne Pepper and Sean Kelly (BLCAC), Gary Watkins, Jaeden Williams, Wenzel Carter and Michael Williams (BWFL), and Craig Terrick, Michael (Willy) Xibberas and Gary Galway (WTLCHC). Phase Two sub-surface testing was undertaken over six days, January 21 – 30, 2013.

### **Excavation of Test Pits**

As required by the *Aboriginal Heritage Regulations 2007*, test pits (TP) were first excavated on each landform within the Activity Area to determine the soil stratigraphy in each location and to explore the possibility of Aboriginal cultural heritage existing within a sub-surface context. Test pits either 1m<sup>2</sup> or 500mm<sup>2</sup> were also placed at locations identified as having a high potential for archaeological sensitivity. Test pits were only excavated during Phase One. The following methodology was applied to the test pits.

Initially, the grass was stripped off the surface of the test pit to a depth of 50mm. Excavation was undertaken by hand in units of 100mm depth (spits) in order to provide a good profile of the horizontal and vertical distribution of any cultural remains identified through the different soil layers. This process continued until the presence of a sterile basal layer was established. Levels were taken on the surface and at the base of each spit with an automatic level (dumpy). A surface plan and plans of the base of each spit were made during the excavation. A soil section was drawn of a wall of each test pit once excavation was completed. A photographic record of the surface, the base of each spit, and of the soil section was made. A range pole with increments of 200mm was included in all photographs. Soil descriptions and other natural and cultural features were recorded on standard excavation forms. Soil descriptions were based on the Australian Soil Classifications and the standard Munsell Soil Chart. Soil pH levels were taken at the surface and base of each spit using a standard garden variety test kit.

All of the soil from the test pits was passed through a sieve with a 5mm mesh. In the event that any cultural material was recovered, the procedure was to place the artefacts in bags with labels identifying the context of the artefacts, and that, by agreement with the Aboriginal community representatives, any artefacts recovered from the excavation were to be retained for later analysis at the office of Heritage Insight Pty Ltd.

Coordinates for the location of each test pit were recorded using a differential GPS and backfilling took place in order to comply with OH&S requirements. Artefacts were identified in five of the test pits (TP2, 3, 4, 5 and 7). No other *in situ* features requiring hand excavation were located in the test pits.

The location of the test pits is shown in Map 7.

### **Excavation of Backhoe Transects**

Twelve backhoe transects (BHTs) were excavated during Phase One of the complex assessment. These transects were placed across the floodplain landform as this area was considered to be of low cultural sensitivity (Map 7). Fifteen BHTs were excavated at grid locations through the eastern region of the Activity Area during Phase Two of the complex assessment in order to further test the floodplain and discrete rises at this location (Map 9). Backhoe transects were excavated during Phase Two as the soils were too dry and hard for safe hand excavation to be undertaken.

Soil sections were drawn of a wall of each BHT once excavation was completed. A photographic record of the surface, the base, and of the soil section was made. A range pole with increments of 200mm was included in all photographs from Phase One and with increments of 300mm from Phase Two. Soil descriptions and other natural and cultural features were recorded on standard excavation forms. Soil descriptions were based on the Australian Soil Classifications and the standard Munsell Soil Chart. Soil pH levels were taken at the surface and base of each spit using a standard garden variety test kit.

All of the soil from the BHTs was passed through a hand (Phase One) or mechanical (Phase Two) sieve with a 5mm mesh. In the event that any cultural material was recovered, the procedure was to place the artefacts in bags with labels identifying the context of the artefacts, and that, by agreement with the Aboriginal community representatives, any artefacts recovered from the excavation were to be retained for later analysis at the office of Heritage Insight Pty Ltd.



As the excavation of the BHTs was carried out in spits, the soil from each spit was sieved separately in order to assess both the vertical and horizontal distribution of any cultural materials within the soil profile.

Coordinates for the location of the BHTs were recorded using a differential GPS and backfilling took place in order to comply with OH&S requirements. No *in situ* features requiring hand excavation were located in the BHTs.

The locations of the BHTs can be found in Maps 7 and 9.

### **Excavation of Radial Probes**

#### **Shovel Test Probes**

Shovel test probes (STPs) were excavated in order to further assess the likelihood of Aboriginal cultural material being located within the Activity Area, and to provide a more extensive sample of the surface and sub-surface soils (Maps 7 - 19). The STPs were approximately 400mm<sup>2</sup> in size and were dug using a standard shovel. The shovel test probes were excavated along two transects (STP Transect 1 and 2) and as radials around test pit and backhoe transect artefact locations.

Initially the grass and surface soil was stripped off each hole to a depth of approximately 50mm. Soil within the STPs was then excavated in spit depths of approximately 100mm until the basal layer was reached. Soil sections were drawn of a wall of each STP once excavation was completed. A photographic record of the surface, the base, and of the soil section was made. A range pole with increments of 200mm was included in all photographs from Phase One and with increments of 300mm from Phase Two. Soil descriptions and other natural and cultural features were recorded on standard excavation forms. Soil descriptions were based on the Australian Soil Classifications and the standard Munsell Soil Chart. Soil pH levels were taken at the surface and base of each spit using a standard garden variety test kit.

All of the soil from the STPs was passed through a sieve with a 5mm mesh. In the event that any cultural material was recovered, the procedure was to place the artefacts in bags with labels identifying the context of the artefacts, and that, by agreement with the Aboriginal community representatives, any artefacts recovered from the excavation were to be retained for later analysis at the office of Heritage Insight Pty Ltd.

As the excavation of the STPs was carried out in spits, the soil from each spit was sieved separately in order to assess both the vertical and horizontal distribution of any cultural materials within the soil profile.

Coordinates for the location of the STPs were recorded using a differential GPS and backfilling took place in order to comply with OH&S requirements. No *in situ* features requiring hand excavation were located in the shovel test probes.

The locations of the STPs can be found in Maps 7 - 19.

#### **Backhoe Test Probes**

It was evident during the excavation of the shovel test probes during Phase Two that the soils were too dry and hard to be safely excavated by hand. The initial methodology was altered to excavate the remainder of the shovel test probe locations in hard or deep soils with small backhoe probes. This was undertaken to comply with OH&S requirements regarding safe excavation in hard soils and excavation at depth. The probe holes were excavated using a 600mm mud bucket and were 1-1.5m in length.



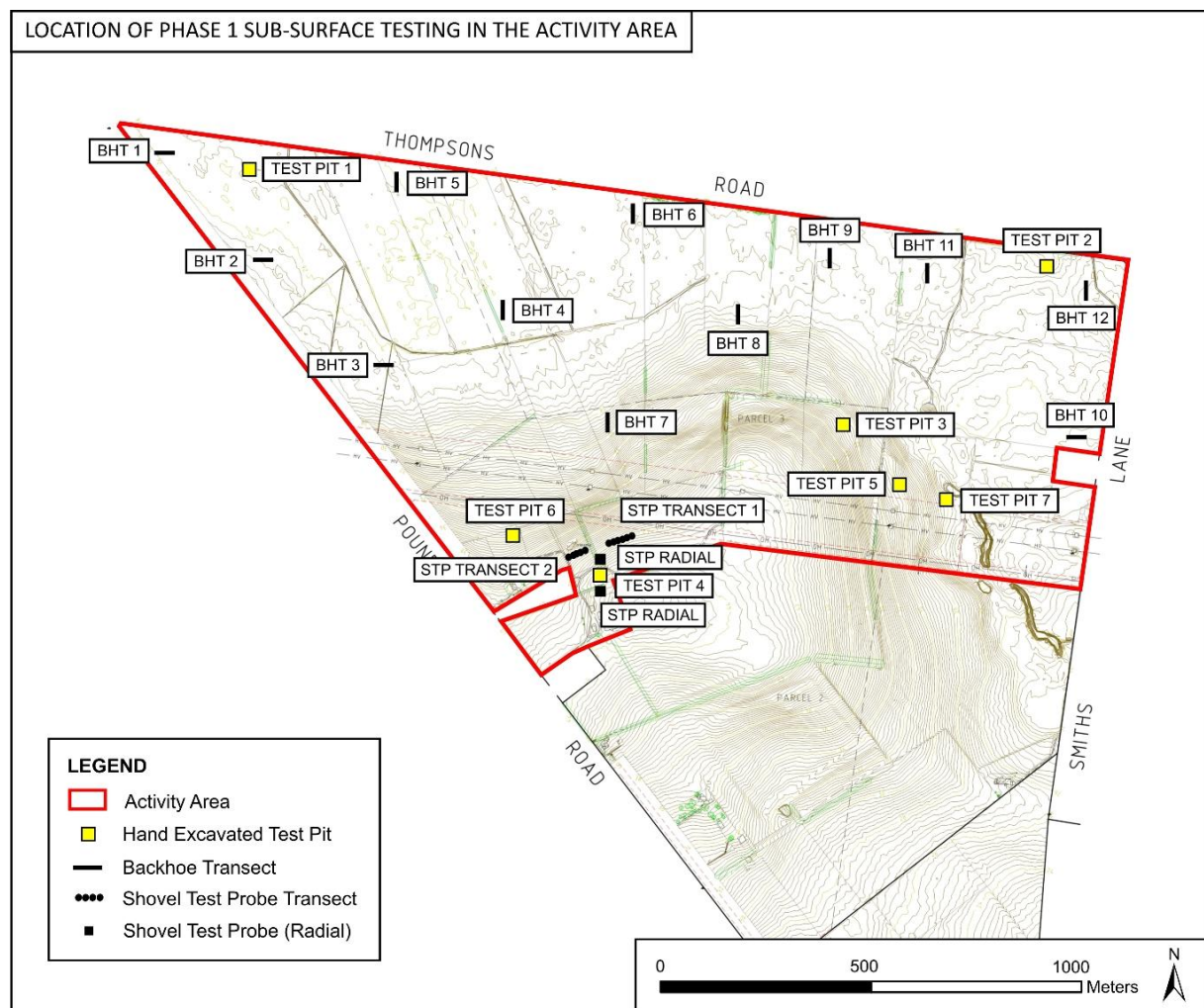
Soil sections were drawn of a wall of each probe once excavation was completed. A photographic record of the surface, the base, and of the soil section was made. A range pole with increments of 300mm was included in all photographs (Phase Two only). Soil descriptions and other natural and cultural features were recorded on standard excavation forms. Soil descriptions were based on the Australian Soil Classifications and the standard Munsell Soil Chart. Soil pH levels were taken at the surface and base of each spit using a standard garden variety test kit.

All of the soil from the probes was passed through a mechanical sieve with a 5mm mesh. In the event that any cultural material was recovered, the procedure was to place the artefacts in bags with labels identifying the context of the artefacts, and that, by agreement with the Aboriginal community representatives, any artefacts recovered from the excavation were to be retained for later analysis at the office of Heritage Insight Pty Ltd.

As the excavation of the probes was carried out in spits, the soil from each spit was sieved separately in order to assess both the vertical and horizontal distribution of any cultural materials within the soil profile.

Coordinates for the location of the probes were recorded using a differential GPS and backfilling took place in order to comply with OH&S requirements. No *in situ* features requiring hand excavation were located in the probes.

The locations of the probes can be found in Maps 7 - 19.

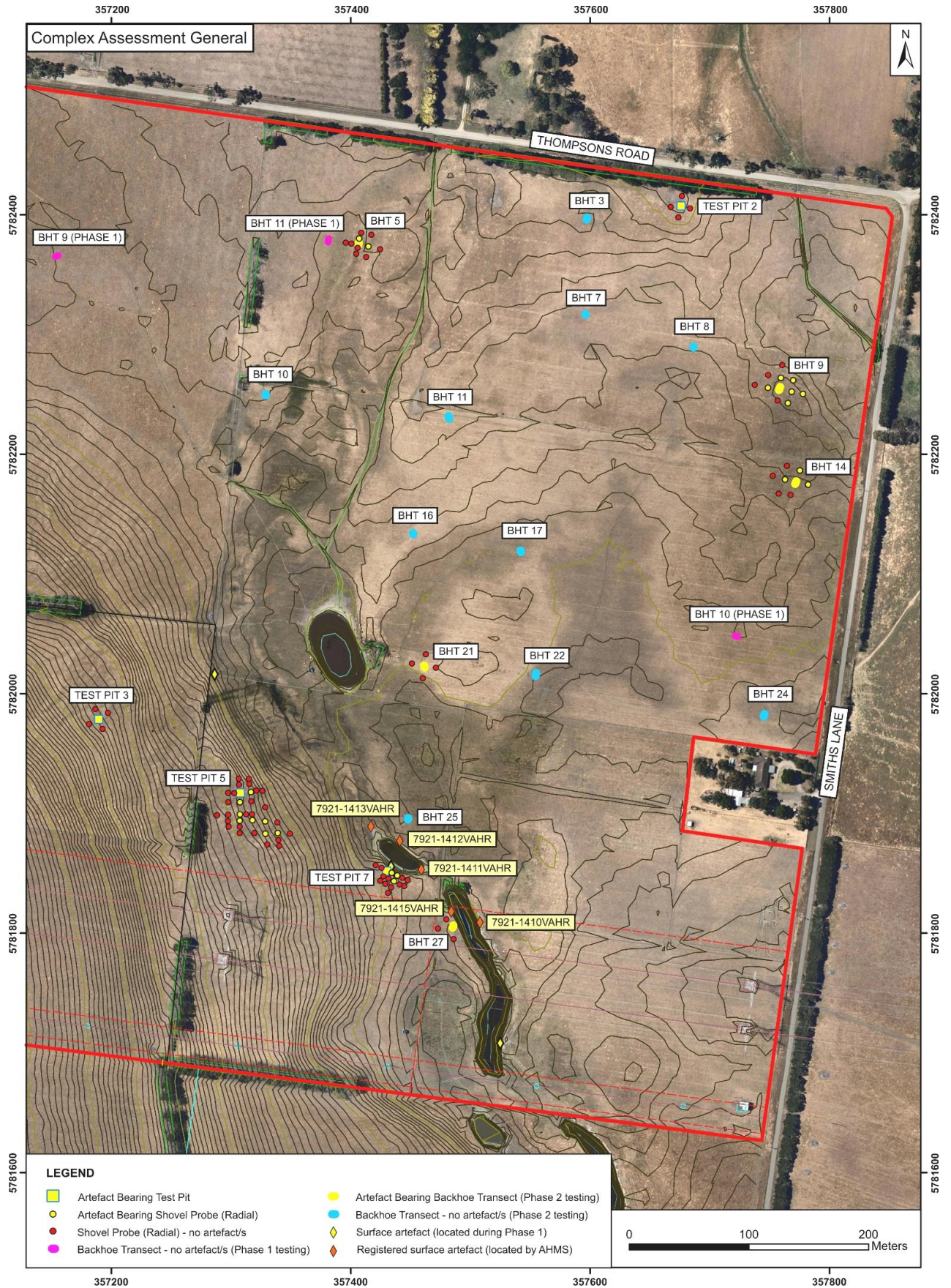


Map 7: Location of sub-surface testing for Phase One



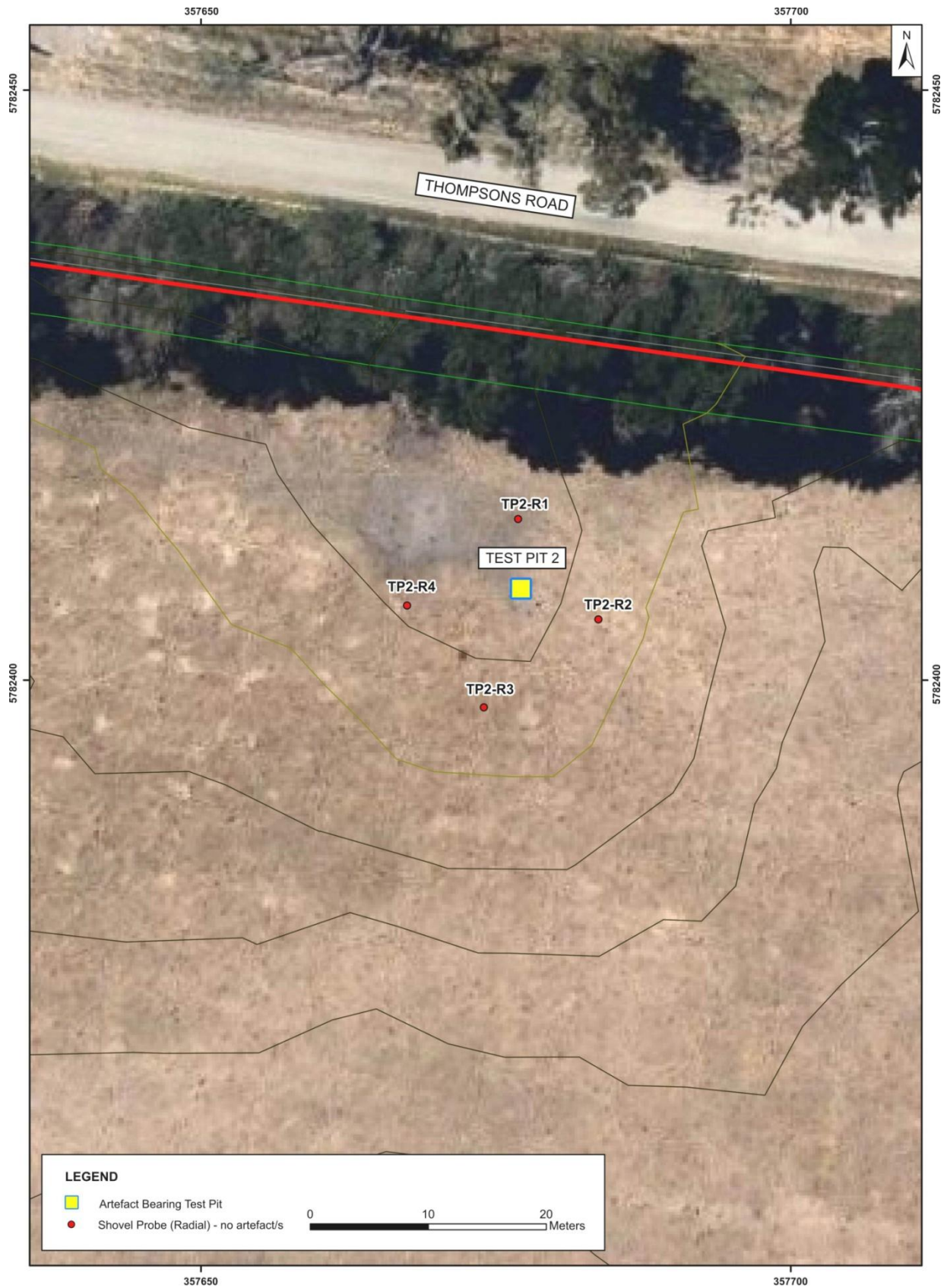
**Map 8: Close up of Phase One sub-surface testing around TP4**



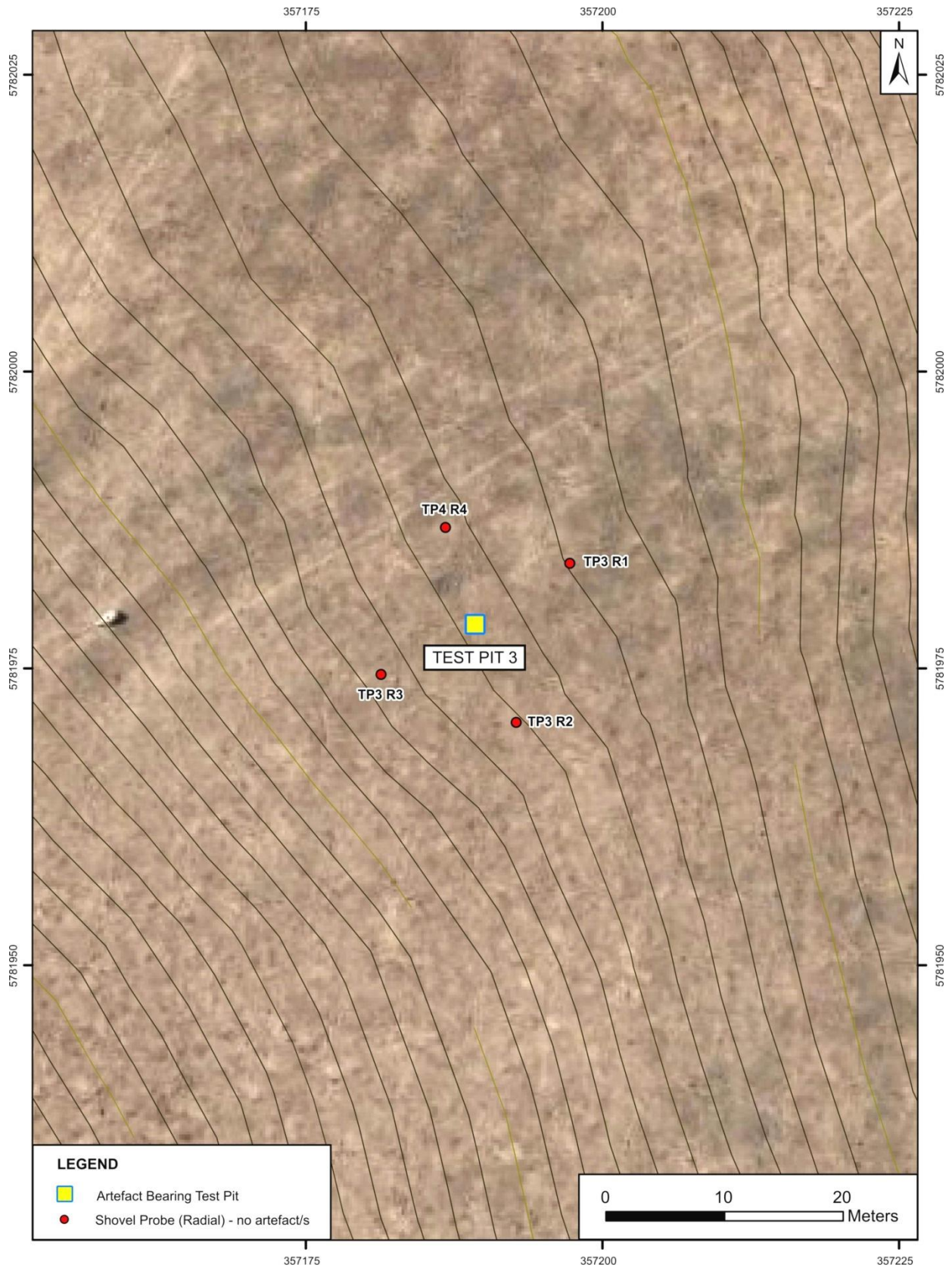


**Map 9: Location of sub-surface testing for Phase Two (Index Map)**



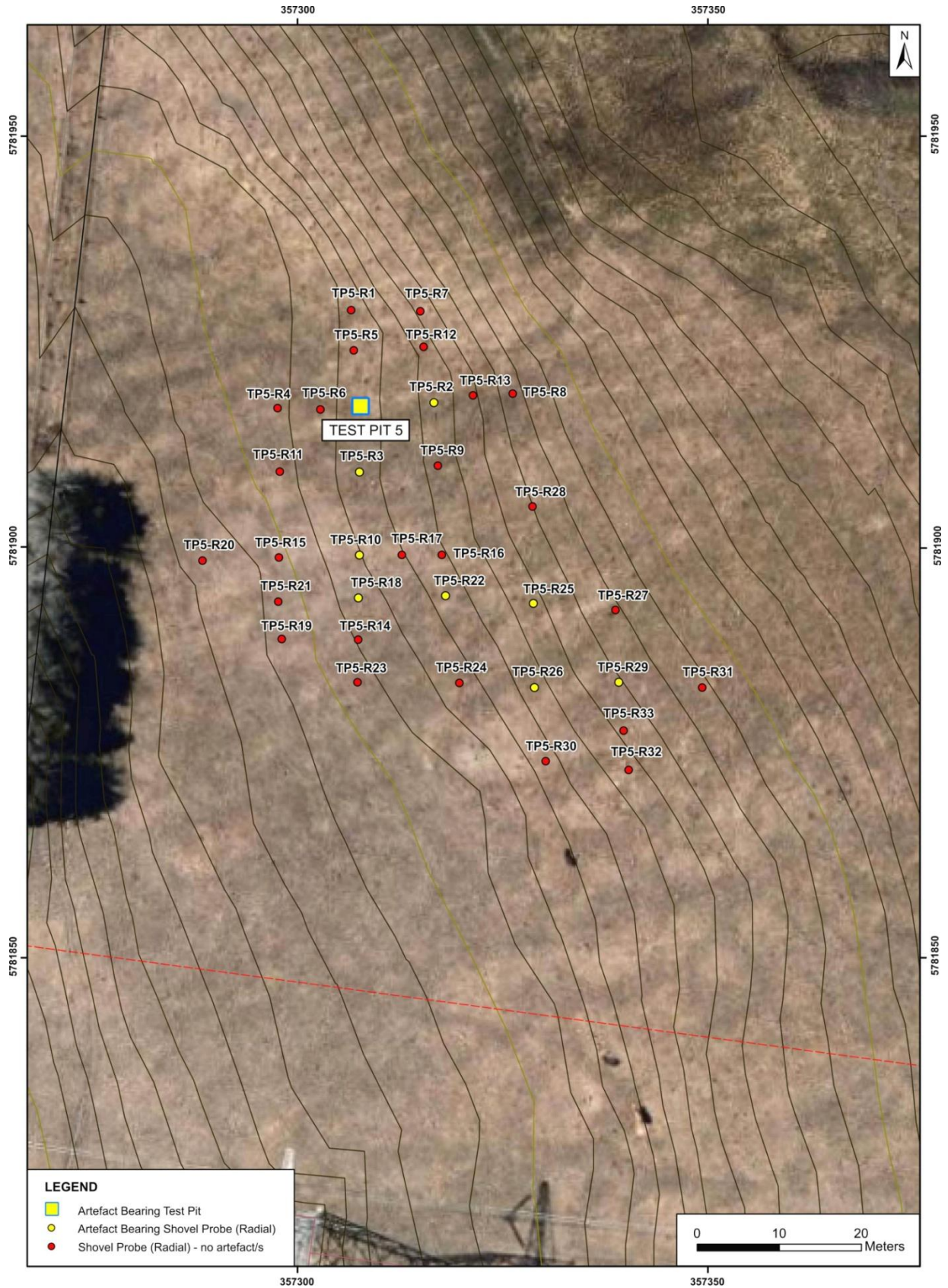


**Map 10: Close up of Phase Two sub-surface testing around TP2**



**Map 11: Close up of Phase 2 sub-surface testing around TP3**



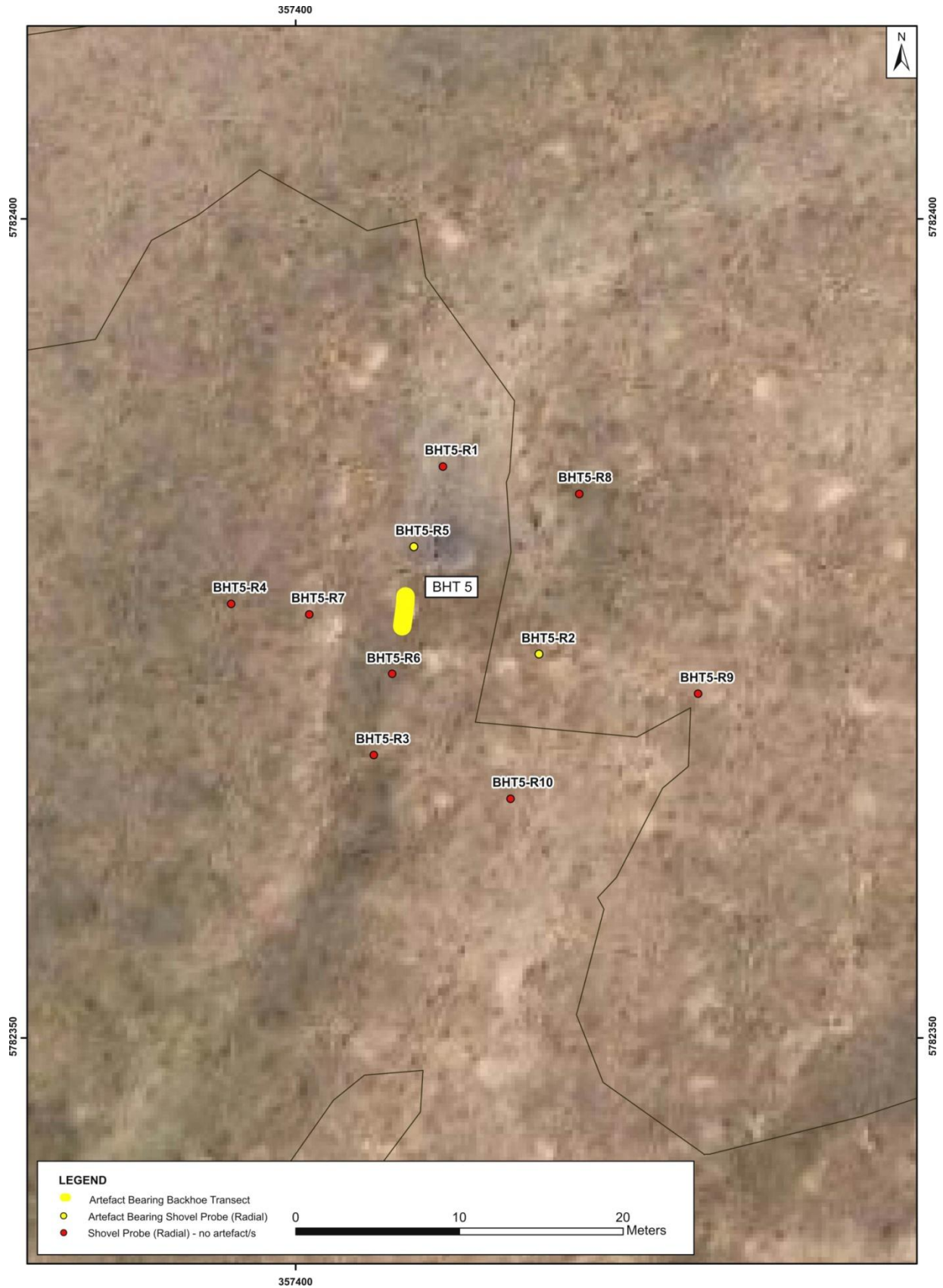


**Map 12: Close up of Phase Two sub-surface testing around TP5**



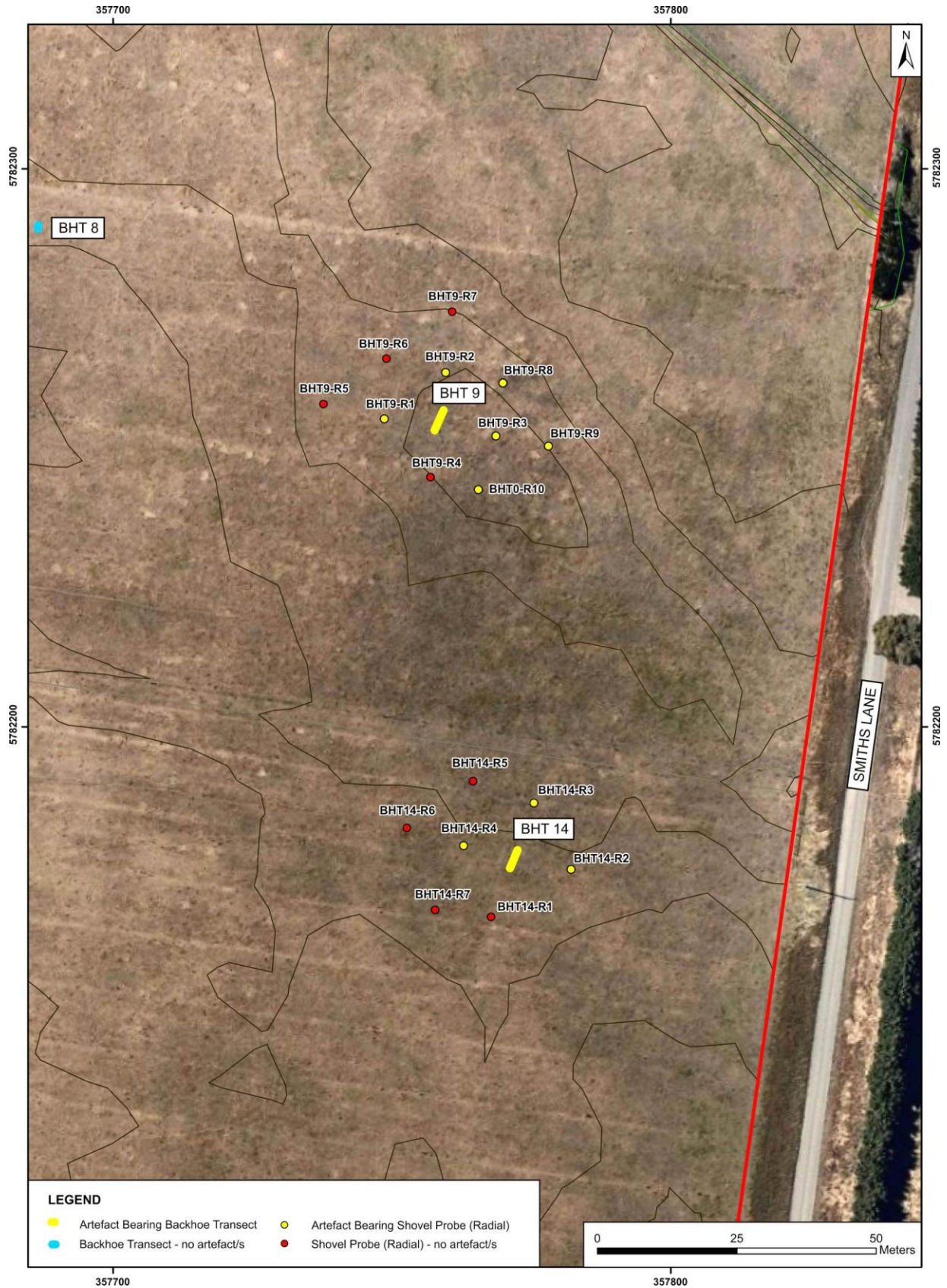


**Map 13: Close up of Phase Two sub-surface testing around TP7**



Map 14: Close up of Phase Two sub-surface testing around BHT5





Map 15: Close up of Phase Two sub-surface testing around BHT9 and BHT14





**Map 16: Close up of Phase Two sub-surface testing around BHT21**





**Map 17: Close up of Phase Two sub-surface testing around BHT27**

## **7.3 Results of the Complex Assessment**

### **7.3.1 Phase 1 Sub-surface Testing**

Phase One of the complex assessment involved the hand excavation of five 1x1m test pits, two 500x500mm test pits, thirteen 400x400mm shovel test probes (two transects and two radials probes) and the mechanical excavation of twelve 2x0.6m backhoe transects. The location of the test pits, shovel test probes and backhoe transects is shown in Map 7.

#### **7.3.1.1 Excavation of Test Pits**

The excavation of the test pits focused on the areas identified as being of potential archaeological sensitivity during the standard assessment:

- The floodplain (Test Pit 1);
- The large sandy rise (Test Pit 4, Test Pit 6);
- The terraces on the sandy rise (Test Pit 3 and Test Pit 5);
- The prior watercourse (Test Pit 7); and
- The discrete rises on the floodplain (Test Pit 2).

#### **Test Pit 1**

Test Pit 1 (TP1) measured 500x500mm and was excavated on the floodplain in the north-western corner of the Activity Area (Map 7). Soils were loams and clays with no stone inclusions present. The basal clay was identified at 360mm. No Aboriginal cultural heritage was identified during the excavation of TP1. Summary data for TP1 is contained in Table 8.

#### **Test Pit 2**

Test Pit 2 (TP2) measured 1x1m and was excavated on a sandy rise on the floodplain in the north-eastern corner of the Activity Area (Map 7). The soils comprised a silty loam topsoil overlying sandy silts and clays. The basal clay was identified at 720mm. Five stone artefacts, all silcrete, were located at a depth of 400mm during the excavation of TP2 (Section 8). Summary data for TP2 is contained in Table 9.

#### **Test Pit 3**

Test Pit 3 (TP3) measured 1x1m and was excavated on a terrace of the large sandy rise overlooking the prior watercourse in the approximate centre of the Activity Area (Map 7). The soils comprised sandy clay and clay. The basal clay was identified at 460mm. Five stone artefacts (four silcrete and one quartz) were located at a depth of 300mm - 400mm during the excavation of TP3 (Section 8). Summary data for TP3 is contained in Table 10.

#### **Test Pit 4**

Test Pit 4 (TP4) measured 1x1m and was excavated on the crest of the large sandy rise near to the shedding in the south-western corner of the Activity Area (Map 7). The soils comprised silty loam and clay. The basal clay was identified at 250mm. A single silcrete stone artefact was located at a depth of 130mm during the excavation of TP4 (Section 8). Summary data for TP4 is contained in Table 11.

#### **Test Pit 5**

Test Pit 5 (TP5) measured 1x1m and was excavated on a terrace of the large sandy rise overlooking the prior watercourse in the eastern half of the Activity Area (Map 7). The soils comprised loams and clays. The basal clay was identified at 450mm. Eleven stone artefacts (eight silcrete and three quartz) were located at a depth of 230mm - 450mm during the excavation of TP5 (Section 8). Summary data for TP5 is contained in Table 12.

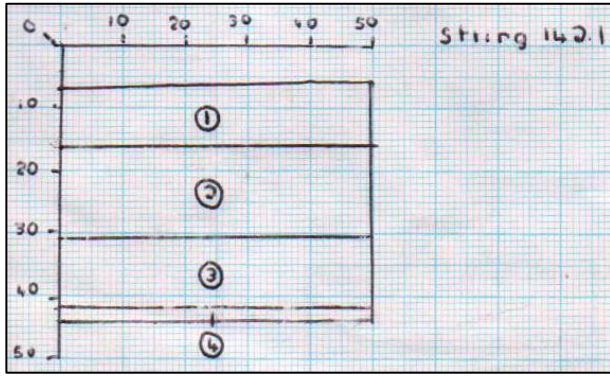
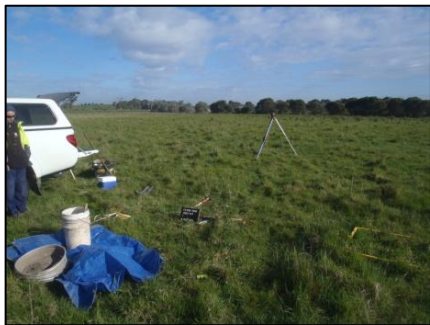

#### **Test Pit 6**

Test Pit 6 (TP6) measured 500x500mm and was excavated on the mid-slope of the large sandy rise to the north of the houses, near to the western boundary of the Activity Area (Map 7). The soils comprised loams and clays. The basal clay was identified at 370mm. No Aboriginal cultural heritage was located during the excavation of TP6 (Section 8). Summary data for TP6 is contained in Table 13.

#### **Test Pit 7**

Test Pit 7 (TP7) measured 1x1m and was excavated on the bank of the prior watercourse (Map 7). The soils comprised sands and clay. The basal clay was identified at a variable depth between 470mm and 510mm. Twelve stone silcrete artefacts were located at a depth of between 200mm - 500mm during the excavation of TP7 (Section 8). Summary data for TP7 is contained in Table 14.

**Table 8: Summary excavation data from Test Pit 1**

TEST PIT 1			
Dimensions	500x500mm		
GDA 94 Coordinates	355764.858E 5782637.154N (Zone 55)	Site Datum	100m (arbitrary)
Depth of Excavation	380mm		
Vertical Artefact Distribution	None		
Evidence of Disturbance	None		
STRATIGRAPHY			
Soil Context	Depth (from surface)	Description	
Context 1	0 - 110mm	Light brown (10YR 2/2) loam. No stone in context.	
Context 2	110 - 260mm	Dark greyish brown (10YR 4/2) clay loam. No stone in context.	
Context 3	260 - 360mm	Mottled very dark grey (10YR 3/1) clay with brownish yellow (10YR 6/8) inclusions. No stone in context.	
Context 4	360 - 380mm	Mottled brownish yellow (10YR 6/8) clay with very dark grey (10YR 3/1) clay inclusions. No stone in context.	
Section Drawing (North Wall)			
EXCAVATION PHOTOGRAPHY			
Test Pit 1 - stratigraphic profile and general location  (Photo by J. Young 08/09/2011)	<div></div>		



**Table 9: Summary excavation data from Test Pit 2**

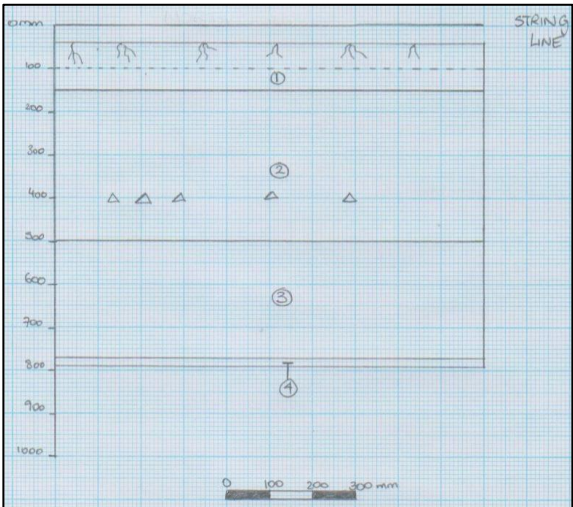


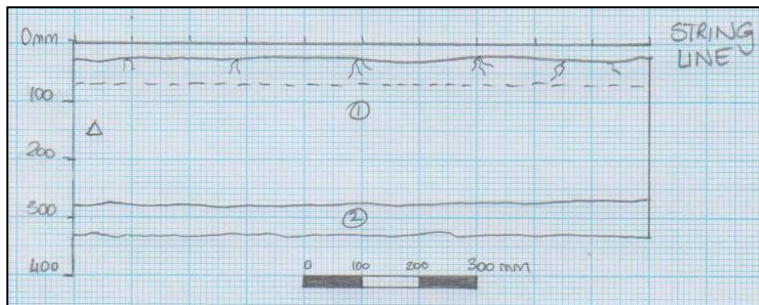


TEST PIT 2			
Dimensions	1x1m		
GDA 94 Coordinates	357677.150E 5782408.092N (Zone 55)	Site Datum	100m (arbitrary)
Depth of Excavation	740mm		
Vertical Artefact Distribution	350-400mm (5 silcrete)		
Evidence of Disturbance	None		
STRATIGRAPHY			
Soil Context	Depth (from surface)	Description	
Context 1	0 - 100mm	Light brown (10YR 2/2) silty loam. No stone in context.	
Context 2	100 - 450mm	Dark greyish brown (10YR 4/2) sandy silt. No stone in context.	
Context 3	450 - 720mm	Mottled dark grey (10YR 4/1) clayey sandy with brownish yellow (10YR 6/8) inclusions. No stone in context.	
Context 4	720 - 740mm	Mottled brownish yellow (10YR 6/8) sandy clay with dark grey (10YR 4/1) clay inclusions. No stone in context.	
Section Drawing (North Wall)			
EXCAVATION PHOTOGRAPHY			
Test Pit 2 - stratigraphic profile and general location  (Photo by J. Young 05/09/2011)	<div></div>		

Table 10: Summary excavation data from Test Pit 3

TEST PIT 3			
Dimensions	1x1m		
GDA 94 Coordinates	357188.914E 5781978.493N (Zone 55)	Site Datum	100m (arbitrary)
Depth of Excavation	550mm		
Vertical Artefact Distribution	300-400mm (4 silcrete, 1 quartz)		
Evidence of Disturbance	Possibly. No stratified soil deposit evident between surface and clay		
STRATIGRAPHY			
Soil Context	Depth (from surface)	Description	
Context 1	0 - 460mm	Dark grey (5YR 4/1) sandy clay.	
Context 2	460-550mm	Dark yellowish brown (10 YR 4/4) sticky clay.	
Section Drawing (North Wall)			
EXCAVATION PHOTOGRAPHY			
Test Pit 3 - base of Spit 3 (start of artefact zone) and general location  (Photo by J. Young 12/09/2011)			

**Table 11: Summary excavation data from Test Pit 4**

TEST PIT 4			
Dimensions	1x1m		
GDA 94 Coordinates	356616.187E 5781653.756N (Zone 55)	Site Datum	100m (arbitrary)
Depth of Excavation	300mm		
Vertical Artefact Distribution	130mm (1 silcrete)		
Evidence of Disturbance	Clay inclusions in Context 1		
STRATIGRAPHY			
Soil Context	Depth (from surface)	Description	
Context 1	0 - 250mm	Dark brown (10YR 3/3) silty loam with a very low sand content. Clay inclusions on the north and western sides of the Test Pit.	
Context 2	250 - 300mm	Dark yellowish brown (10YR 3/4) clay with sandstone gravel and ironstone inclusions.	
Section Drawing (North Wall)			
EXCAVATION PHOTOGRAPHY			
Test Pit 4 - stratigraphic profile and general location  (Photo by J. Young 13/09/2011)	<div></div>		



**Table 12: Summary excavation data from Test Pit 5**

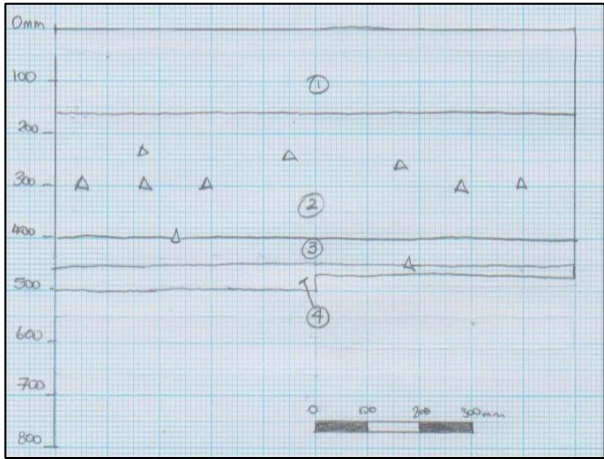

TEST PIT 5			
Dimensions	1x1m		
GDA 94 Coordinates	357307.785E 5781917.136N (Zone 55)	Site Datum	100m (arbitrary)
Depth of Excavation	500mm		
Vertical Artefact Distribution	230-450mm (8 silcrete, 3 quartz)		
Evidence of Disturbance	None		
STRATIGRAPHY			
Soil Context	Depth (from surface)	Description	
Context 1	0 - 160mm	Brown (10YR 4/3) loam. No stone in context.	
Context 2	160 - 400mm	Greyish brown (10YR 5/2) clay loam.	
Context 3	400 - 450mm	Mottled very dark grey (10YR 3/1) clay with brownish yellow (10YR 6/8) inclusions.	
Context 4	450 - 500mm	Mottled brownish yellow (10YR 6/8) clay with very dark grey (10YR 3/1) clay inclusions.	
Section Drawing (North Wall)			
EXCAVATION PHOTOGRAPHY			
Test Pit 5 - stratigraphic profile and general location  (Photo by J. Young 14/09/2011)			



Table 13: Summary excavation data from Test Pit 6

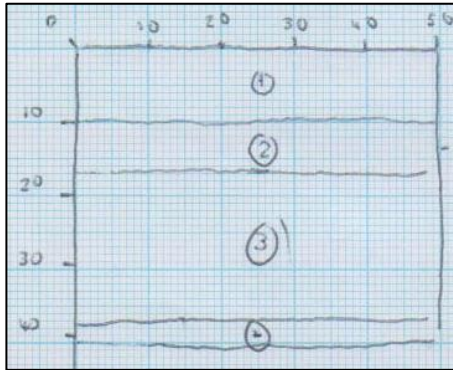

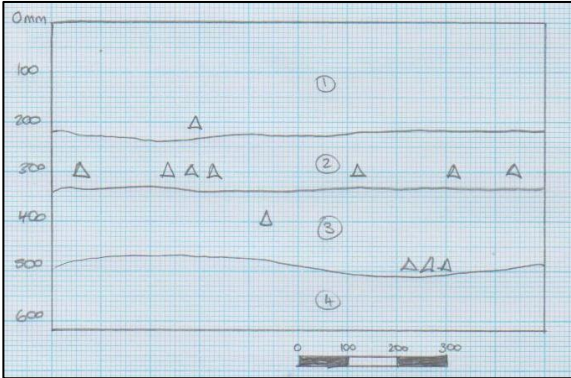

TEST PIT 6			
Dimensions	500x500mm		
GDA 94 Coordinates	356405.076E 5781753.588N (Zone 55)	Site Datum	100m (arbitrary)
Depth of Excavation	400mm		
Vertical Artefact Distribution	None		
Evidence of Disturbance	None		
STRATIGRAPHY			
Soil Context	Depth (from surface)	Description	
Context 1	0 - 100mm	Brown (10YR 4/3) loam. No stone in context.	
Context 2	100 - 170mm	Greyish brown (10YR 5/2) clay loam.	
Context 3	170 - 370mm	Mottled very dark grey (10YR 3/1) clay with brownish yellow (10YR 6/8) inclusions.	
Context 4	370 - 400mm	Mottled brownish yellow (10YR 6/8) clay with very dark grey (10YR 3/1) clay inclusions.	
Section Drawing (North Wall)			
EXCAVATION PHOTOGRAPHY			
Test Pit 6 - stratigraphic profile and general location  (Photo by J. Young 14/09/2011)			

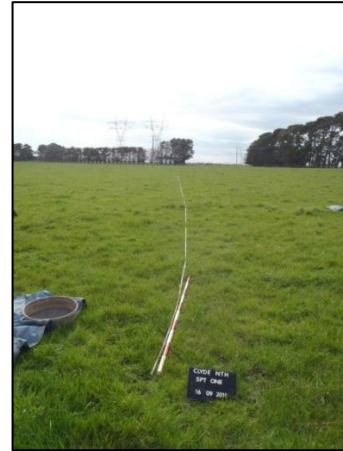
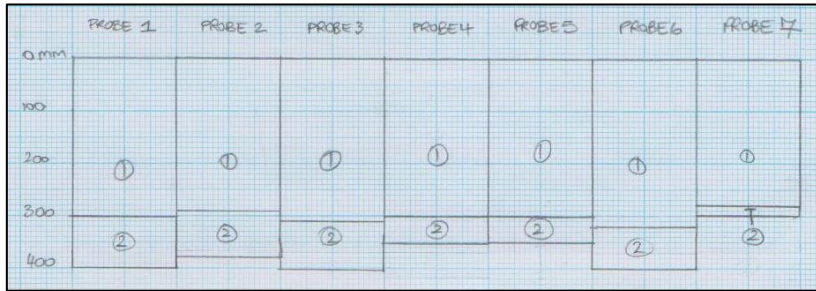

Table 14: Summary excavation data from Test Pit 7

TEST PIT 7			
Dimensions	1x1m		
GDA 94 Coordinates	357430.017E 5781851.834N (Zone 55)	Site Datum	100m (arbitrary)
Depth of Excavation	620mm		
Vertical Artefact Distribution	200-500mm (12 silcrete)		
Evidence of Disturbance	None		
STRATIGRAPHY			
Soil Context	Depth (from surface)	Description	
Context 1	0 – 220/270mm	Light brownish grey (10YR 6/2) sand.	
Context 2	220/270 – 340/350mm	Grey (10YR 6/1) sand.	
Context 3	340/350 – 470/510mm	Light grey (10YR 7/2) cemented silty sand.	
Context 4	470/510 - 620mm	Mottled brownish yellow (10YR 6/8) clay with very greyish brown (10YR 5/2) clayey sand.	
Section Drawing (North Wall)			
EXCAVATION PHOTOGRAPHY			
Test Pit 7 - stratigraphic profile and general location  (Photo by J. Young 15/09/2011)			


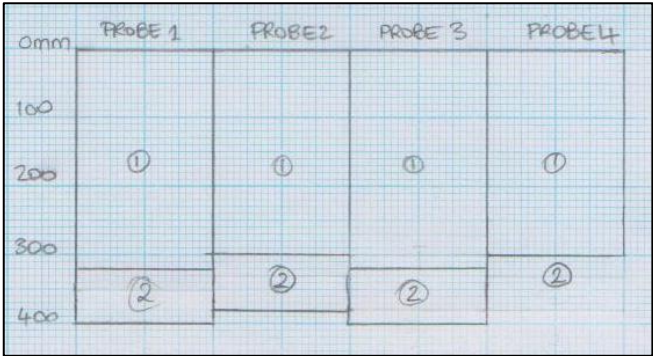

#### **7.3.1.2 Excavation of Shovel Test Probes**


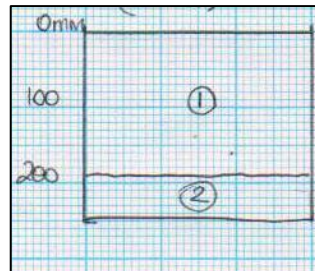
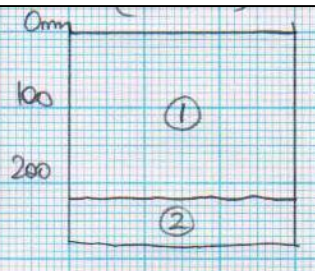
Two shovel test probes (STPs) were excavated as radial probes at TP4. Two STP transects were excavated northwest of TP4 at intervals of 10m (Maps 7 and 8). STP Transect 1 comprised seven probes over 60m and STP Transect 2 comprised four probes over 30m. The soils within the transects and radial probes were identical to those contained in TP4 (loams and clays). Small clay inclusions through Context 1 indicate that the soils have been churned and mixed. The basal clay was identified at approximately 280mm - 400mm. No Aboriginal cultural heritage was identified during the excavation of the STPs. Summary data for the two transects and the radial probes are contained in Table 15.

**Table 15: Summary excavation data from Shovel Test Probes (cont. over page)**

STP Transect 1	Soil Stratigraphy	Photography
<p><b>Probe 1:</b> 356643.762E 5781704.085N</p> <p><b>Probe 2:</b> 356654.373E 5781708.167N</p> <p><b>Probe 3:</b> 356664.168E 5781710.412N</p> <p><b>Probe 4:</b> 356673.454E 5781712.656N</p> <p><b>Probe 5:</b> 356683.147E 5781715.411N</p> <p><b>Probe 6:</b> 356692.126E 5781718.268N</p> <p><b>Probe 7:</b> 356702.329E 5781721.431N</p>	<p><b>1. 0 – 280/340mm:</b> Dark brown (10YR 3/3) silty loam with a very low sand content. Occasional clay inclusions.</p> <p><b>2. 280/340 – 400mm onwards:</b> Dark yellowish brown (10YR 3/4) clay with sandstone gravel and ironstone inclusions.</p> <p><b>Cultural Material:</b> None</p>	 <p>STP Transect 1 facing northeast (Photo by L. Prossor 16/09/2011)</p>
	<p><b>Stratigraphy</b></p> 	 <p>STP Transect 1, Probe 1 (Photo by L. Prossor 16/09/2011)</p>




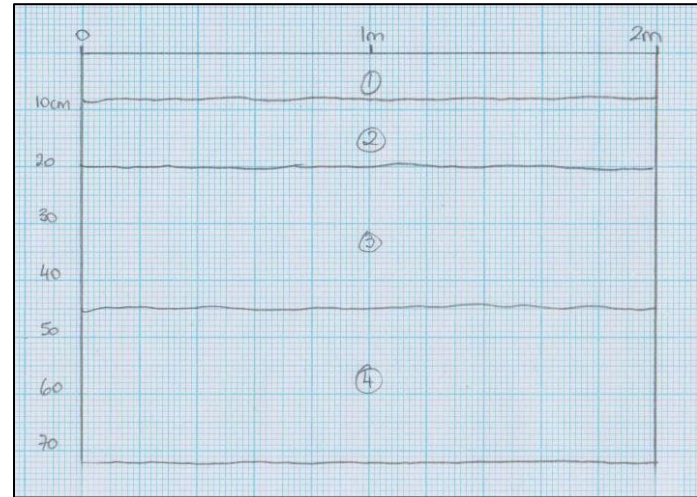
STP Transect 2	Soil Stratigraphy	Photography
<p><b>Probe 1:</b> 356569.527E 5781689.395N</p> <p><b>Probe 2:</b> 356560.662E 5781684.447N</p> <p><b>Probe 3:</b> 356550.904E 5781680.186N</p> <p><b>Probe 4:</b> 356542.588E 5781675.856N</p>	<p><b>1. 0 – 300/340mm:</b> Dark brown (10YR 3/3) silty loam with a very low sand content. Occasional clay inclusions.</p> <p><b>2. 300/340 – 400mm onwards:</b> Dark yellowish brown (10YR 3/4) clay with sandstone gravel and ironstone inclusions.</p> <p><b>Cultural Material:</b> None</p>	 <p>STP Transect 2 facing southwest (Photo by L. Prossor 16/09/2011)</p>
	<p><b>Stratigraphy</b></p> 	 <p>STP Transect 2, Probe 3 (Photo by L. Prossor 16/09/2011)</p>

TP4 Radials	Soil Stratigraphy	Photography
<p><b>TP4 R1 (2mW):</b> 356618.255E 5781651.715N</p> <p><b>TP4 R2 (2mE):</b> 356620.062E 5781650.773N</p>	<p><b>1. 0-190/220mm:</b> Dark brown (10YR 3/3) silty loam with a very low sand content. Occasional clay inclusions.</p> <p><b>2. 190/220 – 250/280mm onwards:</b> Dark yellowish brown (10YR 3/4) clay with sandstone gravel and ironstone inclusions.</p> <p><b>Cultural Material:</b> None</p>	 <p>Example probe (TP4 R2 (2mE)) (Photo by M. Barker 15/9/2011)</p>
	Stratigraphy	
	<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>TP4 R1 (2mW)</p> </div> <div style="text-align: center;">  <p>TP4 R2 (2mE)</p> </div> </div>	


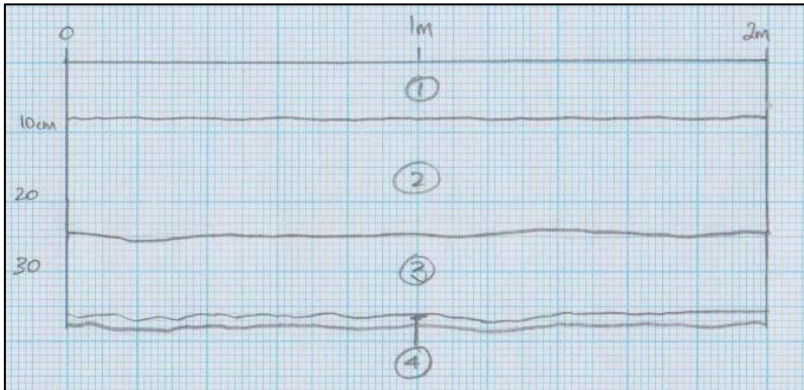
#### **7.3.1.3 Excavation of Backhoe Transects**


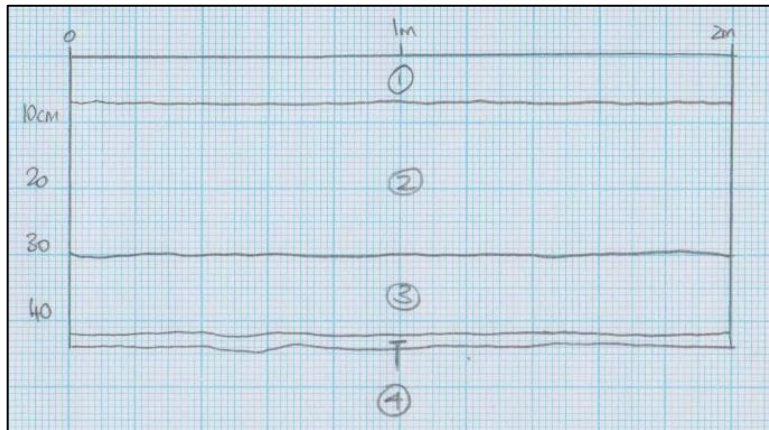
Twelve backhoe transects (BHTs) were excavated in the areas identified as being unlikely to contain Aboriginal Places: the floodplain (Map 7). The soils within the BHTs were one of two soil profiles. Soil Profile 1 comprised loam and clay loam overlying a mixture of sand and clay that increased in clay content with depth. Soil Profile 2 comprised silt, sand and loam overlying sand and clay that increased in clay content with depth. The basal clay was at variable depth, although generally apparent between 300mm – 500mm. No Aboriginal cultural heritage was identified during the excavation of the BHTs. Summary data for the BHTs is contained in Table 16.


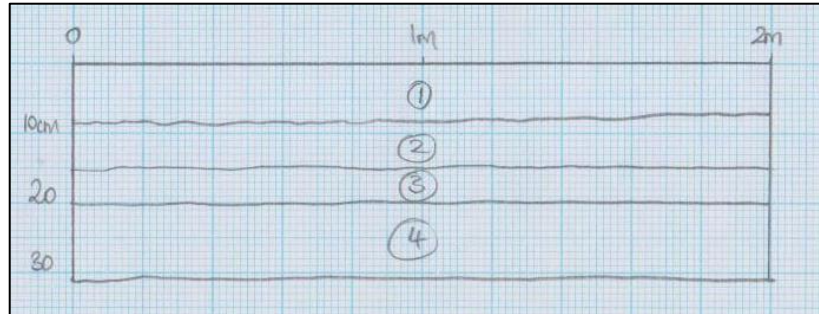
Table 16: Summary excavation data from Backhoe Transects in Phase One (cont. over page)

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT1</b>  <b>Start</b>  355566.163E 5782670.805N  <b>End</b>  355563.472E 5782670.795N	1	100mm		10YR 5/3 brown	Loam			No stone in context.		N		
	2	200mm		10YR 4/2 dark greyish brown	Clay loam			No stone in context.		N		
	3	450mm		10YR 4/1 dark grey	Clay sandy			No stone in context.		N		Mottled with brownish yellow (10YR 6/8) inclusions
	4	720mm		10YR 6/8 brownish yellow	Sandy clay			No stone in context		N		Mottled with dark grey (10YR 4/1) clay inclusions
	Photograph						Stratigraphy					
												
(Photograph by J. Young 5/09/2011)												


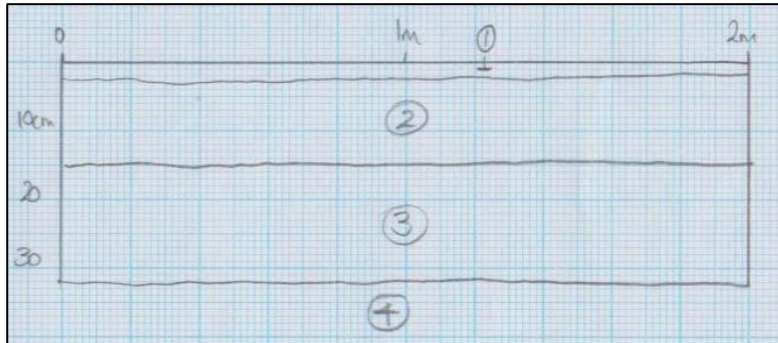


Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT2</b>  <b>Start</b> 355799.284E 5782415.223N  <b>End</b> 355796.593E 5782415.212N	1	80mm		10YR 5/3 brown	Loam					N		
	2	250mm		10YR 4/2 dark greyish brown	Clay loam					N		
	3	350mm		10YR 4/1 dark grey	Clay sandy					N		Mottled with brownish yellow (10YR 6/8) inclusions
	4	370mm		10YR 6/8 brownish yellow	Sandy clay					N		Mottled with dark grey (10YR 4/1) clay inclusions
	Photograph						Stratigraphy					
												
(Photograph by J. Young 5/09/2011)												


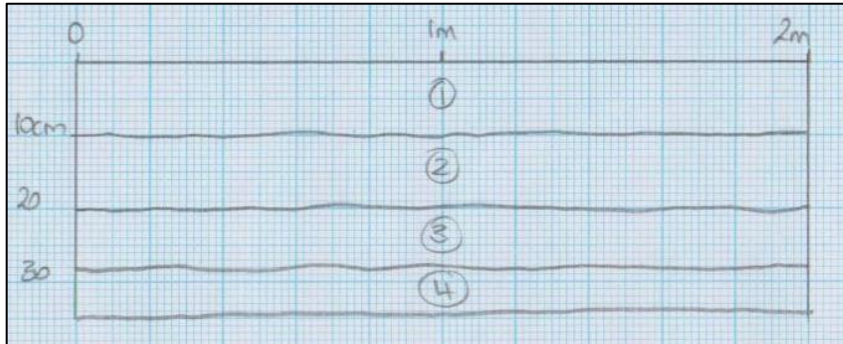
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT3</b>  <b>Start</b>  356083.447E 5782161.222N  <b>End</b>  356080.756E 5782161.212N	1	800mm		10YR 5/3 brown	Loam					N		
	2	300mm		10YR 4/2 dark greyish brown	Clay loam					N		
	3	420mm		10YR 4/1 dark grey	Clay sandy					N		Mottled with brownish yellow (10YR 6/8) inclusions
	4	440mm		10YR 6/8 brownish yellow	Sandy clay					N		Mottled with dark grey (10YR 4/1) clay inclusions
	Photograph						Stratigraphy					
												
(Photograph by J. Young 5/09/2011)												


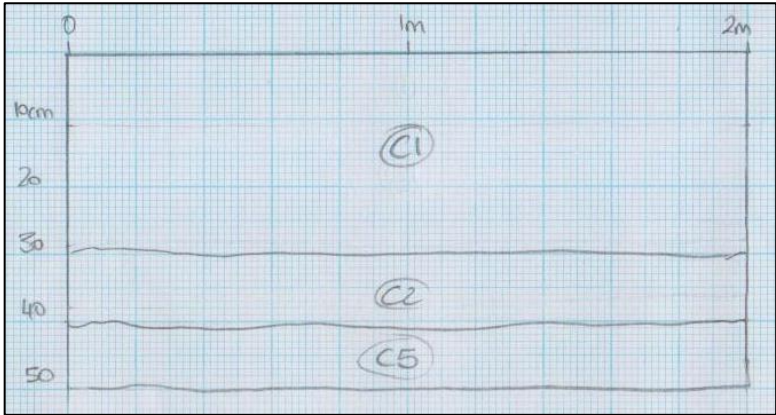
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<div>BHT4</div> <div>Start</div> <div>356367.853E 5782294.325N</div> <div>End</div> <div>356367.851E 5782291.634N</div>	1	90mm		10YR 5/3 brown	Loam					N		
	2	150mm		10YR 4/2 dark greyish brown	Clay loam					N		
	3	200mm		10YR 4/1 dark grey	Clay sandy					N		Mottled with brownish yellow (10YR 6/8) inclusions
	4	300mm		10YR 6/8 brownish yellow	Sandy clay					N		Mottled with dark grey (10YR 4/1) clay inclusions
	Photograph						Stratigraphy					
												
(Photograph by J. Young 5/09/2011)												


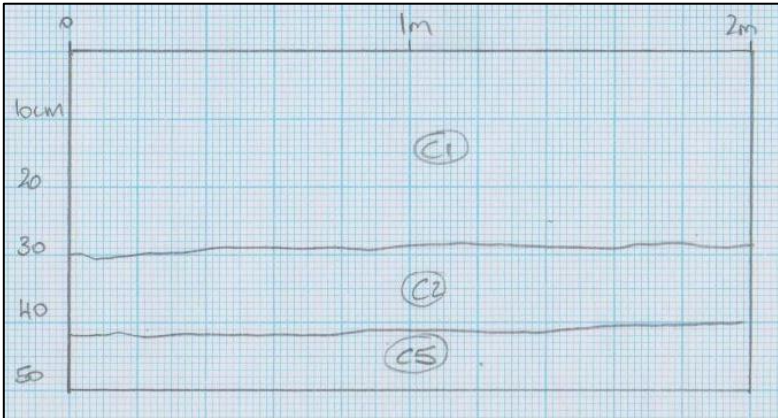


Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT5</b>  <b>Start</b>  356126.671E 5782590.764N  <b>End</b>  356127.358E 5782589.208N	1	50mm		10YR 5/3 brown	Loam					N		
	2	150mm		10YR 4/2 dark greyish brown	Clay loam					N		
	3	320mm		10YR 4/1 dark grey	Clay sandy					N		Mottled with brownish yellow (10YR 6/8) inclusions
	4	>320mm		10YR 6/8 brownish yellow	Sandy clay					N		Mottled with dark grey (10YR 4/1) clay inclusions
	Photograph						Stratigraphy					
												
(Photograph by: J. Young 6/09/2011)												


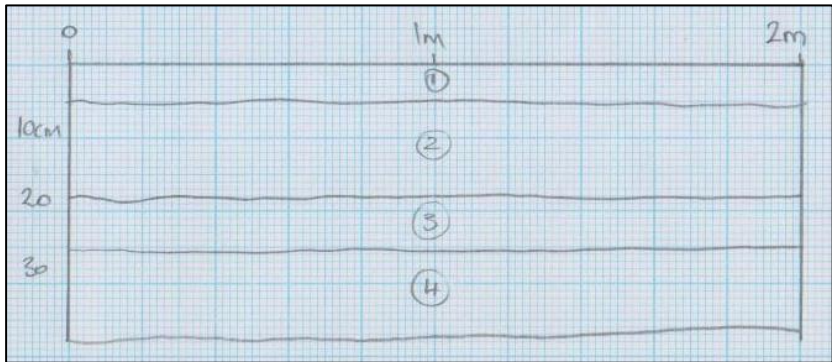


Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT6  Start  356598.570E 5782473.449N  End  356599.249E 5782471.182N	1	100mm		10YR 5/3 brown	Loam					N		
	2	200mm		10YR 4/2 dark greyish brown	Clay loam					N		
	3	280mm		10YR 4/1 dark grey	Clay sandy					N		Mottled with brownish yellow (10YR 6/8) inclusions
	4	350mm		10YR 6/8 brownish yellow	Sandy clay					N		Mottled with dark grey (10YR 4/1) clay inclusions
	Photograph						Stratigraphy					
												
(Photograph by J. Young 6/09/2011)												


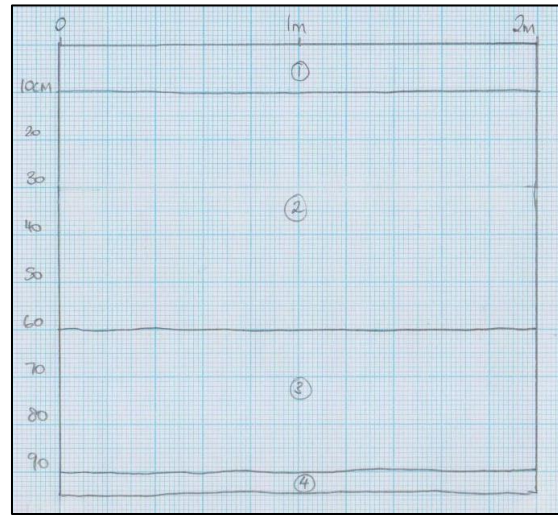
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT7</b>  <b>Start</b> 356631.197E 5782090.813N  <b>End</b> 356628.695E 5782089.937N	1	300mm	6.5	5YR 4/1 dark grey	Silt					N		
	2	400mm	6.5	10YR 7/1 light grey	Sandy loam	Fine Sand				N		
	3	500mm	6.5	10 YR 5/4 yellowish brown	Sandy clay	Coarse Sand				N		
	Photograph						Stratigraphy					
	 <p>(Photograph by J. Young 6/09/2011)</p>											


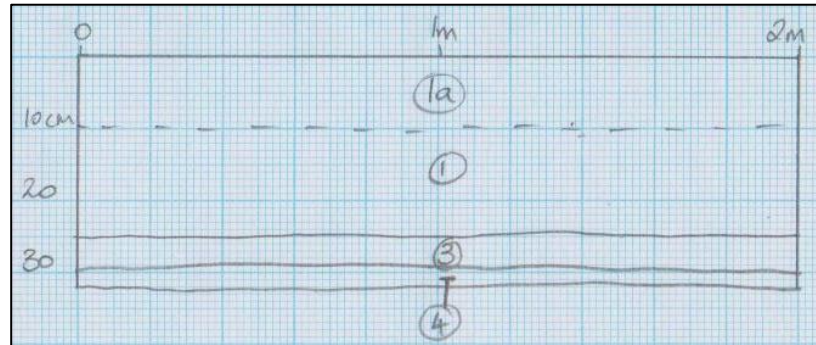
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT8</b>  <b>Start</b> 356930.444E 5782260.832N  <b>End</b>  356930.494E 5782258.505N	1	300mm	6.5	5YR 4/1 dark grey	Silt					N		
	2	400mm	6.5	10YR 7/1 light grey	Sandy loam	Fine Sand				N		
	3	500mm	6.5	10 YR 5/4 yellowish brown	Sandy clay	Coarse Sand				N		
	Photograph						Stratigraphy					
												
(Photograph by J. Young 6/09/2011)												


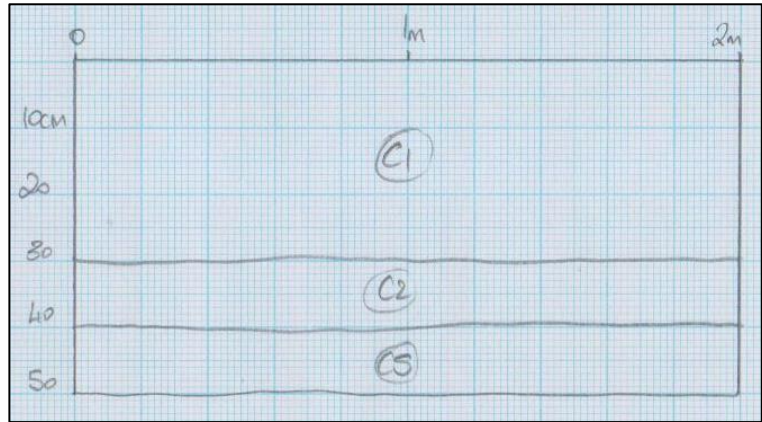


Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<div>BHT9</div> <div>Start</div> <div>357153.059E 5782365.158N</div> <div>End</div> <div>357155.609E 5782365.774N</div>	1	50mm		10YR 5/3 brown	Loam					N		
	2	190mm		10YR 4/2 dark greyish brown	Clay loam					N		
	3	250mm		10YR 4/1 dark grey	Clay sandy					N		Mottled with brownish yellow (10YR 6/8) inclusions
	4	380mm		10YR 6/8 brownish yellow	Sandy clay					N		Mottled with dark grey (10YR 4/1) clay inclusions
	Photograph						Stratigraphy					
												
(Photograph by J. Young 7/09/2011)												



Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT10</b>  <b>Start</b>  357723.470E 5782047.582N  <b>End</b>  357721.112E 5782048.364N	1	100mm		10YR 2/2 light brown	Silty loam			No stone in context.		N		
	2	600mm		10YR 4/2 dark greyish brown	Sandy silt			No stone in context.		N		
	3	900mm		10YR 4/1 dark grey	Clayey sandy			No stone in context.		N		Mottled with brownish yellow (10YR 6/8) inclusions
	4	950mm		10YR 6/8 brownish yellow	Sandy clay			No stone in context.		N		Mottled with dark grey (10YR 4/1) clay inclusions
	Photograph						Stratigraphy					
												
(Photograph by J. Young 7/09/2011)												

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT11</b>  <b>Start</b>  357379.489E 5782380.580N  <b>End</b>  357379.488E 5782377.888N	1a	100mm		10YR 6/2 light greyish brown	Loam					N		
	1	250mm		10YR 5/3 brown	Loam					N		
	3	300mm		10YR 4/1 dark grey	Clay sandy			No stone in context.		N		Mottled, with brownish yellow (10YR 6/8) inclusions.
	4	330mm		10YR 6/8 brownish yellow	Sandy clay			No stone in context		N		Mottled, with dark grey (10YR 4/1) clay inclusions.
	Photograph						Stratigraphy					
												
(Photograph by J. Young 7/09/2011)												

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT12</b>  <b>Start</b>  357759.167E 5782334.277N  <b>End</b>  357759.166E 5782331.586N	1	300mm	6.5	5YR 4/1 dark grey	Silt					N		
	2	400mm	6.5	10YR 7/1 light grey	Sandy loam	Fine sand				N		
	3	500mm	6.5	10 YR 5/4 yellowish brown	Sandy clay	Coarse sand				N		
	<b>Photograph</b>						<b>Stratigraphy</b>					
	 <p style="text-align: center;">(Photograph by J. Young 7/09/2011)</p>											

#### **7.3.1.4 Conclusions from Phase One of the Complex Assessment**

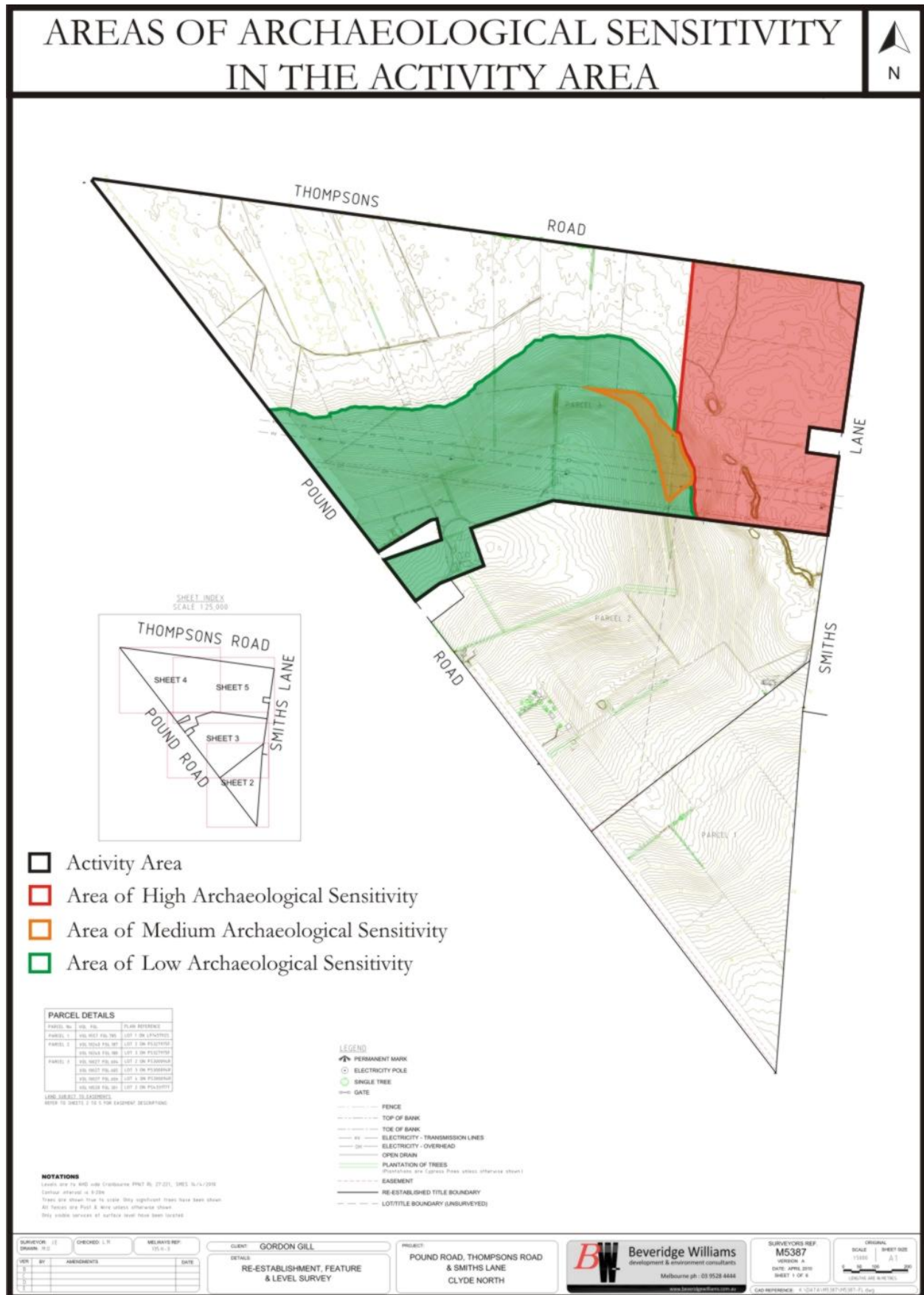
Five areas containing sub-surface artefacts were located during Phase One of the complex assessment (Section 8). These areas were the focus of the Phase Two testing for the complex assessment. The largest concentrations of stone artefacts were located in association with the prior watercourse/dams. Artefacts in TP2 were at the far north-eastern boundary of the Activity Area and in the vicinity of smaller streams that no longer pass through the property due to artificial drainage works in the area. The artefact in TP4 was located on the crest of the rise in the southwest region of the Activity Area and was not associated with any watercourses.

No Aboriginal cultural material was identified in the floodplain soils in the north-western region of the Activity Area. This area is not considered to be a location suitable for Aboriginal cultural activities owing to the waterlogging of the soil profile and it is therefore unlikely that Aboriginal archaeological sites will be identified in this area.

All of the stone artefacts located in the Activity Area were located in unconsolidated sand or sandy clay deposits. In the main, the artefact bearing layers have not been subject to ground disturbance.

The landforms identified as being of potential archaeological sensitivity after the standard assessment have indeed demonstrated the presence of Aboriginal cultural material. The projected archaeological sensitivity of the landforms has been modified to reflect the density of artefacts identified during Phase One of the complex assessment (Map 18).





Map 18: Revised areas of potential archaeological sensitivity (PAS)

### **7.3.2 Phase 2 Sub-surface Testing**

Phase Two of the complex assessment involved the machine excavation of fifteen backhoe transects and 91 radial probes (shovel and backhoe test probes). The locations of the sub-surface testing from Phase Two are shown in Map 9. Testing focussed on the testing locations from Phase One that contained artefacts and a more in-depth assessment of the high sensitivity placed on the eastern region of the Activity Area where the prior watercourse and small discrete rises are present.


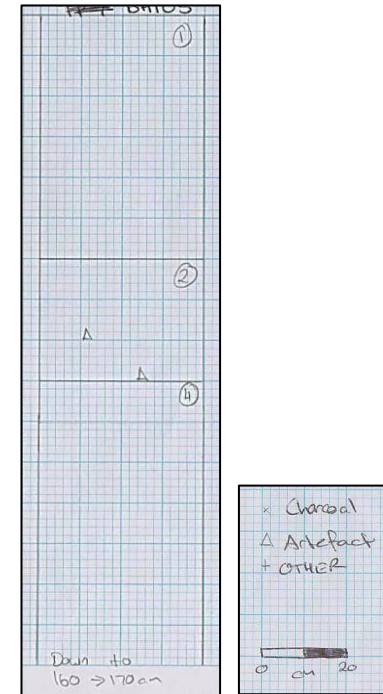
#### **7.3.2.1 Excavation of Backhoe Transects**


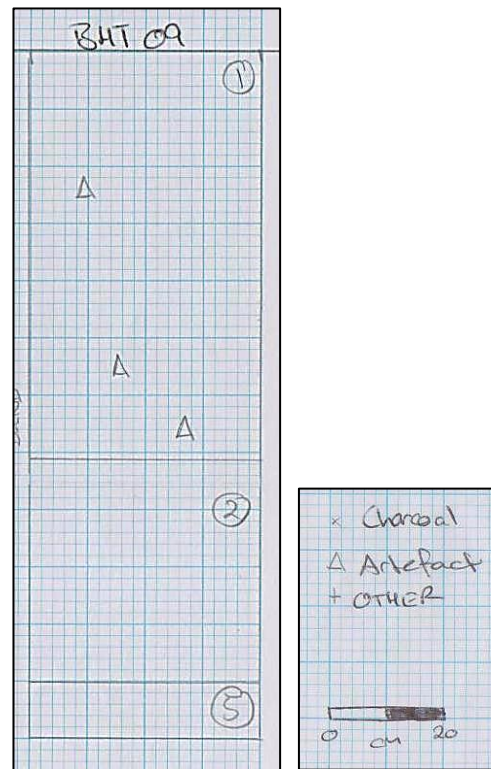
Fifteen BHTs were excavated at grid locations through the eastern region of the Activity Area during Phase Two of the complex assessment in order to further test the floodplain and discrete rises at this location (see Sections 7.1 and 7.2). Backhoe transects were the primary form of excavation during Phase Two as the soils were too dry and hard for safe hand excavation to be undertaken.

The soils within the BHTs were one of two soil profiles. Soil Profile 1 comprised silt overlying sandy loams and clays (BHT 3, 5, 7, 8, 9, 10, 11, 14, 16, 21, 24 and 27). Soil Profile 2 comprised silt overlying clay (BHT 17, 22 and 25). The basal clay was at variable depth. Artefacts were located during excavation at five of the BHTs (Section 8).


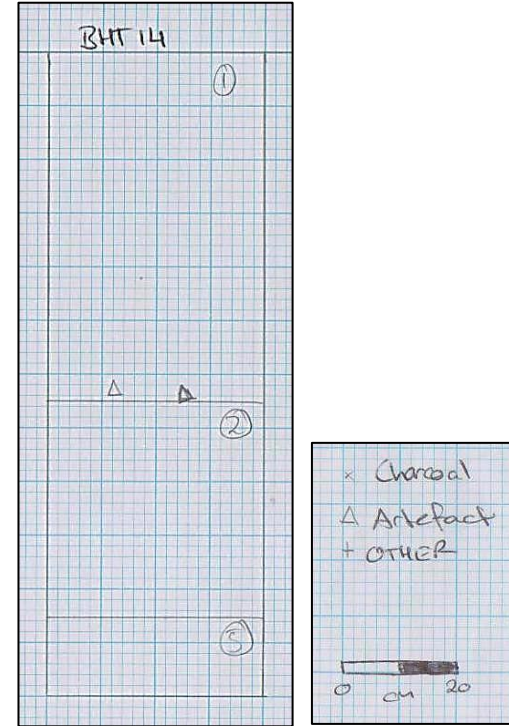
Summary results for the BHT locations that contained artefacts are presented in Table 17. Full excavation details for all BHTs are provided in Appendix 5.


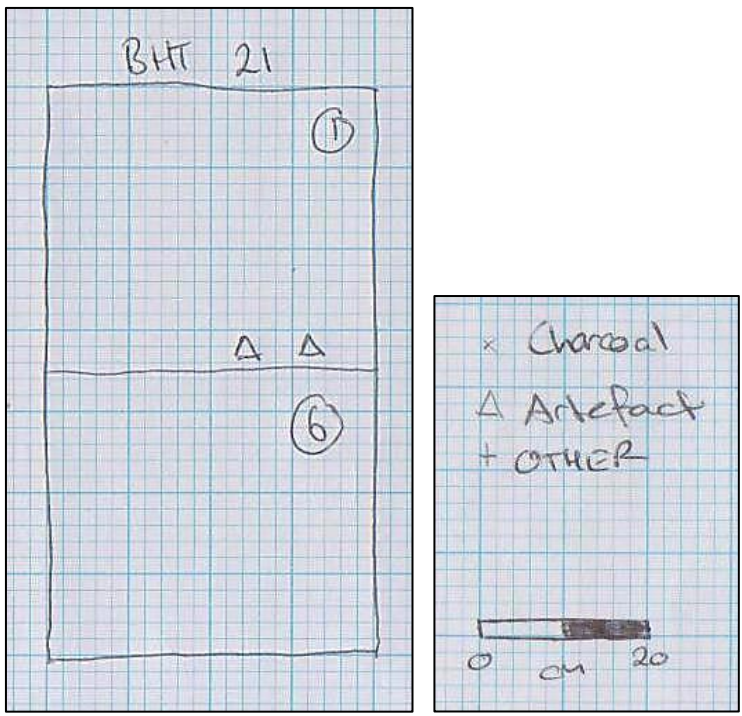
Table 17: Summary excavation data from backhoe transects containing artefacts (cont. over page)


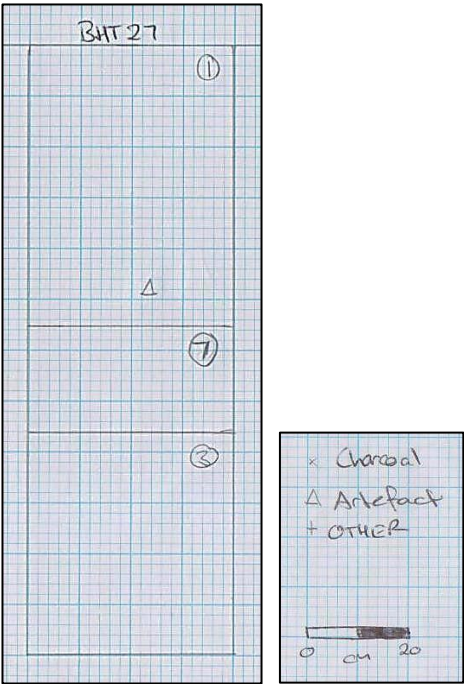
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT5</b>  <b>Start</b>  357406.704E 5782376.958N  <b>End</b>  357406.502E 5782375.135N	1	600/700mm	6.5	5YR 4/1 dark grey	Silt		Cemented			N		
	2	900/1000mm	6.5	10YR 7/1 light grey	Sandy loam	Fine sand	Cemented			Y	2	
	4	1600/1700mm	6.5	10YR 5/6 yellowish brown	Sandy clay	Coarse sand	Firm			N		Base not found, water began to seep into trench
	Photographs						Stratigraphy					
												
(Photograph by S. Brown 23/01/2013 (Range poles have 300mm increments))												

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT9</b>  <b>Start</b> 357758.977E 5782256.145N  <b>End</b> 357757.906E 5782253.734N	1	710mm	6.5	5YR 4/1 dark grey	Silt		Cemented			Y	3	
	2	1170mm	6.5	10YR 7/1 light grey	Sandy loam	Fine sand	Cemented			N		
	5	1180mm	6.5	10 YR 5/4 yellowish brown	Sandy clay	Coarse sand	Cemented			N		
	<b>Photograph</b>						<b>Stratigraphy</b>					
	 <p>(Photograph by S. Brown 23/01/2013 (Range poles have 300mm increments))</p>											



Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT14</b>  <b>Start</b> 357771.390E 5782175.203N  <b>End</b> 357772.300E 5782177.349N	1	600/700mm	6.5	5YR 4/1 dark grey	Silt		Cemented			Y	2	
	2	1000/1100mm	6.5	10YR 7/1 light grey	Sandy loam	Fine sand	Cemented			N		
	5	1100/1200mm	6.5	10 YR 5/4 yellowish brown	Sandy clay	Coarse sand	Cemented			N		
	<b>Photograph</b>						<b>Stratigraphy</b>					
	 <p>(Photograph by S. Brown 23/01/2013 (Range poles have 300mm increments))</p>											

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT21</b>  <b>Start</b> 357461.204E 5782023.569N  <b>End</b> 357461.550E 5782021.808N	1	300/400mm	6.5	5YR 4/1 dark grey	Silt		Cemented			Y	2	
	2	400/500mm	6.5	10YR 7/1 light grey	Sandy loam	Fine sand	Cemented			N		
	6	500/600mm	6.5	10 YR 5/4 yellowish brown	Sandy clay	Coarse sand	Cemented			N		
	<b>Photograph</b>						<b>Stratigraphy</b>					
	 <p>(Photograph by S. Brown 25/01/2013 (Range poles have 300mm increments))</p>											

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
<b>BHT27</b>  <b>Start</b> 357485.746E 5781806.310N  <b>End</b> 357485.190E 5781804.604N	1	500/600mm	6.5	5YR 4/1 dark grey	Silt		Firm			Y	1	
	7	700/800mm	6.5	10YR 3/4 dark yellowish brown	Silt		Firm			N		
	2	1100/1200mm	6.5	10YR 7/1 light grey	Sandy loam	Fine Sand	Firm			N		
	<b>Photograph</b>						<b>Stratigraphy</b>					
	 <p>(Photograph by S. Brown 25/01/2013 (Range poles have 300mm increments))</p>											




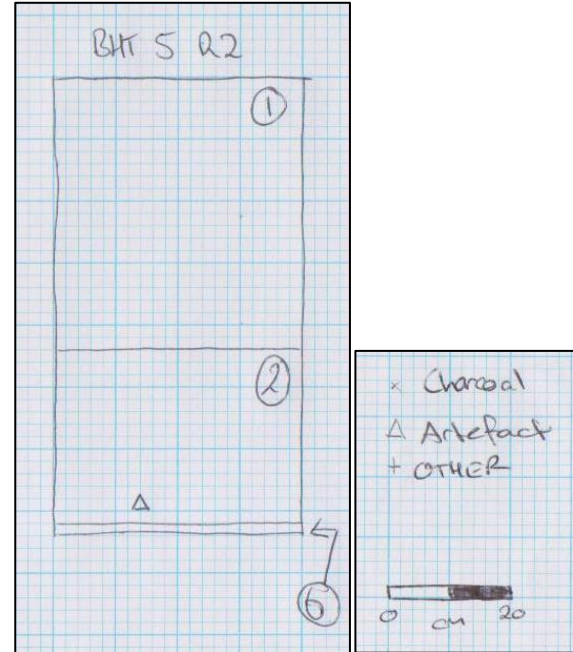
### **7.3.2.2 Excavation of Radial Probes (Shovel Test Probes and Backhoe Test Probes)**


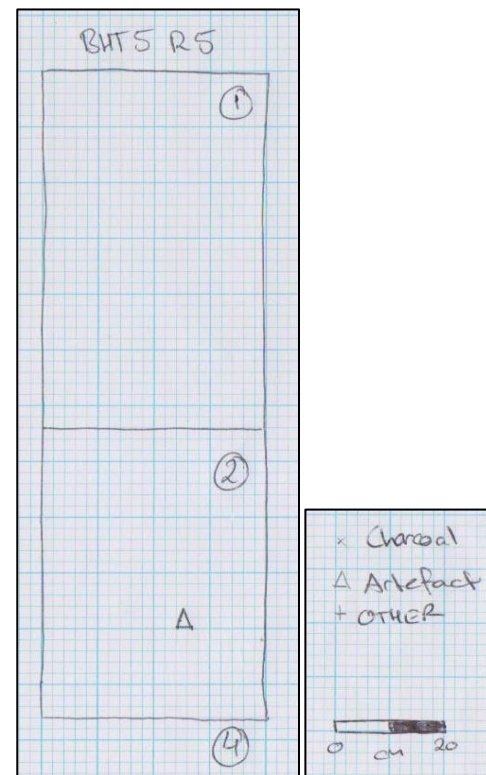
Ninety radial probes were excavated during Phase Two of the complex assessment. Shovel test probes were excavated where possible, but as much of the Activity Area was too dry and soils were too compacted for hand excavation, a backhoe was eventually utilised to excavate small probe-size holes of approximately 1m – 1.5m in length. Radial probes were excavated around TP2, TP3, TP5, TP7 from Phase One and BHT5, BHT9, BHT14, BHT21 and BHT27 from Phase Two (Maps 9 – 12). Radial probes were excavated at either 5m or 10m intervals radiating out from the above artefact locations.


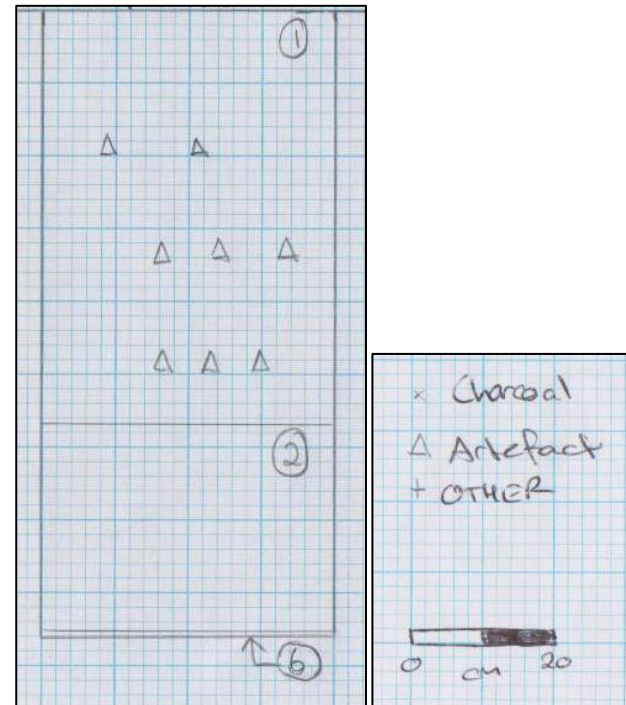
The soils within the radial probes were generally identical to the soils contained in the test pit or backhoe transect they were associated with. The main exception to this was the radials around BHT5 as they displayed a deep sand profile as well as a shallow silt and sandy clay profile. These soil profiles at BHT5 were located around a small sandy rise with a tributary of the prior watercourse running north-south through the centre of the testing. The basal clay was identified at varying depths across the Activity Area. Radial probes in the north-eastern region of the Activity Area were very deep, averaging 1m+, whereas the radial probes excavated in the southern and central regions of the Activity Area were approximately 400mm – 500mm deep. Aboriginal cultural heritage was identified in a total of 21 radial probes (see Table 18, see Section 8). Summary data for the radial probe locations that contained artefacts are presented in Table 18. Full excavation details for all radial probes are provided in Appendix 5.




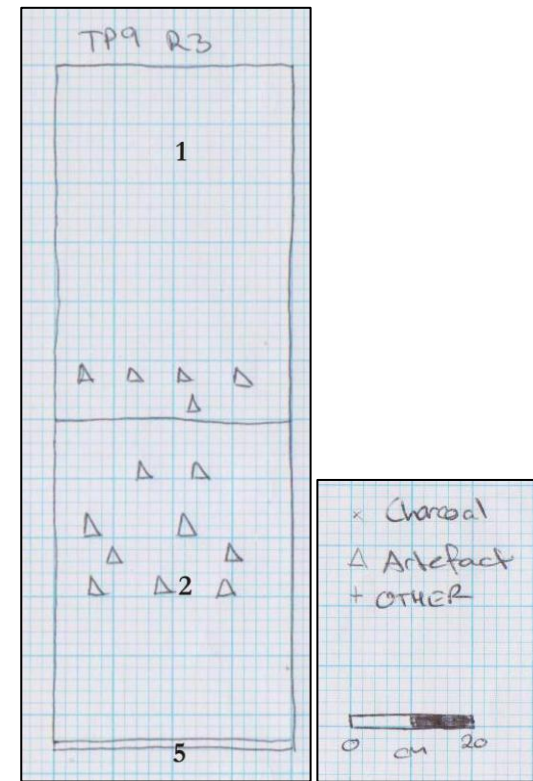
Table 18: Summary excavation data from radial probes containing artefacts (cont. over page)

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT5 R2  357414.907E 5782373.396N	1	440mm	6.5	5YR 4/1 dark grey	Silt		Firm			N		
	2	710mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm			Y	1	
	6	730mm	6.5	Mottled 7.5YR 5/1 brown, 4/6 strong brown	Clay		Firm			N		
	Photograph						Stratigraphy					
												
(Photograph by S. Brown 30/01/2013 (Range poles have 300mm increments))												


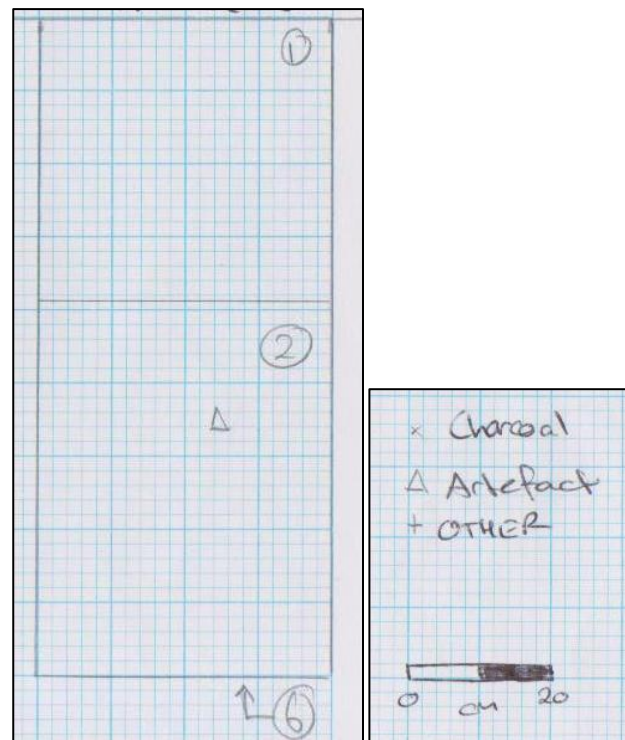
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT5 R5  357407.199E 5782379.962N	1	640mm	6.5	5YR 4/1 dark grey	Silt		Firm			N		
	2	1160mm	6.5	10YR 7/1 light grey	Silt	Fine Sand	Firm			Y	1	
	Photograph						Stratigraphy					
												
Photograph by: Samantha Brown (Range poles have 30cm increments)												

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT9 R2  357759.627E 5782263.519N	1	570mm	6.5	5YR 4/1 dark grey	Silt		Firm	Charcoal	5	Y	8	
	2	850mm	6.5	10YR 7/1 light grey	Silt	Fine Sand	Firm			N		
	6	860mm	6.5	Mottled 7.5YR 5/1 brown, 4/6 strong brown	Clay		Firm			N		
	Photograph						Stratigraphy					
												
(Photograph by S. Brown 25/01/2013 (Range poles have 300mm increments))												


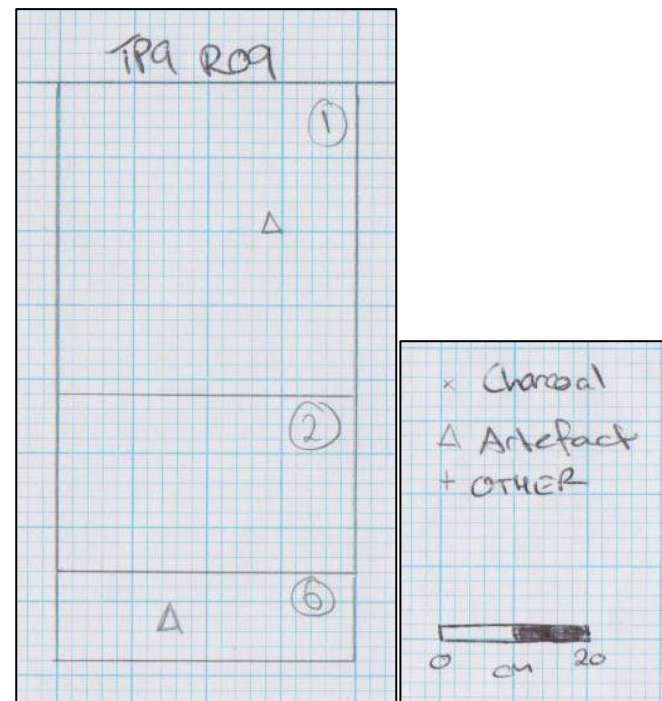



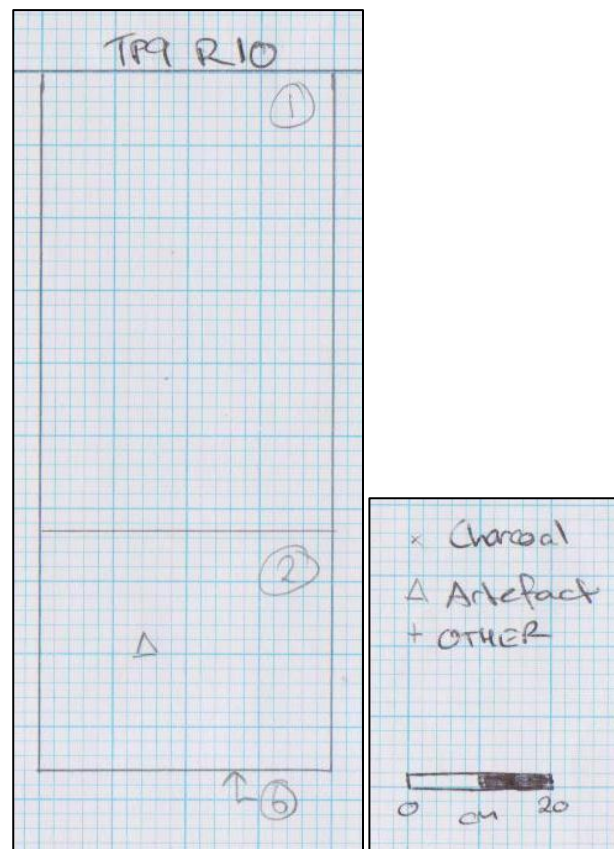
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT9 R3  357768.594E 5782252.018N	1	600mm	6.5	5YR 4/1 dark grey	Silt		Firm			Y	5	
	2	1150mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm			Y	9	
	5	1160mm	6.5	10YR 5/6 yellowish brown	Sandy clay	Coarse sand	Firm			N		
	Photograph							Stratigraphy				
												




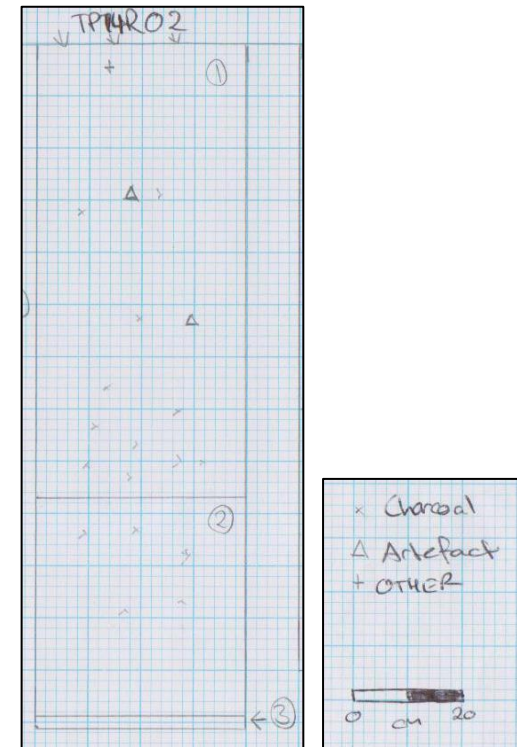
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT9 R8  357769.9387E 5782261.487N	1	390mm	6.5	5YR 4/1 dark grey	Silt		Firm			N		
	2	900mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm			Y	1	
	6	900+mm	6.5	Mottled 7.5YR 5/1 brown, 4/6 strong brown	Clay		Firm			N		
	Photograph						Stratigraphy					
												

(Photograph by L. Falvey 30/01/2013 (Range poles have 300mm increments))


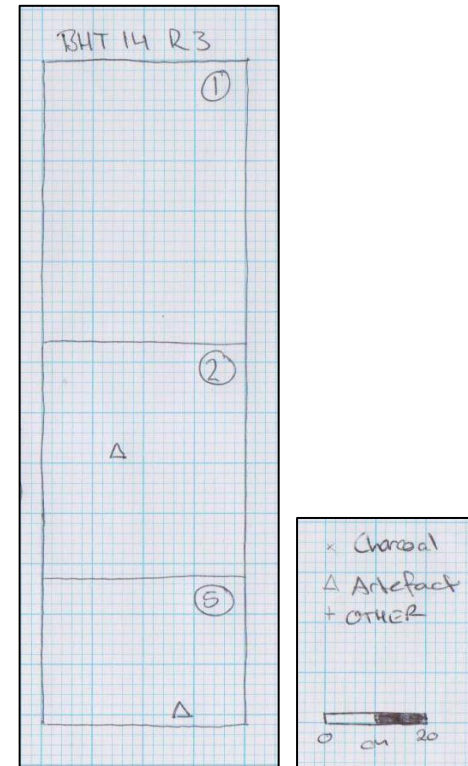
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT9 R9  357777.961E 5782250.272N	1	420mm	6.5	5YR 4/1 dark grey	Silt		Firm			Y	1	
	2	660mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm			N		
	6	780mm	6.5	Mottled 7.5YR 5/1 brown, 4/6 strong brown	Clay		Firm			Y	1	
	Photograph							Stratigraphy				
												
(Photograph by L. Falvey 30/01/2013 (Range poles have 300mm increments))												

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT9 R10  357765.470E 5782242.473N	1	630mm	6.5	5YR 4/1 dark grey	Silt		Firm			N		
	2	960mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm			Y	1	
	Photograph						Stratigraphy					
												
(Photograph by L. Falvey 30/01/2013 (Range poles have 300mm increments))												


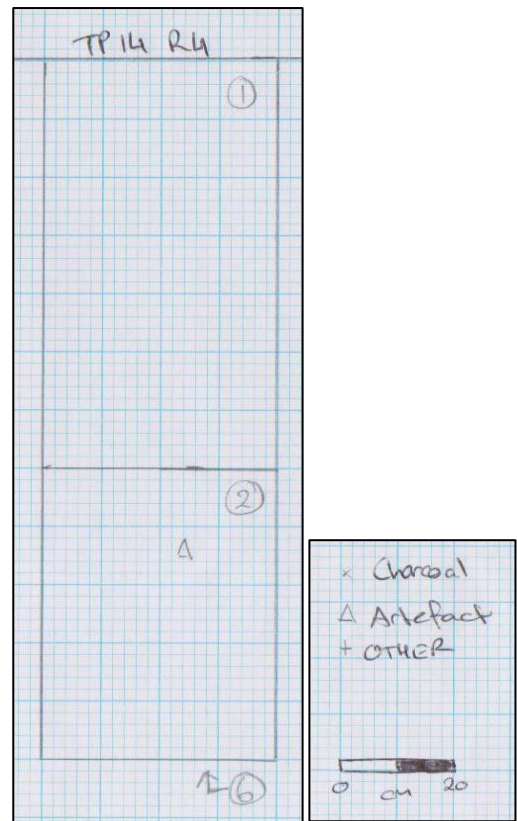



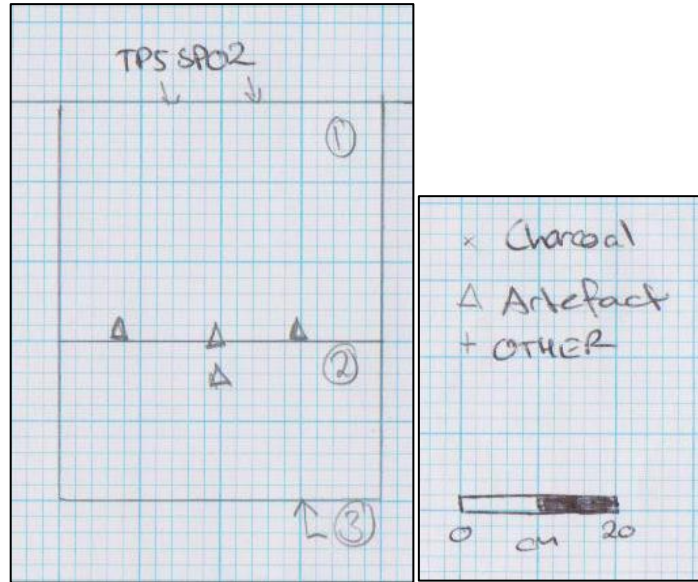
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT14 R2  357782.156E 5782174.382N	1	870mm	6.5	5YR 4/1 dark grey	Silt		Firm	Glass	2	Y	2	
	2	1290mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm					
	5	1310mm	6.5	10YR 5/6 yellowish brown	Sandy clay	Coarse sand	Compact / Hard			N		
	Photograph							Stratigraphy				
												
(Photograph by S. Brown 29/01/2013 (Range poles have 300mm increments))												




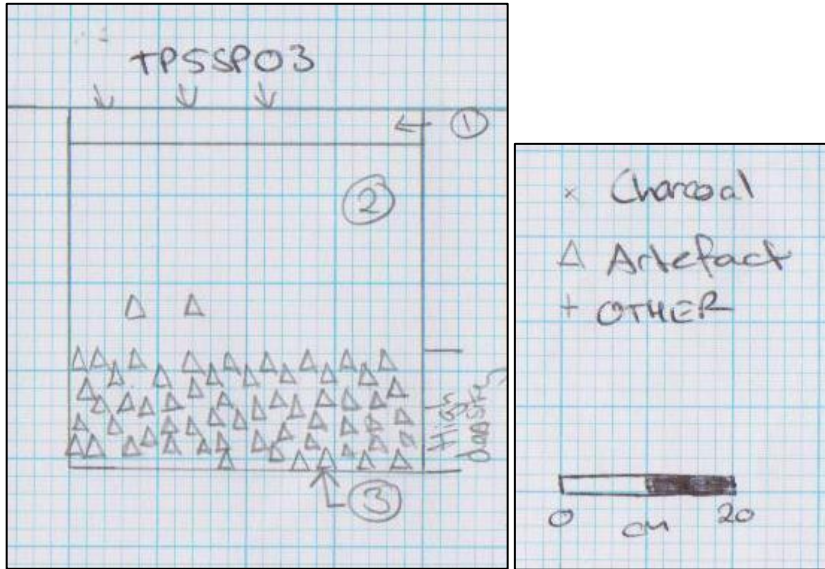
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT14 R3  357775.655E 5782186.233N	1	560mm	6.5	5YR 4/1 dark grey	Silt		Firm			N		
	2	1030mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm			Y	1	
	5	1320mm	6.5	10YR 5/6 yellowish brown	Sandy clay	Coarse sand	Compact / Hard			Y	1	
	Photograph						Stratigraphy					
												

(Photograph by S. Brown 29/01/2013 (Range poles have 300mm increments))


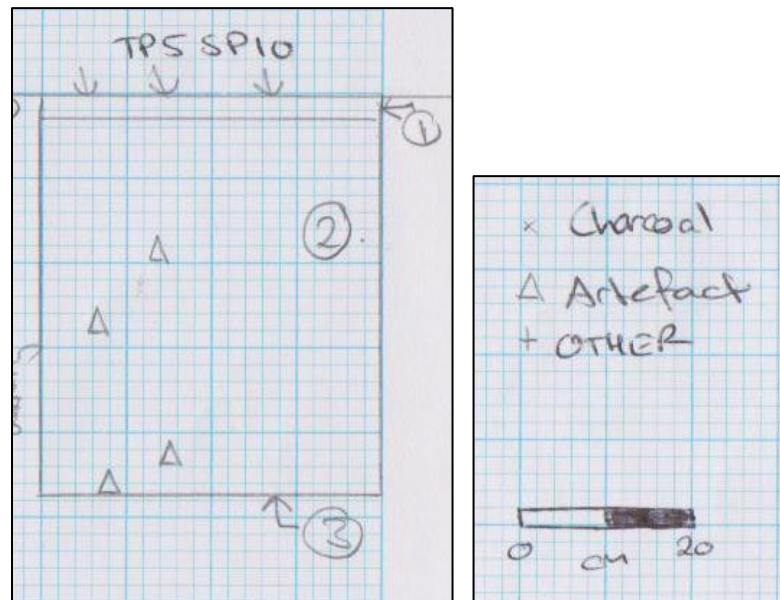
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
BHT14 R4  357762.900E 5782178.657N	1	700mm	6.5	5YR 4/1 dark grey	Silt					N		
	2	1200mm	6.5	10YR 7/1 light grey	Silt	Fine sand				Y	1	
	Photograph						Stratigraphy					
												
(Photograph by S. Brown 29/01/2013 (Range poles have 300mm increments))												

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP5 R2  357316.661E 5781917.518N	1	300mm	6.5	5YR 6/1 grey	Silty loam		Cemented			N		
	2	500mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Cemented			Y	4	
	3	500+mm	6.5	10 YR 4/4 dark yellowish brown	Clay	Fine sand	Cemented			N		
	Photograph						Stratigraphy					
												
(Photograph by L. Falvey 21/01/2013 (Range poles have 300mm increments))												


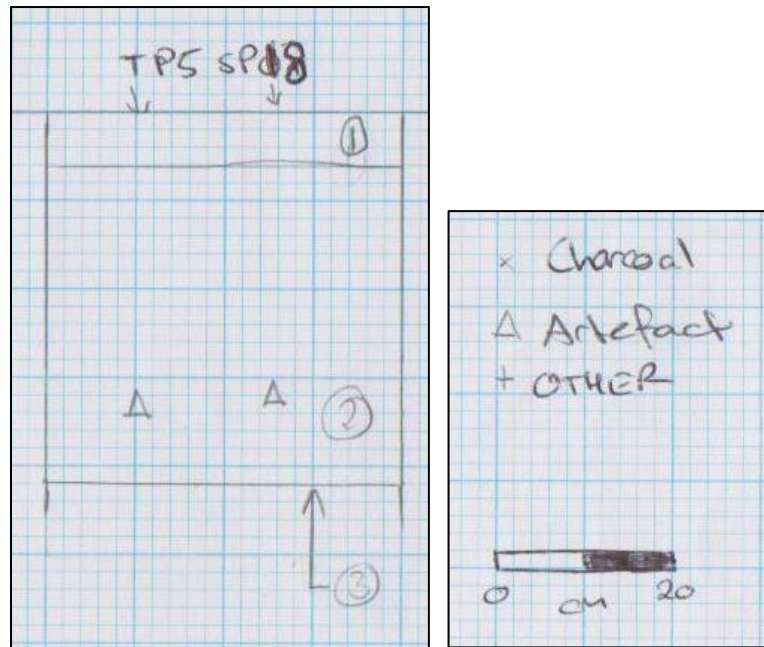



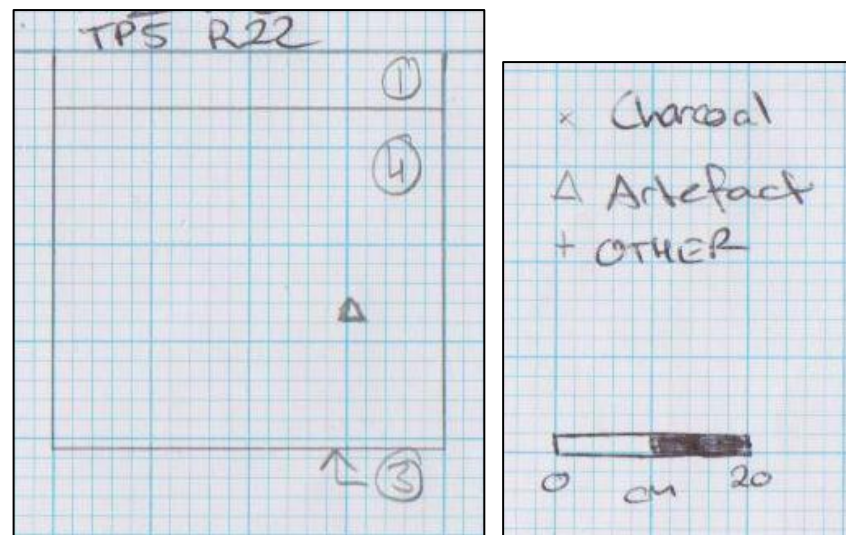
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP5 R3  357307.600E 5781909.075N	1	40mm	6.5	5YR 6/1 grey	Silty loam		Cemented			N		
	2	410mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Cemented			Y	58	Dense lens of artefacts between 30 and 40 cm
	3	410+mm	6.5	10 YR 4/4 dark yellowish brown	Clay	Fine sand	Cemented			N		
	Photograph							Stratigraphy				
												
(Photograph by L. Falvey 21/01/2013 (Range poles have 300mm increments))												




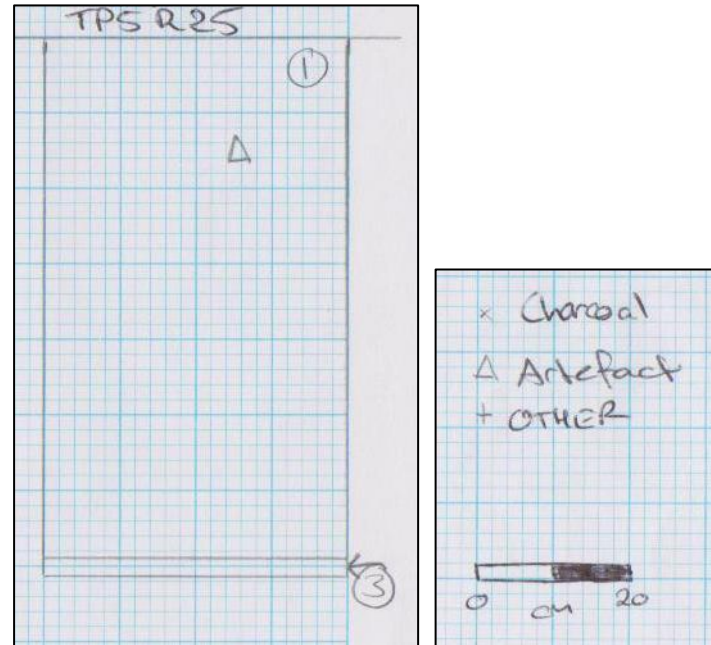
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP5 R10  357307.623E 5781898.972N	1	30mm	6.5	5YR 6/1 grey	Silty loam		Cemented			N		
	2	470mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Cemented			Y	4	
	3	470+mm	6.5	10 YR 4/4 dark yellowish brown	Clay	Fine sand	Cemented			N		
	Photograph							Stratigraphy				
												

(Photograph by L. Falvey 21/01/2013 (Range poles have 300mm increments))


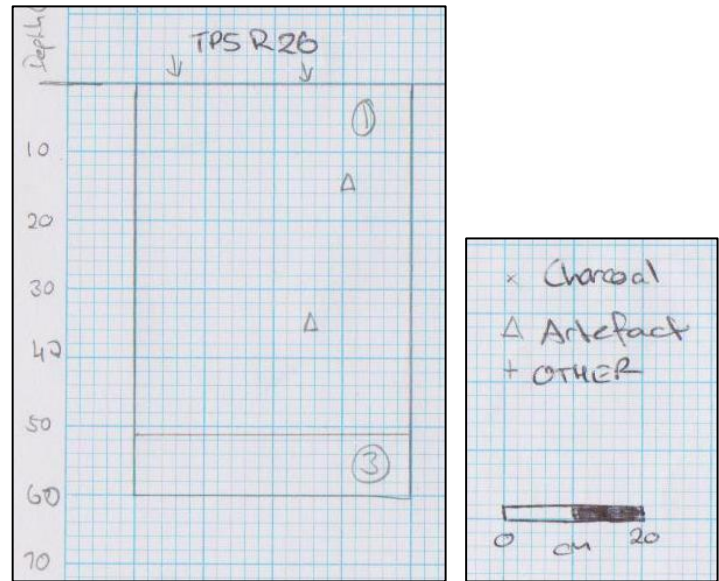
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments	
TP5 R18  357307.482E 5781893.727N	1	60mm	6.5	5YR 6/1 grey	Silty loam		Cemented			N			
	2	420mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Cemented			Y	2		
	3	420+mm	6.5	10 YR 4/4 dark yellowish brown	Clay	Fine sand	Cemented			N			
	Photograph							Stratigraphy					
													
(Photograph by L. Falvey 22/01/2013 (Range poles have 300mm increments))													


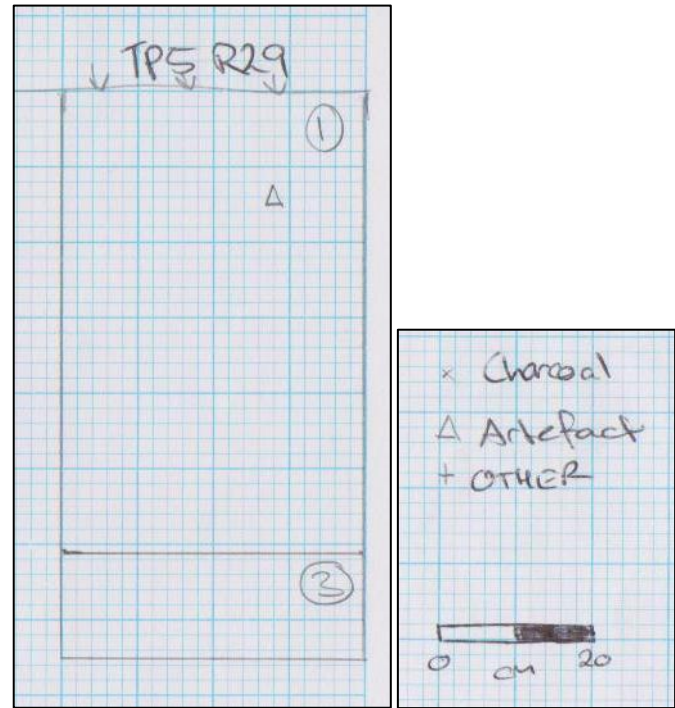
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP5 R22  357318.039E 5781894.019N	1	60mm	6.5	5YR 6/1 grey	Silty loam		Cemented			N		
	4	410mm	7	10YR 3/3 dark brown						Y	1	
	3	410+mm	6.5	10 YR 4/4 dark yellowish brown	Clay	Fine sand	Cemented			N		
	Photograph						Stratigraphy					
												
(Photograph by L. Falvey 22/01/2013 (Range poles have 300mm increments))												


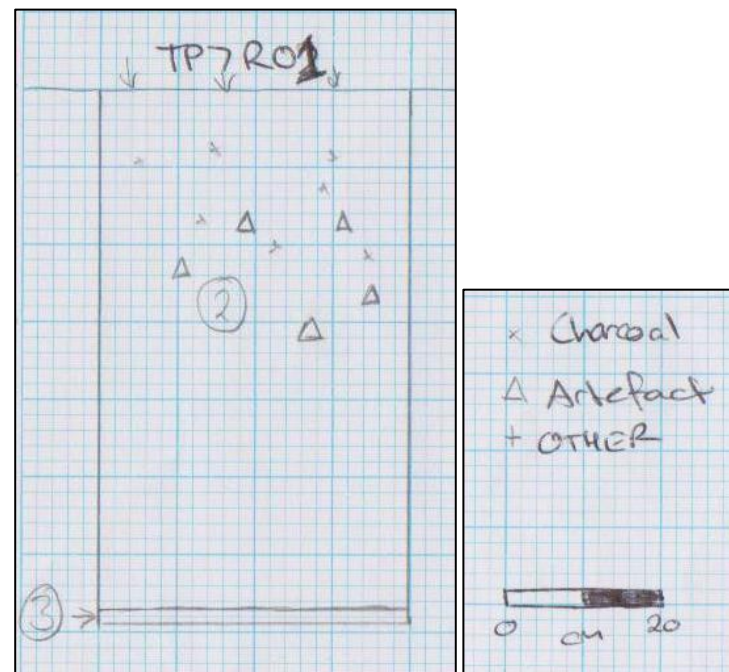


Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP5 R25  357328.776E 5781893.083N	1	690mm	6.5	5YR 4/1 dark grey	Silt		Cemented	Charcoal	2	Y	1	Dug with backhoe
	3	710mm	6.5	10 YR 4/4 dark yellowish brown	Silty clay		Cemented			N		Dug with backhoe
	Photograph							Stratigraphy				
												
(Photograph by S. Brown 29/01/2013 (Range poles have 300mm increments))												

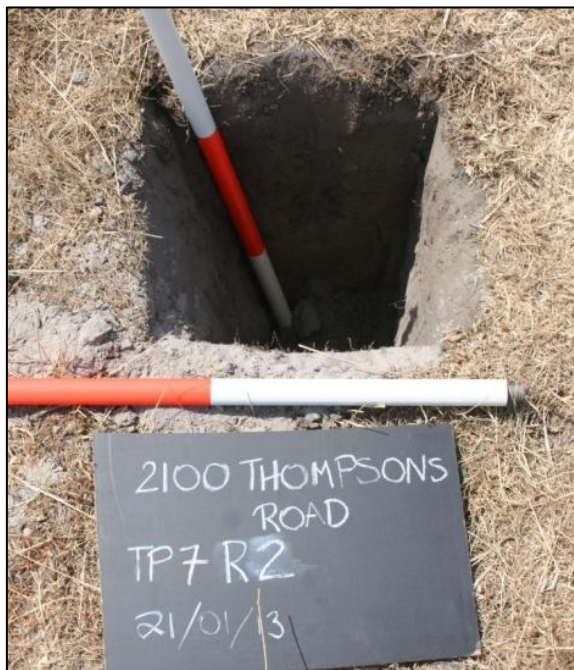
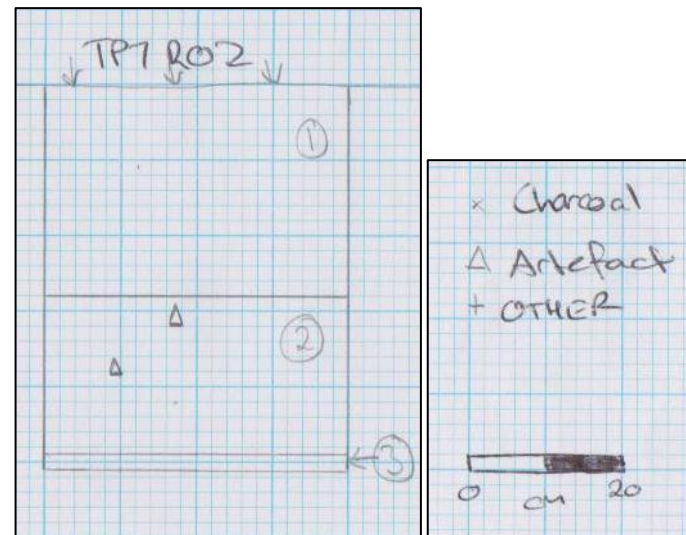


Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP5 R26  357328.964E 5781882.874N	1	510mm	6.5	5YR 4/1 dark grey	Silt		Cemented			Y	2	
	3	600mm	6.5	10 YR 4/4 dark yellowish brown	Silty clay		Cemented			N		
	Photograph						Stratigraphy					
												
(Photograph by S. Brown 29/01/2013 (Range poles have 300mm increments))												

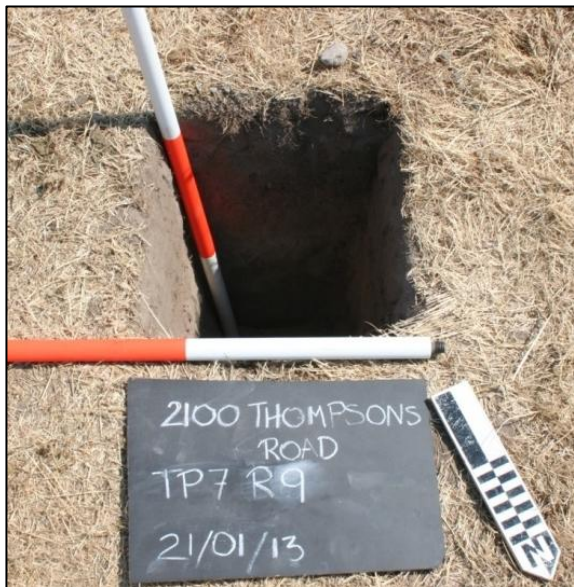
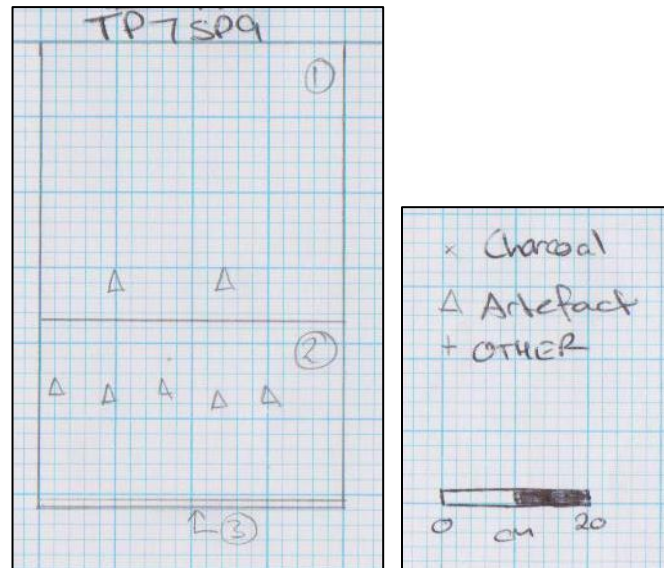
Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP5 R29  357339.179E 5781883.616N	1	610	6.5	5YR 4/1 dark grey	Silt		Cemented			Y	1	Dug with backhoe
	3	750	6.5	10 YR 4/4 dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
	Photograph						Stratigraphy					
												
(Photograph by S. Brown 29/01/2013 (Range poles have 300mm increments))												

Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP7 R1  357434.348E 5781850.109N	2	670mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm	Charcoal	10	Y	5	
	3	690mm	6.5	10 YR 4/4 dark yellowish brown	Silty clay		Compact / Hard			N		Base clay
	Photograph						Stratigraphy					
												
(Photograph by S. Brown 21/01/2013 (Range poles have 300mm increments))												



Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP7 R2  357439.039E 5781847.975N	1	280mm	6.5	5YR 4/1 dark grey	Silt		Firm	Charcoal	10	N		
	2	590mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Firm	Charcoal	10	Y	2	
	3	610mm	6.5	10 YR 4/4 dark yellowish brown	Silty clay		Compact / Hard			N		
	Photograph						Stratigraphy					
												
(Photograph by S. Brown 21/01/2013 (Range poles have 300mm increments))												



Location	Context	Base of Context	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	% Inclusions	Artefacts (Y/N)	Total Artefacts	Interpretation / Comments
TP7 R9  357436.258E 5781843.142N	1	370mm	6.5	5YR 4/1 dark grey	Silt		Compact / Hard			Y	2	
	2	610mm	6.5	10YR 7/1 light grey	Silt	Fine sand	Compact / Hard			Y	5	
	3	620mm	6.5	10 YR 4/4 dark yellowish brown	Silty clay		Compact / Hard			N		
	Photograph						Stratigraphy					
												
(Photograph by S. Brown 21/01/2013 (Range poles have 300mm increments))												

### **7.3.2.3 Conclusions from Phase Two of the Complex Assessment**

A further five areas containing sub-surface artefacts were located during Phase Two of the complex assessment (Section 8, Map 9). The largest densities of stone artefacts were located around TP5, TP7 and BHT09. The two test pit locations are located within the proximity of the prior watercourse/dams, whereas BHT09 is located in the proximity to a prior wetland on the eastern boundary of the Activity Area (wetland drained during the nineteenth or twentieth century) and a small stream that fed into the wetland (also now drained and channelized).

Several discrete rises were tested with the backhoe and each was found to have some evidence of Aboriginal cultural activities. Other than the examples provided above, the artefact densities were very low at these locations.

The landforms identified as being of potential archaeological sensitivity after the standard assessment and the revised sensitivity after the Phase One testing have indeed demonstrated the presence of Aboriginal cultural material.

#### **7.4 Conclusions from the Sub-surface Testing/Excavation**

Four Aboriginal Places (VAHR 7921-1456 and 7921-1464 - 1466) were identified in both surface and sub-surface contexts within the Activity Area through Phases One and Two. These are further discussed in Section 8 and are represented in Map 19.

The site prediction model and desktop assessment indicated there was a high potential for Aboriginal sites to be located within the Activity Area due the proximity of water resources and the potential sensitivity of known landforms located within the property. However, some ground disturbance was expected in relation to vegetation clearance, agricultural activities and the installation of the electricity towers across the southern region of the property. Some ground disturbance was also expected in relation to the construction of the dams along the prior watercourse. The presence of a large number of sites across the geographic region, particularly in association to watercourses, indicated that the likelihood of finding further Aboriginal archaeological sites within the Activity Area was highly likely.

The field survey identified three surface artefact locations in close association with the prior watercourse/dams where ground surface visibility was 100%. Poor ground surface visibility was a major constraint on the effectiveness of the field survey in general, as thick grass was present across the majority of the property. Ground disturbance was confirmed in relation to the construction of the dams as well as along fencelines, tracks and the electricity easement. Due to poor ground surface visibility it was not possible to properly assess all sensitive landforms within the Activity Area and therefore a sub-surface testing program was undertaken.

In regards to the desktop and standard assessment conclusions, the complex assessment was able to identify the extent of soil disturbance within the Activity Area and was also able to comprehensively test for Aboriginal cultural heritage. The testing identified that soil disturbance was minimal below the topsoil, except in the vicinity of known disturbance zones (listed above). The complex assessment was also able to confirm that Aboriginal cultural heritage was present on each of the sensitive landforms identified during the desktop and standard assessments.

## **8.0 Aboriginal Cultural Heritage within the Activity Area**

Aboriginal cultural heritage was identified during both Phase One and Phase Two of the sub-surface testing within the Activity Area (see below). In total, four new Aboriginal Places were registered (VAHR 7921-1456 and 7921-1464 - 1466). The site locations can be found in Map 19. Five Aboriginal Places were registered by AHMS during field survey for CHMP 12083 (VAHR 7921-1410 - 7921-1413 and 7921-1415) (Map 19). This brings the total number of sites within the Activity Area to nine.

### **8.1 Assessment of the Aboriginal Cultural Heritage**

The following analysis focusses on the new Aboriginal Places identified during Phases One and Two of the complex assessment for this CHMP.

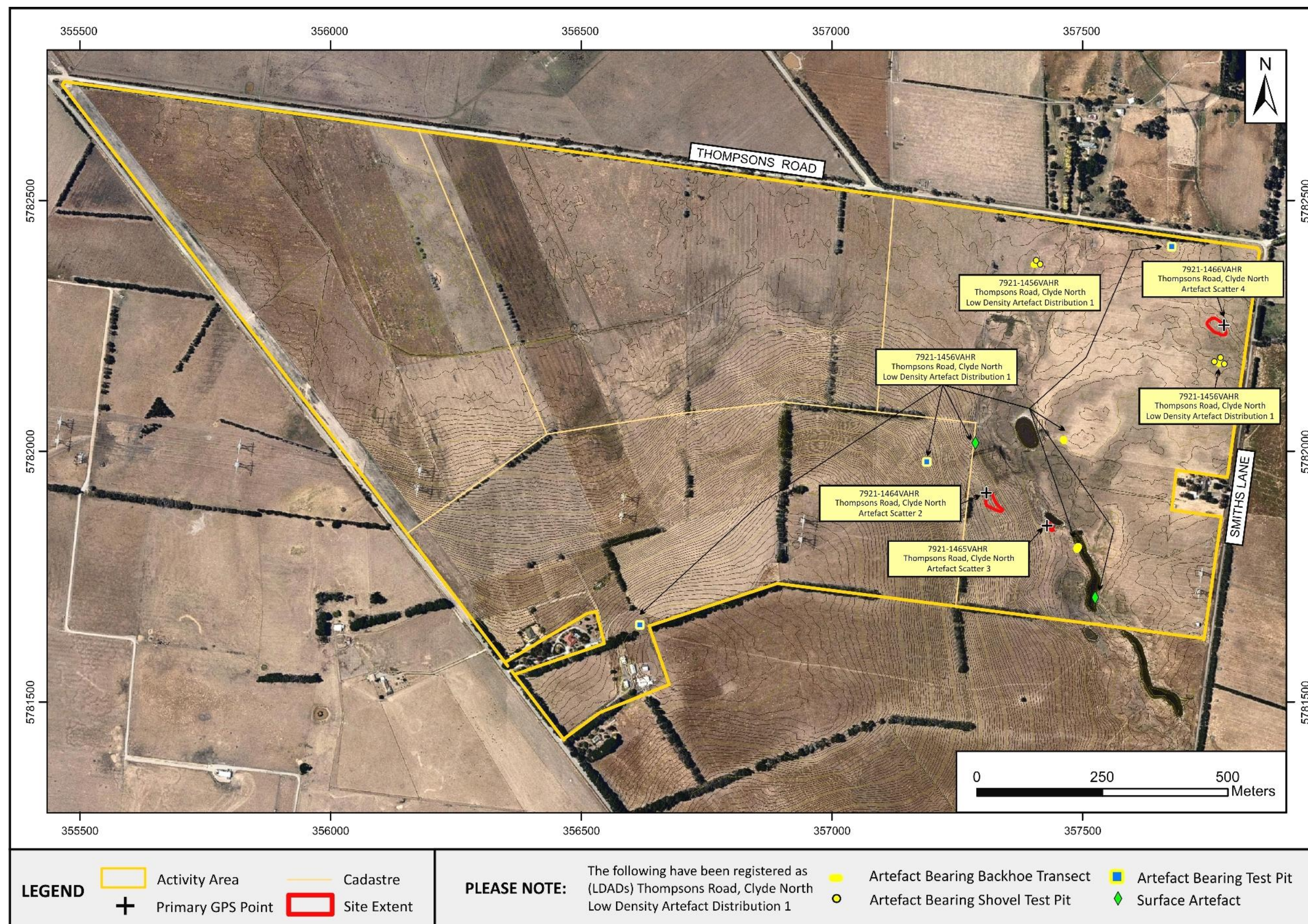
#### **8.1.1 Site Formation Processes**

The soil profiles within the Activity Area indicated that there had been minimal disturbance that was mostly limited to the topsoil context. Greater disturbance was noted in the shallow soils on top of the rise in the south-western region of the Activity Area, whereas the deeper soils on the floodplain, terraces and sandy rises were still undisturbed below the topsoil. Soils on top of the rise have most likely suffered greater disturbance due to the proximity to the buildings, fencing and pine trees. As the soils were very shallow in this region (ca. 300mm) any old-style ploughing undertaken in the past would have easily caused the introduction of clay nodules into the topsoil.

The soils near the prior watercourse/dams shows less disturbance away from the eroding banks, which is easily understood in the context of cattle trampling while the ground is overly wet during the cooler months. Water erosion along the banks themselves has resulted in stone artefacts becoming uncovered and although close to the watercourse, may only be a sign that soil erosion and water runoff have, on repeated occasions, moved artefacts down the slope at different times during the past.

Sub-surface artefact depths were primarily below 150mm - 200mm which places them below the level of general site disturbance and therefore they can be considered to be close to their original deposition (*in situ*). As there were no indications of major soil mixing, other than on the crest of the rise, any localised soil disturbance will be limited to the context in which the artefacts are located and would have taken place close to the time of the original discard event.





Map 19: Aboriginal cultural heritage within the Activity Area



### 8.1.2 Artefact Analysis

The following is a summary of the artefact analysis report prepared by Lauren Prossor. The full report is provided in Appendix 8. Table, map, chart, figure and appendix references within the following summary refer to the contents of the artefact analysis report in Appendix 8.

#### Artefact Analysis Report

This Artefact Analysis report forms part of the discussion of the artefacts recorded during the standard and Complex assessments of Cultural Heritage Management Plan (CHMP) 11869 by Hislop *et al* (2013).

The Activity Area is approximately 170ha (1,700,000m<sup>2</sup>) in area and encompasses the parcels of land known as 2100 Thompsons Road and 1425 Pound Road, Clyde North, Lot 1 PS433177, Lot 2 PS433177, Lot 2 PS300094, Lot 3 PS300094, Lot 4 PS300094, Parish of Cranbourne, County of Mornington, City of Casey. The Activity Area is located in the suburb of Clyde North, approximately 40km south-east of the Melbourne CBD (Map 1).

#### **Summary of Artefacts recorded during the Standard and Complex Assessments**

There were a total of 13 artefacts recorded during the standard assessment. The majority of the artefacts recorded were silcrete ( $n=10$ ) and three were quartz. Angular fragments dominated ( $n=9$ ) and there were a total of four proximal flakes recorded (see Table 1). These artefacts were registered on the Victorian Aboriginal Heritage Register (VAHR) within VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1) and VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3).

The complex assessment was undertaken in two phases (Phase One and Phase Two). Phase One was undertaken during September 2011 and Phase Two was undertaken in January 2013. A total of 34 artefacts were excavated during Phase One from five test pits (TP02 ( $n=5$ ), TP03 ( $n=5$ ), TP04 ( $n=1$ ), TP05 ( $n=11$ ) and TP07 ( $n=12$ ) (Chart 1). Chart 1 shows the majority of the artefacts recorded at each excavation unit were flakes ( $n=17$ ). Only one core was recorded in TP05 ( $n=1$ ). The remaining form of artefact recorded was flaked pieces ( $n=16$ ). Two thirds of the artefact assemblage was excavated from TP05 and TP07. These test pits were located on two different landforms. TP05 was excavated on the terrace of the large rise overlooking the prior watercourse in the eastern half of the Activity Area, whereas TP07 was excavated on the bank of the prior watercourse. There was a difference in raw materials utilised at TP07 and TP05. Chart 2 shows that silcrete was the only raw material utilised at the location of TP07. Perhaps different activities were undertaken at each location (Map 3).

There were a total of 123 artefacts excavated from 26 excavation units during Phase Two of the complex assessment. Chart 2 illustrates the location, number and artefact type excavated during Phase Two. It was immediately clear (see Chart 3) that there were three distinct zones containing artefacts within the testing. These zones are located around TP05 and TP07 as well as BHT09 from Phase Two. These zones have been registered as VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1), VAHR 7921- 1464 (Thompsons Road, Clyde North 2), VAHR 7921-1465 (Thompsons Road, Clyde North 3) and VAHR 7921-1466 (Thompsons Road, Clyde North 4).

A total of four sites were recorded during the complex assessment. These sites are VAHR 7921-1456, VAHR 7921- 1464, VAHR 7921-1465 and VAHR 7921-1466, (Hislop *et al.* 2013, Appendix 7). The subsurface artefacts which were not in the three distinct zones, mentioned above, were incorporated into the low density artefact distribution VAHR 7921-1456. Chart 3 displays the artefact types comprising the total numbers excavated from each excavation unit.

The utilised raw materials differ across the Activity area. Chart 4 illustrates the total number of artefacts at each excavation unit by raw material. The dominate raw material utilised across the Activity area is silcrete. Around BHT09, BHT 14 and BHT05 there is a clear difference in raw material utilisation. Here, quartz and quartzite are utilised, whereas they are almost non-existent at the other testing locations.

#### **VAHR 7921-1456 (Thompsons Rd, Clyde North Low Density Artefact Distribution 1)**

This site is a Low Density Artefact Distribution within the Activity Area which includes surface ( $n=7$ ) and subsurface material ( $n=23$ ). The vertical distribution of the artefacts excavated from VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1) shows the highest number of artefacts occurred between 300mm and 400mm in depth, however small numbers of artefacts were found between 900mm and 1000mm at this site. The excavated artefacts comprised 15 flakes (complete  $n=9$ , distal  $n=2$ , medial  $n=1$ , proximal  $n=3$ ) and eight flaked pieces (complete  $n=5$ , medial  $n=1$  and unidentified  $n=2$ ). There was one retouched artefact present between 300-400mm in depth. The majority of artefacts within the low density artefact distribution are likely to have been deposited by slope wash from elevated artefact bearing ground (such as the location of BHT05 and BHT14) in the activity area and inundation from the prior watercourse along with modern disturbance from cattle trampling when ground was water-logged.

#### **VAHR 7921-1464 (Thompsons Rd, Clyde North 2)**

VAHR 7921-1464 is located on the terrace of the large rise overlooking the prior watercourse in the eastern half of the Activity Area (Map 4). The vertical distribution of the artefacts excavated from VAHR 7921-1464 shows the highest number of artefacts occurred between 200mm and 400mm in depth, however small numbers of artefacts were found down to 500mm. The artefacts comprised two bending flakes (complete  $n=2$ ), one core, 57 flakes and 19 flaked pieces (complete  $n=10$ , distal  $n=1$  proximal  $n=1$  and unidentified  $n=7$ ). There were six retouched artefacts present between 200-400mm in depth. Three of these retouched artefacts were backed blades and there were two points and one retouched artefact.

#### **VAHR 7921-1465 (Thompsons Rd, Clyde North 3)**

Thirty artefacts were identified at VAHR 7921-1465, within eroded surface and subsurface contexts. The vertical distribution of the artefacts excavated from VAHR 7921-1465 shows the highest number of artefacts occurred between 200mm and 500mm in depth. The subsurface artefacts comprised 10 flakes (complete  $n=4$ , distal  $n=3$ , unidentified  $n=2$ , proximal  $n=1$ ), 13 flaked pieces (complete  $n=8$ , distal  $n=1$ , proximal  $n=1$  and unidentified  $n=3$ ) and one core. There were five retouched artefacts present between 200-500mm in depth. Two of these retouched artefacts were backed blades and three retouched artefacts. Due to proximity of prior watercourse, the most likely factors identified in formation of the site are a result of slope wash from elevated ground to the southwest (VAHR 7921- 1464) and inundation from the watercourse along with modern disturbance from cattle trampling when ground was water-logged. This also explains the high artefact fragmentation rate at this site (Map 4).

#### **VAHR 7921-1466 (Thompsons Rd, Clyde North 4)**

VAHR 7921-1466 (Thompsons Rd, Clyde North 4) is located on a low sandy rise (Map 4). The vertical distribution of the artefacts excavated from VAHR 7921-1466 shows the highest number of artefacts occurred between 500mm and 600mm in depth, however small numbers of artefacts were found between 600mm and 900mm at this site. The artefacts comprised one proximal bending flake, 14 flakes (complete  $n=7$ , distal  $n=1$ , medial  $n=1$ , proximal  $n=2$ , left longitudinal split  $n=2$ , and unidentified  $n=1$ ) and 16 flaked pieces (complete  $n=13$ , distal  $n=1$ , and unidentified  $n=2$ ). There were two retouched artefact present between 300-500mm in depth. The raw materials represented at VAHR 7921-1466 are silcrete ( $n=20$ ), quartz ( $n=3$ ), and 8 quartzite artefacts. Quartz and Quartzite artefacts were present

between 500-900mm in depth. This is a very different pattern to the other sites within the Activity Area. A larger variety of raw materials were utilised at all the other sites within the Activity Area.

## **Conclusions**

Knapping (primary working of flaked stone to make tools for use), was undertaken within the Activity Area. The presence of cortex in the assemblage indicates that artefacts were being manufactured and maintained within the Activity Area. This is because the presence of cortex on artefacts indicates the stone flakes are from early in the reduction sequence. However, the majority of the assemblage collected from all four sites had no cortex present (artefacts with cortex  $n=31$  of a total 157 artefacts across the four sites), which means that these artefacts are from further into the reduction sequence of working the stone (see Appendix 1 for a glossary of terms).

A total of 14 retouched artefacts in four registered sites. Of these, two points and five backed blades (geometric microliths) were identified between 200-500mm. Ten of these retouched artefacts were steeply retouched as indicated by Kuhn's (1990) Geometric Index of Reduction (GIR) . Clarkson's (2002) Index of Invasiveness showed that this retouch was marginal.

The archaeological evidence from the standard and complex assessments of CHMP 11869 suggest that VAHR 7921-1464 and VAHR 7921-1466 were campsites that the traditional *Bun wurrung* owners established to exploit the resources of the Koo Wee Rup swamp or the prior watercourse (Hislop *et al.* 2013, Section 5.2.3). These sites were most likely temporary camps where resources from the area were processed and consumed.

The difference in raw materials utilised at VAHR 7921-1466 compared to VAHR 7921-1464 and VAHR 7921-1456 may indicate different activities were occurring between these sites. These raw materials were quartz and quartzite. They were excavated from deeper contexts, (between 500-900mm), which indicates a change in raw material utilisation over time.

Even though, the presence of backed blades in VAHR 7921-1465 may be due to slope wash from VAHR 7921-1464 and other sites in the activity area, the presence of backed blades in the assemblages may indicate this site could have initial occupation in the early Holocene. Hiscock and Attenbrow (1998) have demonstrated the presence of backed technology during the early Holocene in Australia. VAHR 7921-1464 and VAHR 7921-1466 represents the remains of two Aboriginal short term campsites that were, most likely, occupied prior to the arrival of Europeans and within the last 2,000 years.



### **8.1.3 RAP information about the Aboriginal Cultural Heritage**

There is currently no RAP appointed for the region encompassing the Activity Area. No specific information in relation to the Aboriginal cultural heritage found within the Activity Area was provided by the Bunurong Land Council Aboriginal Corporation, Boon Wurrung Foundation Ltd or Wurundjeri Tribe Land and Compensation Cultural Heritage Council Inc.

### **8.1.4 Results of the Assessment of Aboriginal Cultural Heritage**

The main conclusions that have been drawn from the cultural heritage assessment are:

- Four new Aboriginal sites (VAHR 7921-1456 and 7921-1464 - 1466) were recorded within the Activity Area, comprising stone artefact scatters in surface and sub-surface contexts;
- The soil profiles within the Activity Area indicated that there had been minimal disturbance that was generally limited to the topsoil context. Soils on top of the rise have most likely suffered greater disturbance due to the proximity to the buildings, fencing and pine trees, whereas the deeper soils on the floodplain, terraces and sandy rises were still undisturbed below the topsoil;
- Thirteen artefacts were identified in surface concentrations near the prior watercourse/dams. The remainder of artefact material located during this CHMP was in sub-surface contexts ranging in depth from 50mm and 1000mm. Sub-surface artefacts in the southern region of the Activity Area were located between 200mm and 500mm, whereas artefacts in the north-eastern region were found at depths up to 1000mm;
- Silcrete was the dominant raw material utilized across the Activity Area, although quartz and quartzite were also represented in higher numbers in the artefacts locations in the north-eastern region of the property. Quartz and quartzite were also more likely to be present at depths greater than 500mm at these locations;
- Three backed blades, two points, one core and one retouched artefact were recorded in VAHR 7921-1464 (Thompsons Rd, Clyde North 2). Two backed blades and three retouched artefacts were recorded in VAHR 7921-1465 (Thompsons Rd, Clyde North 3). Two retouched artefacts were recorded in VAHR 7921-1466 (Thompsons Rd, Clyde North 4). One retouched artefact was recorded in VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1). The artefacts within the Activity Area were mostly flakes and flaked pieces;
- Artefacts located on the higher elevations may have been deposited as a result of cultural activities within temporary campsites. Artefacts along the bank of the prior watercourse and on low-lying rises may have been influenced by inundation and slope wash during the past before arriving at their present location;
- Quartz and quartzite was excavated from deeper contexts at VAHR 7921-1466 (Thompsons Rd, Clyde North 4) indicating a change in raw material utilisation over time, although the sample size of the artefact assemblage is very small and may not truly represent site activities at this location; and
- The presence of backed artefacts within the individual site assemblages may indicate that the sites were initially occupied during the early Holocene. VAHR 7921-1464 (Thompsons Rd, Clyde North 2) and VAHR 7921-1466 (Thompsons Rd, Clyde North 4) are more likely to represent the remains of short term campsites, occupied prior to the arrival of Europeans and within the last 2,000 years.

## 8.2 Aboriginal Places Located within the Activity Area

### 8.2.1 VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1)

<b>VAHR Number:</b> 7921-1456  <b>Field Name:</b> Thompsons Road, Clyde North Low Density Artefact Distribution 1  <b>Site Map:</b> See Map 19	<b>Primary Grid Coordinate GDA 94:</b> 357524.868E 5781708.020N (Zone 55)  <b>Cadastral details:</b> 1475 Pound Rd, Clyde North (Lot 4\PS300094 and 2/PS433177)
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#### Description of Aboriginal Place VAHR 7921-1456

**Site Contents and Nature:** There were a total of 13 surface artefacts recorded during the standard assessment which were registered as VAHR 7921-1456. The surface artefacts comprised six silcrete flaked pieces, three quartz flaked pieces and one silcrete proximal flake. There were 23 artefacts in sub-surface contexts registered as VAHR 7921-1456. Sub-surface artefacts comprised 15 flakes and eight flaked pieces. Sub-surface artefacts were spread across a large part of the Activity Area including BHT05, BHT14, TP02 and TP04.

The 13 surface artefacts were located in the vicinity of the prior watercourse/dam. The greatest number of artefacts was between 300mm - 400mm, although artefacts were found as deep as 1000mm, but this may have been constrained by the soil type. Two larger (in mass) artefacts were excavated from between 800mm - 900mm. This may indicate a difference in reduction methods.

Context	Basalt	Crystal Quartz	Fine-grained Siliceous	Silcrete	Quartz	Total	Usewear/Retouch
Surface	-	-	-	10	3	13	-
Sub-surface	1	2	2	14	4	23	1
<b>Total</b>	<b>1</b>	<b>2</b>	<b>2</b>	<b>24</b>	<b>7</b>	<b>36</b>	

#### Artefact zones



Surface component facing east-southeast (Photo by J. Young 25/3/2011)



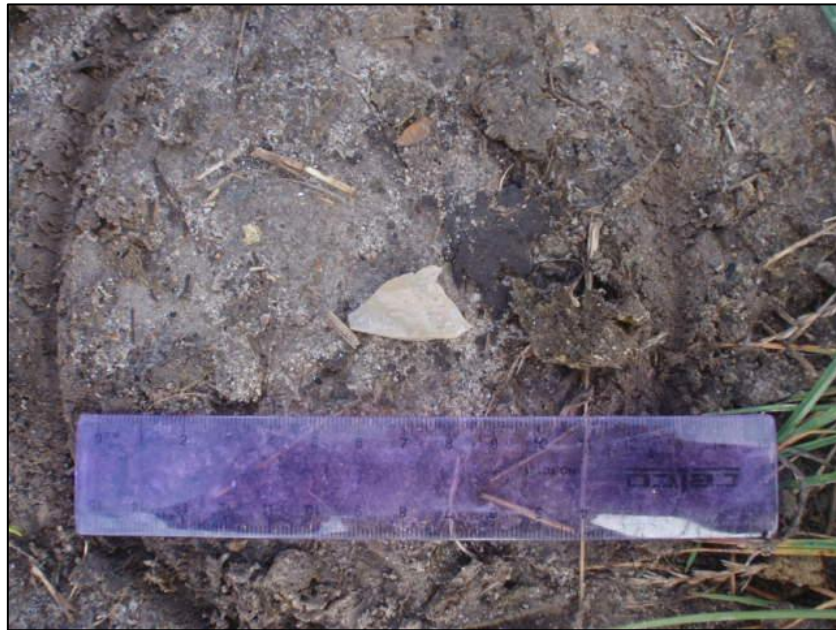
BHT05 (Photo by K. Hislop 27/2/2013)



BHT14 (Photo by K. Hislop 27/2/2013)



**Artefacts**



Example of surface artefacts (Photo by J. Young 25/3/2011)



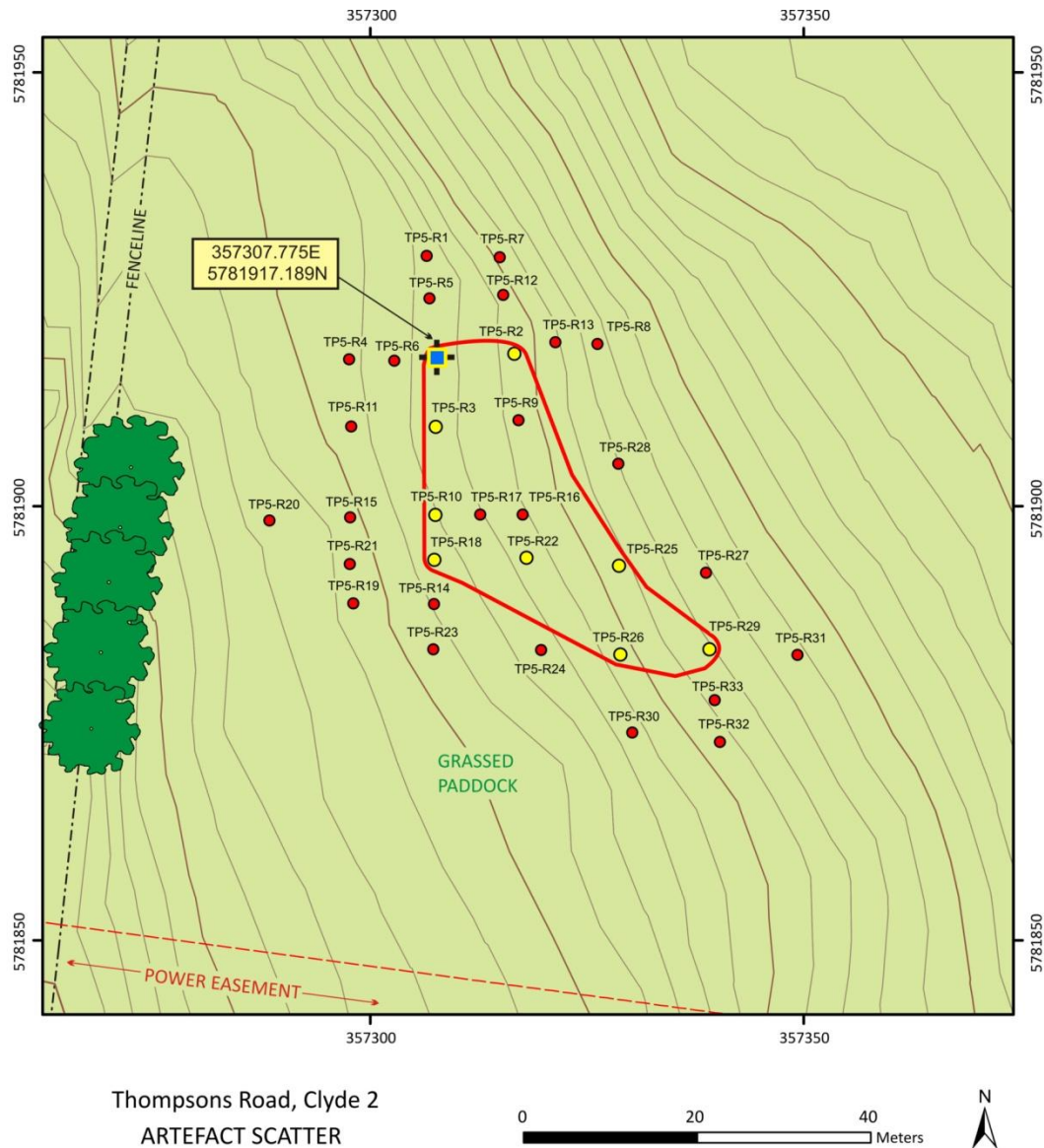
Example of sub-surface artefacts (Photo by S. Pfeffer 12/3/2013)



## 8.2.2 VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2)

<b>VAHR Number:</b> 7921-1464	<b>Primary Grid Coordinate GDA 94:</b> 357307.775E 5781917.189N (Zone 55)
<b>Field Name:</b> Thompsons Road, Clyde North Artefact Scatter 2	<b>Cadastral details:</b> 1475 Pound Rd, Clyde North (2/PS433177)

### Site Plan:



<b>LEGEND</b>		Primary GPS Point		Contour Major
		Hand Excavated Test Pit (artefact/s)		Contour Minor
		Shovel Test Pit (artefact/s)		Grassed Paddock
		Radial Shovel Test Pit (no artefact/s)		Row of Trees
		Site Extent		Power Easement

FIGURE PRODUCED BY K.AUDY

## Description of Aboriginal Place VAHR 7921-1464 (cont. over page)

**Site Contents and Nature:** The site is located on the lower slope of the terrace in the central southern region of the Activity Area overlooking a prior watercourse. Seventy-nine artefacts were identified at this location in a sub-surface context. Artefacts were in grey silty topsoil (Context 1), light grey fine silt/sand (Context 2) and the transitional region leading to clay (Context 3) from 100-500mm. The site measures approximately 800m<sup>2</sup> with higher density of artefacts at the northern end of the site. Site location would have been ideal as a camp site as close to potable water and on elevated ground, both common factors for camp site locations.

Context	Coarse-grained Siliceous	Crystal Quartz	Fine-grained Siliceous	Quartz	Quartzite	Silcrete	Total	Retouch/Backing
Sub-surface	7	2	3	6	1	60	79	6
Total	7	2	3	6	1	60	79	

Site facing southeast (Photo by D. Rhodes 30/1/2013)



Artefacts (Photos by S. Pfeffer 12/3/2013)



TP5



**Sample of artefacts from TP5 radials**



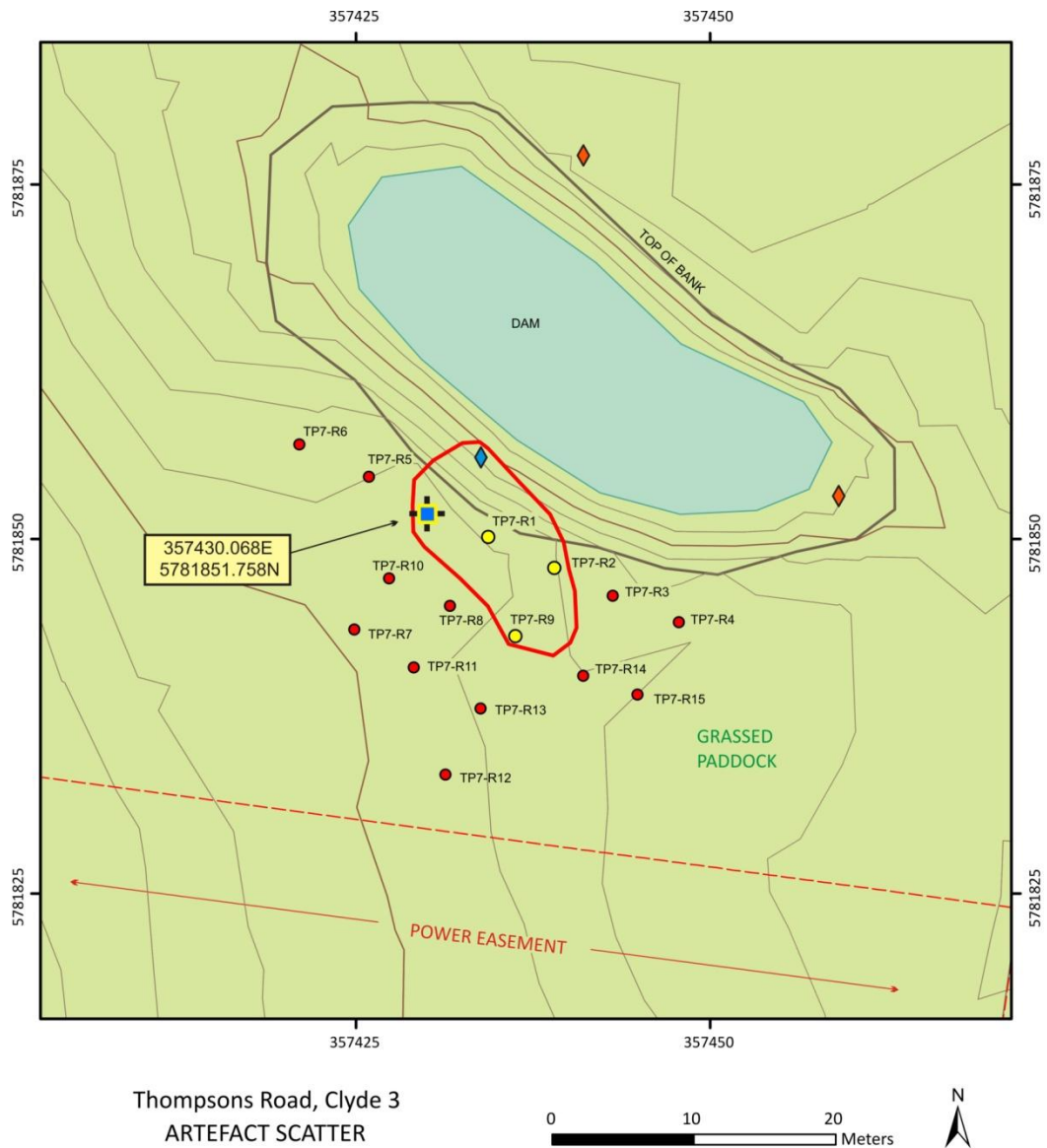
**Sample of artefacts from TP5 radials**



### 8.2.3 VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3)

<b>VAHR Number:</b> 7921-1465	<b>Primary Grid Coordinate GDA 94:</b> 357430.068E 5781851.758N (Zone 55)
<b>Field Name:</b> Thompsons Road, Clyde North Artefact Scatter 3	<b>Cadastral details:</b> 1475 Pound Rd, Clyde North (2/PS433177)

#### Site Plan:



LEGEND	
+	Primary GPS Point
■	Hand Excavated Test Pit (artefact/s)
●	Shovel Test Pit (artefact/s)
●	Radial Shovel Test Pit (no artefact/s)
□	Site Extent
◆	Surface Artefact
—	Contour Major
—	Contour Minor
■	Grassed Paddock
■	Dam
- - -	Power Easement
◆	Registered Surface Artefact

FIGURE PRODUCED BY K.AUDY



**Description of Aboriginal Place VAHR 7921-1465 (cont. over page)**

**Site Contents and Nature:** The site is located on the banks of a prior watercourse, now a dam in the southern region of the Activity Area. Twenty-four artefacts were identified at this location within eroded surface and sub-surface contexts. Sub-surface artefacts were in grey silty topsoil (Context 1) and light grey fine silt/sand (Context 2) from 100-500mm. The site measures approximately 150m<sup>2</sup> with higher density of artefacts at the western and southern regions of the site. Due to the proximity of the prior watercourse, most likely factors identified in formation of the site are slope wash from elevated ground to southwest and inundation from watercourse along with modern disturbance from cattle trampling when ground water-logged.

Context	Coarse-grained Siliceous	Crystal Quartz	Basalt	Silcrete	Total	Retouch/Backing
Sub-surface	4	1	1	18	24	5
<b>Total</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>18</b>	<b>24</b>	

**Site location**



Sub-surface component facing north (Photo by K. Hislop 27/2/2013)

**Artefacts**



TP7 (Photo by S. Pfeffer 12/3/2013)

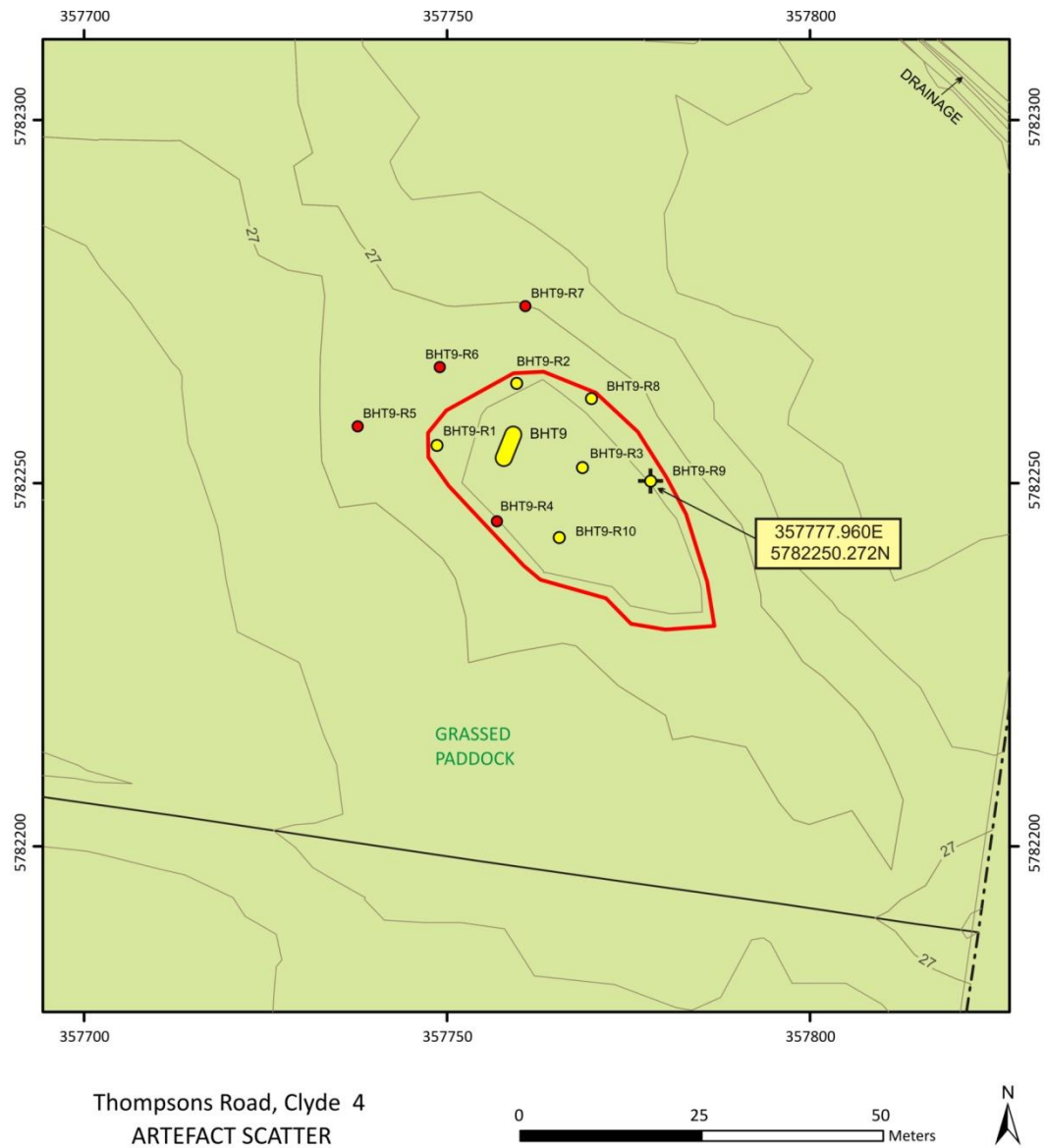


**TP7 Radials (Photo by S. Pfeffer 12/3/2013)**

#### 8.2.4 VAHR 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4)

<b>VAHR Number:</b> 7921-1466	<b>Primary Grid Coordinate GDA 94:</b> 357777.960E 5782250.272N (Zone 55)
<b>Field Name:</b> Thompsons Road, Clyde North Artefact Scatter 4	<b>Cadastral details:</b> 1475 Pound Rd, Clyde North (2/PS433177)

#### Site Plan:



<b>LEGEND</b>		Primary GPS Point		Contour Main
		Backhoe Transect (artefact/s)		Grassed Paddock
		Shovel Test Pit (artefact/s)		Parcel Boundary
		Radial Shovel Test Pit (no artefact/s)		Fenceline
		Site Extent		

FIGURE PRODUCED BY K.AUDY

**Description of Aboriginal Place VAHR 7921-1466 (cont. over page)**

**Site Contents and Nature:** The site is located on a low sandy rise in the north-eastern region of the Activity Area. Location of rise is in proximity to a small wetland (now drained) and an ephemeral creek to the northeast. Thirty-one artefacts were identified at this location in a sub-surface context. Artefacts were in the dark grey silty topsoil (Context 1) and light grey fine silt/sand (Context 2 – alluvium silt) from 100-900mm. Raw material vertical distribution indicates silcrete at mid-upper context, with quartzite and quartz in deeper context. The site measures approximately 800m<sup>2</sup> with higher density of artefacts in the centre (highest point of the rise). Site boundary and sensitivity is based on the prominent region of the sandy rise, as testing undertaken on the lower floodplain and lower slopes adjacent to the rise indicated no sensitivity for Aboriginal cultural material.

Context	Quartz	Quartzite	Silcrete	Total	Retouch
Sub-surface	3	8	20	31	2
Total	3	8	20	31	

Site location facing northeast (Photo by K. Hislop 27/2/2013)



**Artefacts**



**BHT9 (Photo by S. Pfeffer 12/3/2013)**



## 8.2.5 VAHR 7921-1410 (Clyde Creek IA 1)

VAHR Number: 7921-1410	Primary Grid Coordinate GDA 94: 357508E 5781809N (Zone 55)
Field Name: Clyde Creek IA 1	Cadastral details: 1475 Pound Rd, Clyde North (2/PS433177)

Site Plan (Reproduced and amended from Kennedy et al. 2012, p.102 Figure 23):



## Description of Aboriginal Place VAHR 7921-1410 (Kennedy et al. 2012, pp.102–103)

**Site Contents and Nature:** The Aboriginal Place comprises an isolated artefact located on the surface at a farm property at 1475 Pound Rd, Clyde North. The artefact is located next to an unnamed former watercourse and has been exposed by erosion. The local landscape comprises gently sloping plains with some sandy rises. The Aboriginal place was assessed as being in poor condition due to extensive erosion and evidence of stock trampling. The artefact is not likely to be *in situ*.

The extent of the Aboriginal Place comprises the grid co-ordinate that was recorded as the artefact's location. The artefact was located in a gully by the side of an unnamed former watercourse (that has been dammed and re-shaped) with high (70%) ground surface visibility. Past and present surface surveys have identified seven other isolated artefact occurrences and low density scatters in the vicinity of the unnamed former watercourse. As no further artefacts were identified on the exposure on which Clyde Creek IA 1 is located, this place is considered an isolated artefact, characteristic of low density discard across the area.

Context	Silcrete	Total	Retouch
Surface	1	1	-
<b>Total</b>	<b>1</b>	<b>1</b>	

### 8.2.6 VAHR 7921-1411 (Clyde Creek IA 2)

<b>VAHR Number:</b> 7921-1411	<b>Primary Grid Coordinate GDA 94:</b> 357459E 5781853N (Zone 55)
<b>Field Name:</b> Clyde Creek IA 2	<b>Cadastral details:</b> 1475 Pound Rd, Clyde North (2/PS433177)

## Description of Aboriginal Place VAHR 7921-1411 (Kennedy et al. 2012, pp.104–105)

**Site Contents and Nature:** The Aboriginal Place comprises an isolated artefact located on the surface at a farm property at 1475 Pound Rd, Clyde North. The artefact is located next to an unnamed former watercourse and has been exposed by gully erosion. The local landscape comprises gently sloping plains with some sandy rises. The Aboriginal place was assessed as being in poor condition due to extensive erosion of the gully and evidence of stock trampling. The artefact is not likely to be *in situ*.

The extent of the Aboriginal Place comprises the grid co-ordinate that was recorded as the artefact's location. The artefact was located on the bank of an unnamed former watercourse on an exposure with high (90%) ground surface visibility. Past and present surface surveys have identified seven other isolated artefact occurrences and low density scatters in the vicinity of the unnamed watercourse. As no further artefacts were identified on the exposure on which Clyde Creek IA 2 is located, this place is considered an isolated occurrence, characteristic of low density discard across the area.

Context	Quartz	Total	Retouch
Surface	1	1	-
<b>Total</b>	<b>1</b>	<b>1</b>	

### 8.2.7 VAHR 7921-1412 (Clyde Creek IA 3)

<b>VAHR Number:</b> 7921-1412	<b>Primary Grid Coordinate GDA 94:</b> 357441E 5781877N (Zone 55)
<b>Field Name:</b> Clyde Creek IA 3	<b>Cadastral details:</b> 1475 Pound Rd, Clyde North (2/PS433177)

#### Description of Aboriginal Place VAHR 7921-1412 (Kennedy et al. 2012, pp.106–107)

**Site Contents and Nature:** The Aboriginal Place comprises an isolated artefact located on the surface at a farm property at 1475 Pound Rd, Clyde North. The artefact is located on the bank of a dam. The local landscape comprises gently sloping plains with some sandy rises. The Aboriginal place was assessed as being in poor condition due to gully erosion and evidence of stock trampling. The artefact is not likely to be *in situ* and the potential for sub-surface deposits is considered low.

The extent of the Aboriginal Place comprises the grid co-ordinate that was recorded as the artefact's location. The artefact was located on the bank of a farm dam by an unnamed former watercourse which demonstrated high (90%) ground surface visibility. Past and present surface surveys have identified seven other isolated artefact occurrences and low density scatters in the vicinity of the unnamed former watercourse. As no further artefacts were identified on the exposure on which Clyde Creek IA 3 is located, this place is considered an isolated occurrence, characteristic of low density discard across the area.

Context	Silcrete	Total	Retouch
Surface	1	1	-
<b>Total</b>	<b>1</b>	<b>1</b>	

### 8.2.8 VAHR 7921-1413 (Clyde Creek IA 4)

<b>VAHR Number:</b> 7921-1413	<b>Primary Grid Coordinate GDA 94:</b> 357417E 5781889N (Zone 55)
<b>Field Name:</b> Clyde Creek IA 4	<b>Cadastral details:</b> 1475 Pound Rd, Clyde North (2/PS433177)

#### Description of Aboriginal Place VAHR 7921-1413 (Kennedy et al. 2012, pp.107–109)

**Site Contents and Nature:** The Aboriginal Place comprises an isolated artefact located on the surface at a farm property at 1475 Pound Rd, Clyde North. The artefact is located on the bank of a dam. The local landscape comprises gently sloping plains with some sandy rises. The Aboriginal place was assessed as being in poor condition due to gully erosion and evidence of stock trampling. The artefact is not likely to be *in situ* and the potential for sub-surface deposits is considered low.

The extent of the Aboriginal Place comprises the grid co-ordinate that was recorded as the artefact's location. The artefact was located on the bank of a farm dam by an unnamed former watercourse which demonstrated high (90%) ground surface visibility. Past and present surface surveys have identified seven other isolated artefact occurrences and low density scatters in the vicinity of the unnamed former watercourse. As no further artefacts were identified on the exposure on which Clyde Creek IA 4 is located, this place is considered an isolated occurrence, characteristic of low density discard across the area.

Context	Silcrete	Total	Retouch
Surface	1	1	-
<b>Total</b>	<b>1</b>	<b>1</b>	



## 8.2.9 VAHR 7921-1415 (Clyde Creek 1)

<b>VAHR Number:</b> 7921-1415  <b>Field Name:</b> Clyde Creek 1	<b>Primary Grid Coordinate GDA 94:</b> 357484E 5781818N (Zone 55)  <b>Cadastral details:</b> 1475 Pound Rd, Clyde North (2/PS433177)
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### Description of Aboriginal Place VAHR 7921-1415 (Kennedy et al. 2012, pp.100-101)

**Site Contents and Nature:** VAHR 7921-1415 comprises an isolated occurrence of two stone artefacts located on the surface of a dam bank situated within close proximity to an unnamed former watercourse. Artefact types present include one silcrete proximal flake and one quartzite complete flake. The Aboriginal Place was assessed as being in poor condition due to extensive erosion of the dam bank and evidence of stock damage and trampling. The artefacts are not likely to be *in situ*.

The extent of the Aboriginal Place comprises the grid co-ordinate that was recorded as the artefacts' location. The artefacts were located close together on the bank of a farm dam situated within close proximity to an unnamed former watercourse. Ground surface visibility was moderate (30%). Past and present surface surveys have identified seven other isolated artefact occurrences and low density scatters within the vicinity of the unnamed former watercourse.

Context	Quartzite	Silcrete	Total	Retouch
Surface	1	1	2	-
<b>Total</b>	<b>1</b>	<b>1</b>	<b>2</b>	

### **8.3 Aboriginal Site Significance Assessment**

The significance of the Aboriginal archaeological sites located during the sub-surface testing, have been assessed against the Australia ICOMOS Burra Charter Criteria for the assessment of cultural significance (Australia ICOMOS 1999).

In the Burra Charter, Cultural Significance is defined as “...aesthetic, historic, scientific, social or spiritual value for past, present or future generations” (Australia ICOMOS 1999, p.12). Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects. Places may have a range of meanings for individuals or groups.

Aesthetic value is defined as the “...aspects of sensory perception for which criteria can and should be stated. Such criteria may include consideration of the form, scale, colour, texture and material of the fabric; the smells and sounds associated with the place and its use” (Australia ICOMOS 1999, p.12).

Historic value is defined as the history of aesthetics, science and society. According to the Burra Charter, “A place may have historic value because it has influenced, or has been influenced by, an historic figure, event, phase or activity. It may also have historic value as the site of an important event. For any given place the significance will be greater where evidence of the association or event survives *in situ*, or where the settings are substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of subsequent treatment” (Australia ICOMOS 1999, p.12).

Scientific value is defined as relying upon “...the importance of the data involved, on its rarity, quality or representativeness, and on the degree to which the place may contribute further substantial information” (Australia ICOMOS 1999, p.12).

Scientific significance is assessed by examining the research potential and representativeness of archaeological sites. The scientific significance assessment methodology outlined below is based on scores for research potential (divided into site contents and site condition) and for representativeness. This system is refined and derived from Bowdler (1981) and Bowdler and Sullivan (1984).

**Research potential** is assessed by examining ‘site contents’ and ‘site condition’.

‘Site contents’ refers to all cultural materials and organic remains associated with human activity at a site. ‘Site contents’ also refers to the site structure - the size of the site, the patterning of cultural materials within the site, the presence of any stratified deposits and the rarity of particular artefact types.

‘Site condition’ refers to the degree of disturbance to the contents of a site at the time it was recorded.

The ‘site contents’ ratings used for the archaeological site described in this CHMP are:

0. No cultural material remaining
1. Site contains a small number (e.g. 0 - 10 artefacts) or limited range of cultural materials with no evident stratification
2. Site contains:
  - (a) a larger number, but limited range of cultural materials; and/or
  - (b) some intact stratified deposit remains; and/or
  - (c) rare or unusual example(s) of a particular artefact type

3. Site contains:

- (a) a large number and diverse range of cultural materials; and/or
- (b) largely intact stratified deposit; and/or
- (c) surface spatial patterning of cultural materials that still reflect the way in which the cultural materials were deposited

The 'site condition' ratings for the archaeological site described in this CHMP are:

0. Site destroyed

1. Site in a deteriorated condition with a high degree of disturbance; some cultural materials remaining

2. Site in a fair to good condition, but with some disturbance

3. Site in an excellent condition with little or no disturbance. For surface artifact scatters this may mean that the spatial patterning of cultural materials still reflects the way in which the cultural materials were laid down

**Representativeness** refers to the regional distribution of a particular site type.

Representativeness is assessed by whether the site is common, occasional, or rare in a given region. Assessments of representativeness are subjectively biased by current knowledge of the distribution and number of archaeological sites in a region. This varies from place to place depending on the extent of archaeological research. Consequently, a site that is assigned low significance values for contents and condition but a high significance value for representativeness can only be regarded as significant in terms of knowledge of the regional archaeology. Any such site should be subject to re-assessment as more archaeological research is undertaken.

Assessment of representativeness also takes into account the contents and condition of a site. For example, in any region there may only be a limited number of sites of any type that have suffered minimal disturbance. Such sites would therefore be given a high significance rating for representativeness, although they may occur commonly within the region.

The representativeness ratings used for the archaeological site described in this CHMP are:

- 1. Common occurrence
- 2. Occasional occurrence
- 3. Rare occurrence

Overall scientific significance ratings for sites, based on a cumulative score for site contents, site integrity and representativeness are:

- 1 - 3 Low scientific significance
- 4 - 6 Moderate scientific significance
- 7 - 9 High scientific significance

**Social value** is defined as "...the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a majority or minority group" (Australia ICOMOS 1999, p.12).

The Burra Charter states that "...cultural significance may change as a result of the continuing history of the place. Understanding of cultural significance may change as a result of new information" (Australia ICOMOS 1999, p.2).



Although the Burra Charter is more applicable to non-Aboriginal sites and structures, it may be adapted to assess Aboriginal heritage significance. In particular, the views of contemporary Aboriginal people must be taken into consideration when assessing all of the values described above. Ratings for archaeological site contents and condition are given below.

### **8.3.1 Assessment of Cultural Significance for Aboriginal Places within the Activity Area**

#### *Aesthetic Value*

VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Scatter 1) has a varied aesthetic associated with it as this site is comprised of artefacts scattered over a large section of the Activity Area. Some of these are located in heavily disturbed and altered landscapes (around the dams). Nevertheless, there is still some aesthetic value associated with them in this setting.

VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2) and 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4) are located on elevated land overlooking prior watercourses and a wetland. There are numerous alterations that have modified the natural environment of the sites and their surrounds, although the overall landform context is intact and provides a meaningful context to the artefacts located during the testing. For this reason there is some aesthetic value still associated with these sites.

VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3), 7921-1410 – 1413 and 7921-1415 are located close to the prior watercourse/dam and have some aesthetic value associated with overlooking the water. Aesthetic value of these sites is lowered from the degree of disturbance the soils have undergone close to the dams.

#### *Historic Value*

All Aboriginal sites can be considered to be of value to the history of the local region generally and to descendants of traditional Aboriginal owners in particular. All archaeological sites illustrate aspects of the past use of the landscape by Aboriginal people, and all sites have the potential to provide information on changes in Aboriginal economic and technological practices in the local area, prior to the arrival of Europeans.

#### *Scientific Value*

VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2) and 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4) were assessed as having a moderate (6) scientific significance assessment due to the low disturbance these sites have undergone, the greater density of artefacts present and the potential for further archaeological research due to the occasional occurrence of sites of this type in this landscape.

VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Scatter 1) and VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3) were assessed as having a moderate (4) scientific significance assessment due to the low disturbance these sites have generally undergone, the lesser density of artefacts present and the potential for further archaeological research.

VAHR 7921-1410 – 1413 and 7921-1415 (Clyde Creek IA 1 – 4 and Clyde Creek 1) were assessed as having a low (3) scientific significance assessment due to the high disturbance these sites have undergone, the low density of artefacts present and no potential for further archaeological research.

**Table 19: Scientific significance assessment of Aboriginal Places within the Activity Area**

Aboriginal Place	Site Contents	Site Condition	Representativeness	Overall Archaeological Significance
VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1)	1	2	1	4 (moderate)
VAHR 7921- 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2)	2	2	2	6 (moderate)
VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3)	1	2	1	4 (moderate)
VAHR 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4)	2	2	2	6 (moderate)
VAHR 7921-1410 (Clyde Creek IA 1)	1	1	1	3 (low)
VAHR 7921-1411 (Clyde Creek IA 2)	1	1	1	3 (low)
VAHR 7921-1412 (Clyde Creek IA 3)	1	1	1	3 (low)
VAHR 7921-1413 (Clyde Creek IA 4)	1	1	1	3 (low)
VAHR 7921-1415 (Clyde Creek 1)	1	1	1	3 (low)

#### *Social value*

Many Aboriginal people regard archaeological sites as holding considerable social and cultural value, irrespective of their scientific significance. This arises not only from the material remains that represent a connection to their ancestors, but also from beliefs in the association of archaeological sites and land or 'country'. Protection of archaeological sites and remnant sections of landscape form part of their traditional obligations to looking after country, which were handed down to them by their ancestors. VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415 are likely to be regarded as being of high social and cultural value to the Aboriginal community.

#### **Statement of Cultural Significance**

In assessing the cultural significance of VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415, it is apparent that the aesthetic, historical and social values identifiable to the site are still of importance to the Aboriginal community. The association of the Aboriginal cultural material to its location on the landscape has a spiritual aspect that is not reflected in the scientific assessment of the site. In regard to the scientific significance of the Aboriginal Places, there is the potential to learn more from VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2) and 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4) in particular, as these sites show very little disturbance to the subsoils. VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Scatter 1) and VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3) have some potential for further research in terms of their relationship to VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2) and 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4).

## **9.0 Consideration of Section 61 Matters – Impact Assessment**

### **9.1 Section 61 Matters**

In accordance with Section 61 of the *Aboriginal Heritage Act 2006*, a Cultural Heritage Management Plan must consider whether the activity will be conducted in a way that avoids harm to Aboriginal cultural heritage.

Section 61 matters are a requirement of the CHMP process, and are an assessment of whether:

- Harm to any of the archaeological sites can be avoided or minimised;
- Specific measures are required for the management of the archaeological sites;
- Particular contingency plans for the protection of archaeological sites are necessary; and
- Custody and management arrangements that might be needed.

Harm to VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415 cannot be avoided because the City of Casey requires that open space be unencumbered within developments. The Aboriginal Places located within the Activity Area are unable to be placed under the protection of an open space reserve. Section 10 outlines the salvage requirements for VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415 that must be completed prior to the proposed activity commencing.

The above issues are summarised in relation to each Aboriginal Place located within the Activity Area in Table 20.

### **9.2 Necessary custody and management arrangements**

There are measures needed for the management of the sites VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415, particularly in relation to the curation and treatment of the cultural material found during the complex assessment. These management measures are discussed in detail in Section 10.2.

### **9.3 Necessary Contingency Plans**

There are several contingency plans that may be necessary during the project. In particular, it is necessary to have a contingency in place for the following:

- Unexpected discovery of isolated or dispersed cultural material and for the unexpected discovery of a burial; and
- Reviewing compliance with the Management Plan and mechanisms for remedying non-compliance, particularly in relation to the creation of the cultural heritage reserve and for breaches in the management of the cultural heritage reserve.

These and other contingency plans are discussed in detail in Section 11.3.

**Table 20: Impact assessment and Section 61 matters for Aboriginal Places within the Activity Area**

<b>VAHR Number</b>	<b>Site Name</b>	<b>Impacts of Activity</b>	<b>Can Harm be Avoided or Minimised?</b>	<b>Are Specific Measures Needed for Management?</b>
7921-1456	Thompsons Road, Clyde North Low Density Artefact Distribution 1	Residential Development	No	Yes
7921-1464	Thompsons Road, Clyde North Artefact Scatter 2	Residential Development	No	Yes
7921-1465	Thompsons Road, Clyde North Artefact Scatter 3	Residential Development	No	Yes
7921-1466	Thompsons Road, Clyde North Artefact Scatter 4	Residential Development	No	Yes
7921-1410	Clyde Creek IA 1	Residential Development	No	Yes
7921-1411	Clyde Creek IA 2	Residential Development	No	Yes
7921-1412	Clyde Creek IA 3	Residential Development	No	Yes
7921-1413	Clyde Creek IA 4	Residential Development	No	Yes
7921-1415	Clyde Creek 1	Residential Development	No	Yes



## **Part Two: Cultural Heritage Management Recommendations**

Please note that on approval the management recommendations contained in this CHMP become compliance requirements.

### **10.0 Cultural Heritage Management Requirements**

#### **10.1 General Recommendation: Site Induction/Cultural Awareness Training**

In order to provide a system for notification of the discovery of Aboriginal cultural heritage during construction works, it will first be necessary to provide an induction for any future project managers and construction workers in regards to the discovery of Aboriginal cultural heritage on-site.

A site induction or inductions must be held with project managers and any construction workers on-site. The purpose of the induction/s will be to describe items of Aboriginal cultural heritage to personnel engaged in construction, to create an awareness of Aboriginal cultural value and to inform personnel about the recommendations of the CHMP and the procedure for reporting suspected Aboriginal cultural heritage contained within the contingencies of the CHMP. This induction must be presented by representatives of the relevant Aboriginal communities in association with a cultural heritage advisor. This induction must be arranged and the costs met by the Sponsor or site contractors.

There will also be a need for a system of reporting any possible Aboriginal cultural heritage items which are discovered. This must be built into any development or environmental management plan (EMP) for the site. Contingency plans for notifying the discovery of Aboriginal cultural heritage are contained in Section 11 and *must* be incorporated into the development or Environmental Management Plan for the project. A copy of this management plan must be held on-site at all times.

#### **10.2 General Recommendation: Post-activity Treatment of the Aboriginal Cultural Heritage**

This recommendation relates to the treatment of the Aboriginal cultural heritage from VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415 and any subsequent cultural material located under the contingency arrangements (Section 11). The artefacts located during the complex assessment and subsequent salvage and surface collection activities must be retained by the cultural heritage advisor until the site works have been completed.

The following treatment should be applied to the stone artefacts removed from VAHR 7921-1456, 7921-1464 - 1466, 7921-1410 - 1413 and 7921-1415:

- The artefacts will be catalogued and placed in a durable container together with labels identifying their provenance and catalogue numbers;
- At the conclusion of works the artefacts will be relocated to a secure location in a durable container, together with details of provenance and a copy of the artefact catalogue and management plan;
- The artefacts will be re-buried at a location agreed upon in consultation with the relevant Aboriginal communities and the Sponsor; and
- The location of the re-buried artefacts will be recorded by the cultural heritage advisor and subsequently recorded with the Victorian Aboriginal Heritage Register (VAHR).

### **10.3 Specific Cultural Heritage Management Recommendations**

#### **10.3.1 VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1)**

##### **Management Recommendation 1**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1). For this reason, it is therefore recommended that both the surface and sub-surface components of the site be salvaged. A methodology for the collection of the surface artefacts is provided in Recommendation 2. A hand-excavation salvage methodology is contained below in Recommendation 3. This must comprise a minimum of one 2x1m hand-excavated salvage pit between BHT05, BHT05 R2 and BHT05 R5 and one 2x1m hand-excavated salvage pit between BHT14, BHT14 R3 and BHT14 R4 (Figures 4 and 5).

##### **Management Recommendation 2: Surface Collection**

VAHR 7921-1456 included thirteen surface artefacts in the vicinity to the dams along the prior watercourse. The location of each of the surface artefacts was recorded with a differential GPS and left in the position in which it was originally located (Figure 3). As such, all the surface artefacts must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

##### **Management Recommendation 3: Hand Salvage Excavation**

VAHR 7921-1456 included sub-surface artefacts that were removed for further analysis during the complex assessment. Two zones of low density sub-surface artefacts within VAHR 7921-1456 are of particular interest in relation to the nature of site occupation and activities within the north-eastern region of the Activity Area (BHT05 and BHT14). As such, a 2x1m hand-excavated salvage pit must be excavated at each of these two locations to further assess the relationship between Aboriginal cultural activities identified at BHT05 and BHT14 to VAHR 7921-1456 (Figures 4 and 5). The locations for these 2x1m salvage pits are between BHT05, BHT05 R2 and BHT05 R5, and BHT14, BHT14 R3 and BHT14 R4 (Figures 4 and 5).

Each 2x1m salvage pit will be excavated by controlled hand excavation in order to salvage any of the cultural material that would otherwise be affected by the proposed residential development. This methodology will allow an extensive area to be examined and maximise the potential of the investigation to locate *in situ* features as described above.

A qualified and experienced archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL) must undertake this excavation. The salvage methodology must be as follows:

- The trench must be hand-excavated in arbitrary spits or by strata where identified and the excavation should determine the spatial relationship between the artefacts and stratigraphic layers. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified

shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;

- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

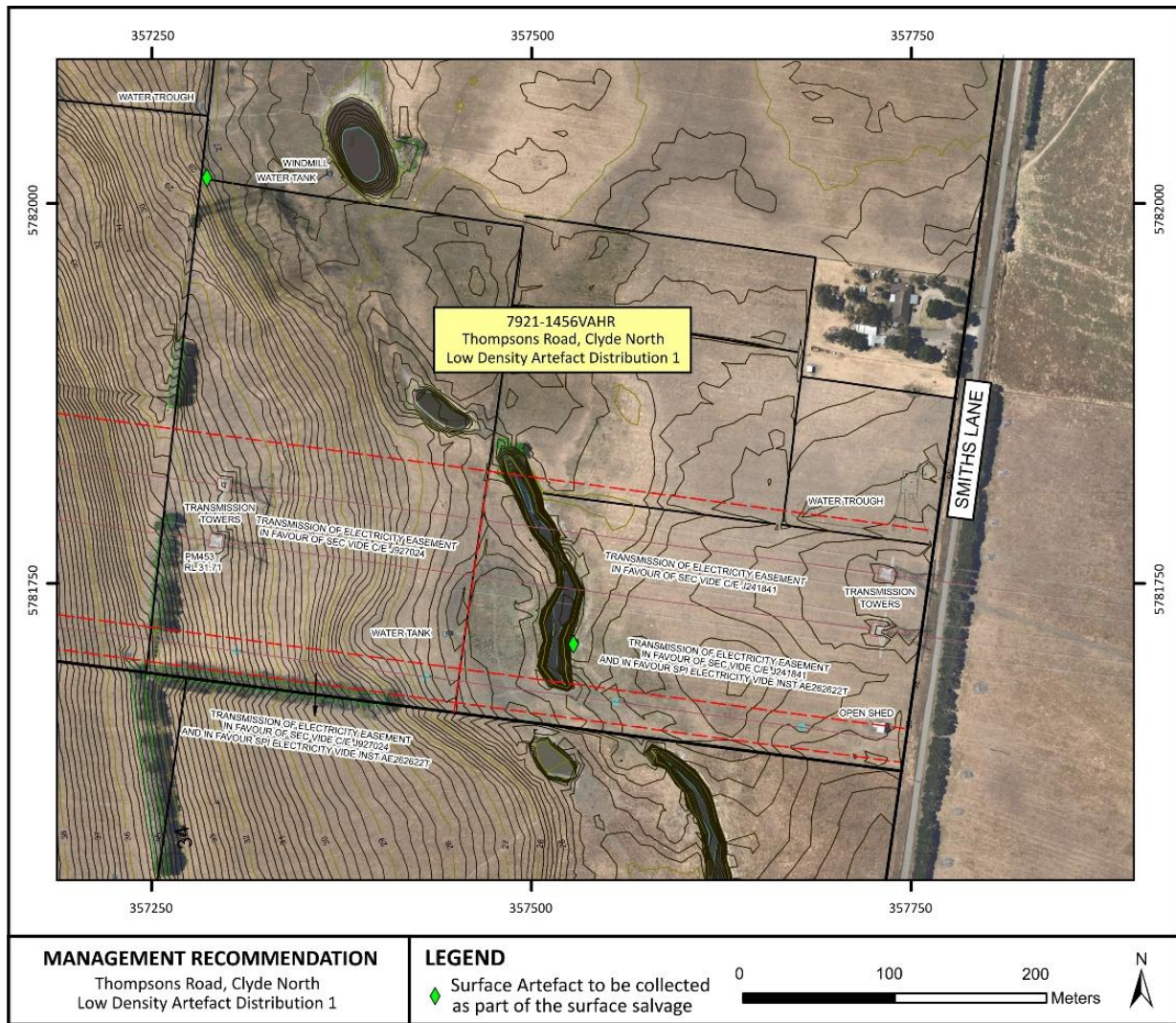


Figure 3: Location of surface collection within VAHR 7921-1456



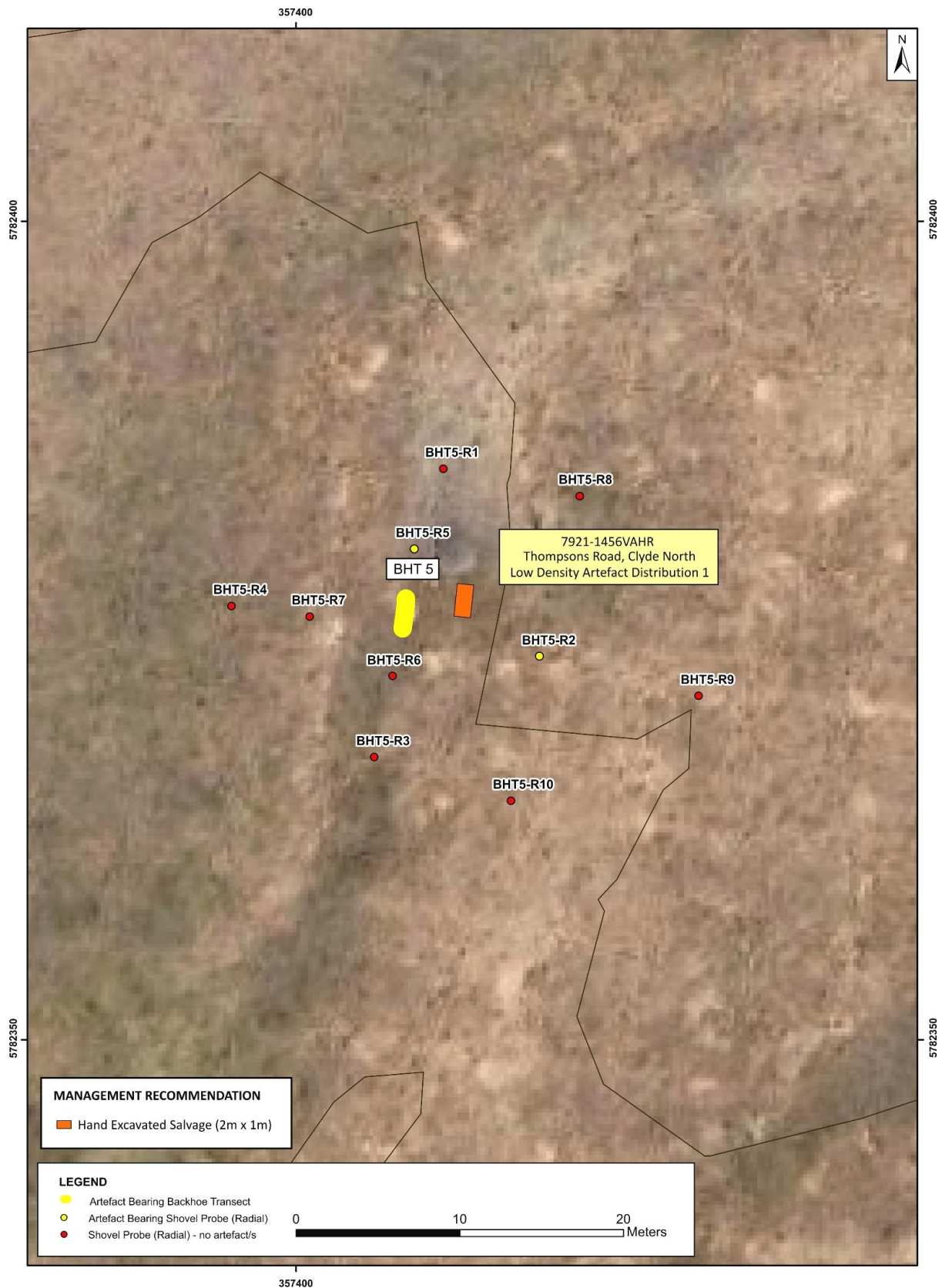
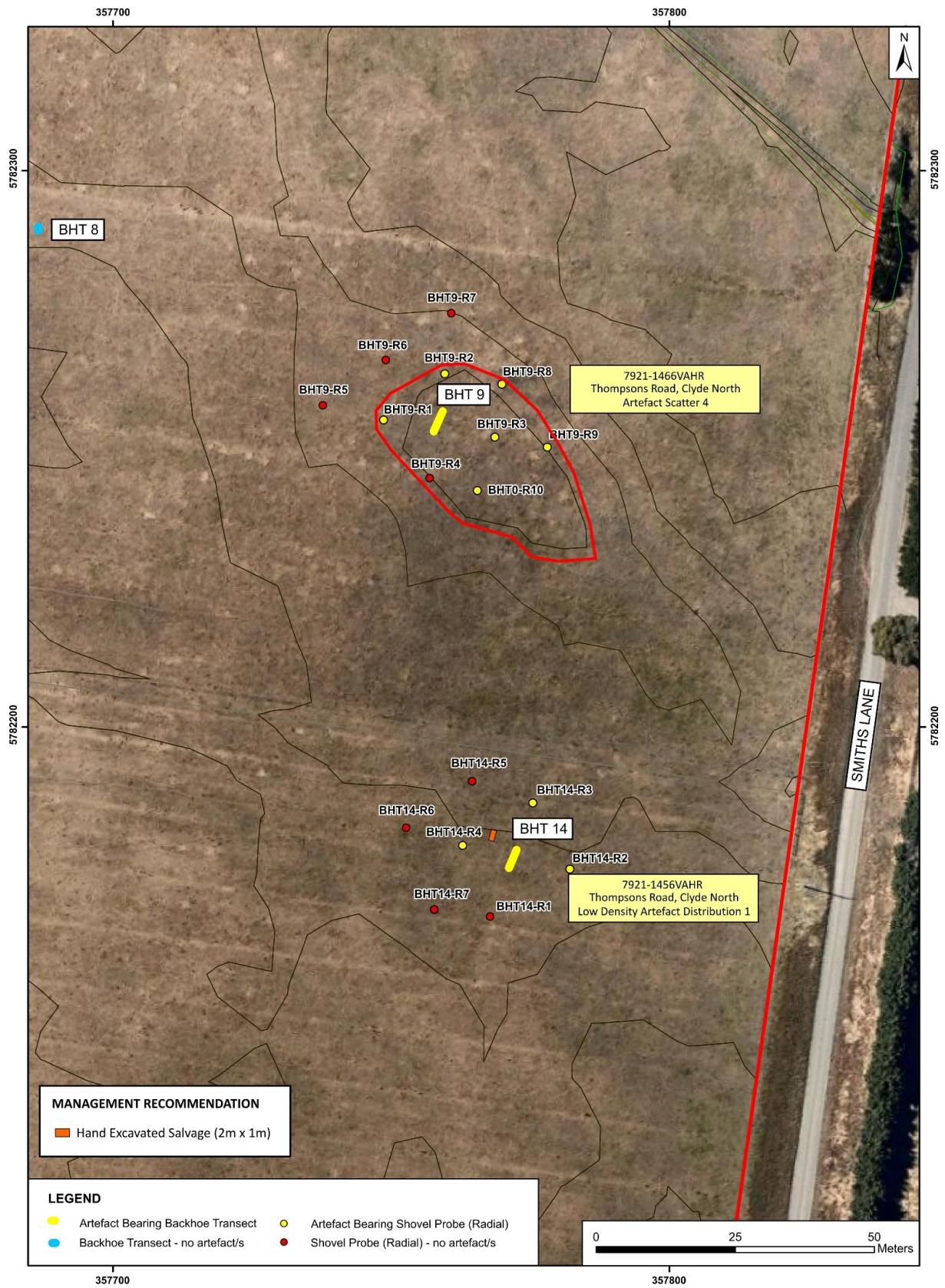


Figure 4: Location of salvage trench at BHT5 within VAHR 7921-1456





### 10.3.2 VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2)

#### **Management Recommendation 1**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2). For this reason, it is therefore recommended that archaeological hand salvage be undertaken. This must comprise a minimum of one 2x2m hand-excavated salvage pit placed adjacent to TP05 R3 (Figure 6). A hand-excavation salvage methodology is contained below in Recommendation 2. In addition to this, an area measuring 32m<sup>2</sup> must be machine-excavated across further sections of the site (Figure 6). A machine-excavation salvage methodology is contained in Recommendation 3.

#### **Management Recommendation 2: Hand Salvage Excavation**

Although VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2) was located and artefacts were removed for further analysis during the complex assessment, the nature of the landform and geological context in which the site is located means that there is a high potential for further archaeological material to exist as sub-surface deposits.

In particular, the area within the vicinity of TP05 R3 was noted as being of highest artefact density and should be the focus of archaeological salvage (Figure 6). It is considered that this area has the potential to contain *in situ* features specified as hearths, knapping floors and dense artefact deposits which may provide further information about Aboriginal life within the region and activities occurring on the site. A program of hand salvage is recommended for this region of VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2).

The hand salvage must comprise the excavation of a minimum of one 2x2m hand-excavated salvage pit placed adjacent to TP05 R3 (Figure 6). The pit will be excavated by controlled hand excavation in order to salvage any of the cultural material that would otherwise be affected by the proposed residential development. This methodology will allow an extensive area to be examined and maximise the potential of the investigation to locate *in situ* features as described above.

A qualified and experienced archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL) must undertake this excavation. The salvage methodology must be as follows:

- The trench must be hand-excavated in arbitrary spits or by strata where identified, and the excavation should determine the spatial relationship between the artefacts and stratigraphic layers. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;
- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact

catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

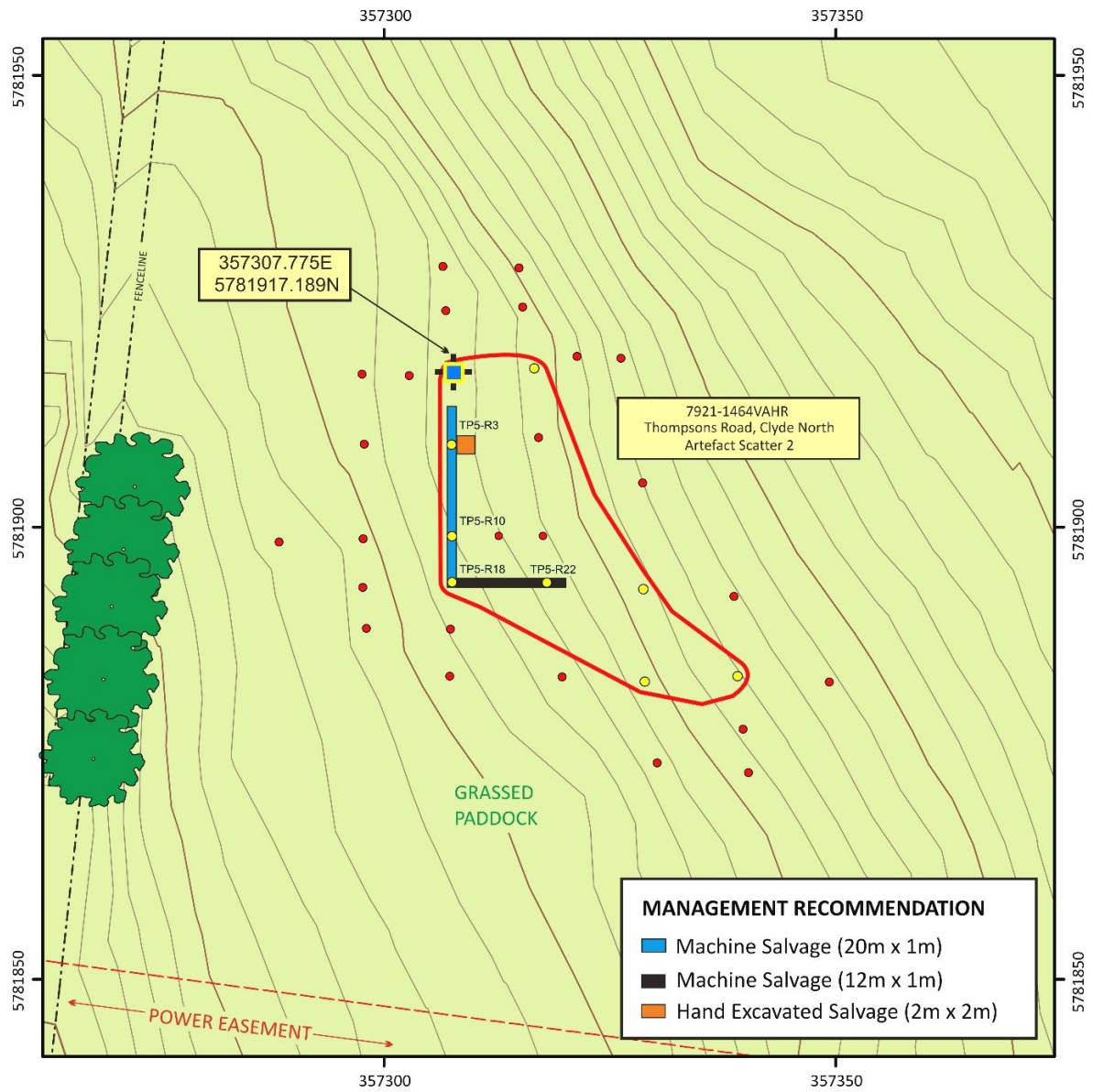
### **Management Recommendation 3: Machine Salvage Excavation**

It is recommended that a machine salvage excavation be carried out on an area of 32m<sup>2</sup> within VAHR 7921-1464 (Thompsons Road, Clyde North Artefact Scatter 2), in this case using a backhoe with a mud bucket (Figure 6). The salvage excavation must be carried out by an archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCCHC) and Boon Wurrung Foundation Ltd (BWFL). A backhoe is recommended in this case as the complex assessment testing has demonstrated that the artefact density within this region of the site is very low and the soils are extremely dry and compacted, making it unsafe to hand-excavate such a large area by hand.

The salvage excavation will comprise of two trenches: 20x1m and 12x1m (Figure 6). The length of the trenches will allow for site usage comparisons across a larger section of the site. The salvage methodology must be as follows:

- The excavation should be carried out in spits of 100mm to the depth of the basal clay so that a reasonable sample of artefacts can be collected and later analysed. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified shell midden) is located within the salvage trench, machine excavation must stop and the feature must be hand-excavated. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;
- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved by mechanical sieve, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.





Thompsons Road, Clyde 2  
ARTEFACT SCATTER

0 20 40  
Meters

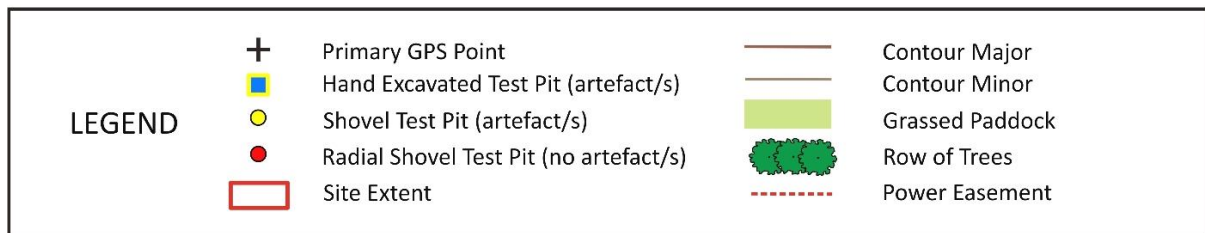


FIGURE PRODUCED BY K.AUDY

Figure 6: Location of salvage trenches at VAHR 7921-1464

### 10.3.3 VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3)

#### **Management Recommendation 1**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3). For this reason, it is therefore recommended that both the surface and sub-surface components of the site be salvaged. A methodology for the collection of the surface artefacts is provided in Recommendation 2. A hand-excavation salvage methodology is contained below in Recommendation 3. This must comprise a minimum of one 2x2m hand-excavated salvage pit placed adjacent to TP07 (Figure 7).

#### **Management Recommendation 2: Surface Collection**

VAHR 7921-1465 included a surface artefact scatter. The location of each of the surface artefacts was recorded with a differential GPS and left in the position in which it was originally located (Figure 7). As such, all the surface artefacts must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to any sub-surface salvage excavation.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

#### **Management Recommendation 3: Hand Salvage Excavation**

Although VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3) was located and artefacts were removed for further analysis during the complex assessment, the nature of the landform and geological context in which the site is located means that there is a high potential for further archaeological material to exist as sub-surface deposits.

In particular, the area within the vicinity of TP07 was noted as being of highest artefact density and should be the focus of archaeological salvage (Figure 7). It is considered that this area has the potential to contain *in situ* features specified as hearths, knapping floors and dense artefact deposits which may provide further information about Aboriginal life within the region and activities occurring on the site. A program of hand salvage is recommended for this section of VAHR 7921-1465.

The hand salvage must comprise the excavation of a minimum of one 2x2m hand-excavated salvage pit placed adjacent to TP07 (Figure 7). The pit will be excavated by controlled hand excavation in order to salvage any of the cultural material that would otherwise be affected by the proposed residential development. This methodology will allow an extensive area to be examined and maximise the potential of the investigation to locate *in situ* features as described above.

A qualified and experienced archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) must undertake this excavation. The salvage methodology must be as follows:

- The trench must be hand-excavated in arbitrary spits or by strata where identified, and the excavation should determine the spatial relationship between the artefacts and stratigraphic layers. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified

shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;

- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

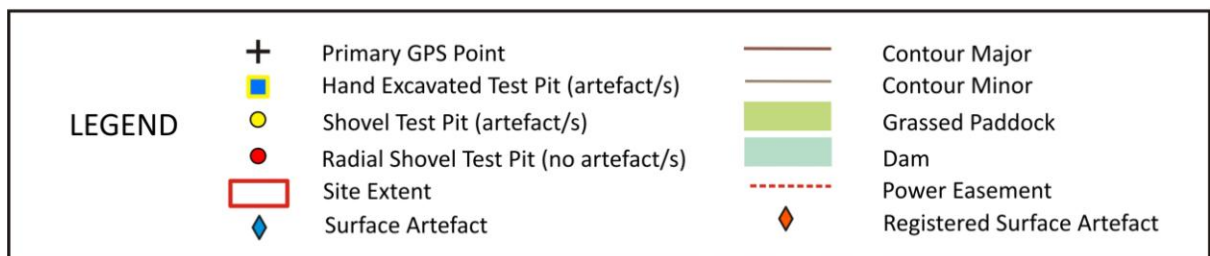
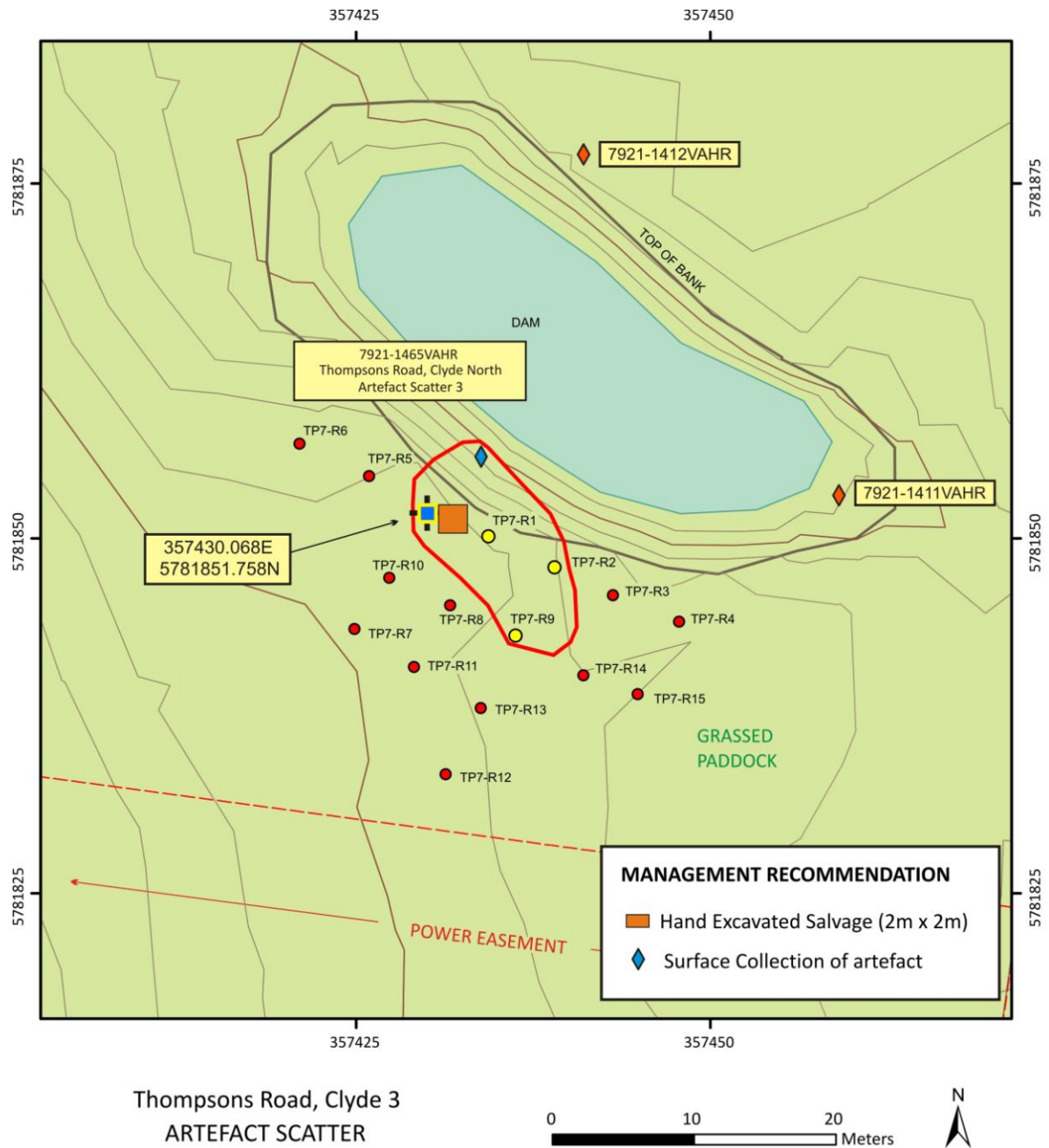


FIGURE PRODUCED BY K.AUDY

Figure 7: Location of salvage trench and surface collection at VAHR 7921-1465



#### 10.3.4 VAHR 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4)

##### **Management Recommendation 1**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4). For this reason, it is therefore recommended that archaeological hand salvage be undertaken. Due to the artefacts being spread through the sand to a much deeper level at this location and the potential for multiple occupation layers, this must comprise a minimum of one 5x5m hand-excavated salvage pit placed between BHT09 R2 and BHT09 R3 (Figure 8). A hand-excavation salvage methodology is contained below in Recommendation 2.

##### **Management Recommendation 2: Hand Salvage Excavation**

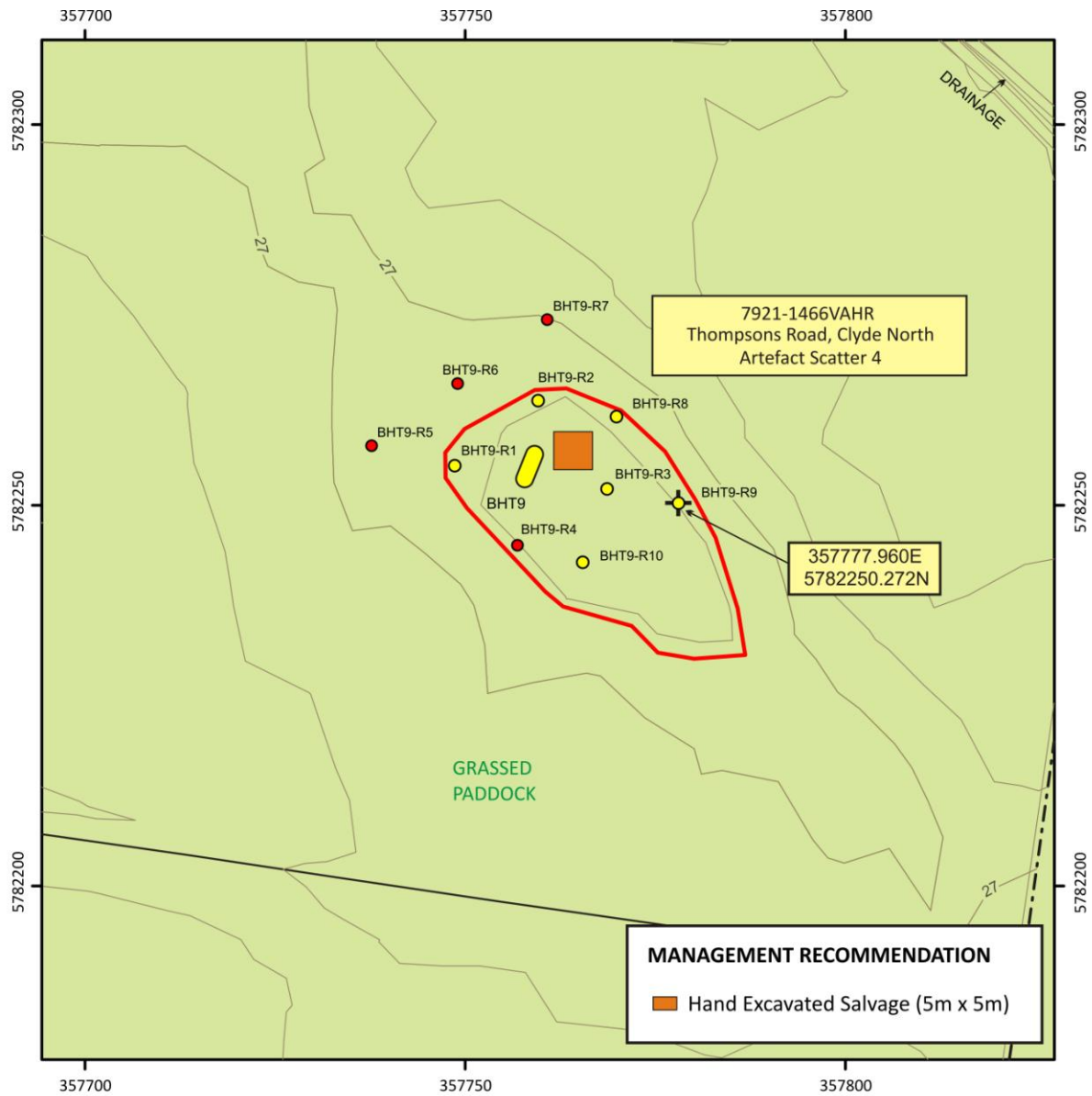
Although VAHR 7921-1466 (Thompsons Road, Clyde North Artefact Scatter 4) was located and artefacts were removed for further analysis during the complex assessment, the nature of the landform, geological context and differing artefact contextual data associated with the site means that there is a high potential for further archaeological material to exist as sub-surface deposits.

In particular, the area within the vicinity of BHT09 R2 and BHT09 R3 was noted as being of highest artefact density and should be the focus of archaeological salvage (Figure 8). It is considered that this area has the potential to contain *in situ* features specified as hearths, knapping floors and dense artefact deposits which may provide further information about Aboriginal life within the region and activities occurring on the site. A program of hand salvage is recommended for this region of VAHR 7921-1466.

The hand salvage must comprise the excavation of a minimum of one 5x5m hand-excavated salvage pit placed between BHT09 R2 and BHT09 R3 (Figure 8). The pit will be excavated by controlled hand excavation in order to salvage any of the cultural material that would otherwise be affected by the proposed residential development. This methodology will allow an extensive area to be examined and maximise the potential of the investigation to locate *in situ* features as described above.

A qualified and experienced archaeologist and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) must undertake this excavation. The salvage methodology must be as follows:

- The trench must be hand-excavated in arbitrary spits or by strata where identified, and the excavation should determine the spatial relationship between the artefacts and stratigraphic layers. If a significant and intact *in situ* feature (such as a hearth, working floor or stratified shell midden) is located that extends beyond the salvage trench, the area salvaged must be extended appropriately;
- The archaeologist must ensure that all aspects of field recording are undertaken, including mapping, photography, soil identification and testing, stratigraphic recording, and artefact recording and labelling;
- All soil excavated during salvage works must be 100% sieved, and stockpiled as close as practicable to the excavation site. No soil may be removed from the Activity Area; and
- All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.



Thompsons Road, Clyde 4  
ARTEFACT SCATTER

0 25 50 Meters

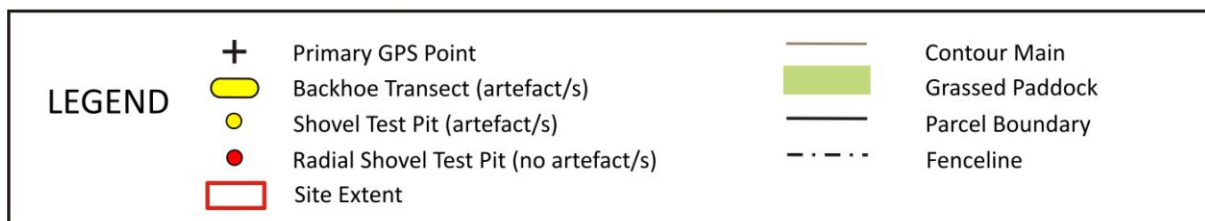


FIGURE PRODUCED BY K.AUDY

Figure 8: Location of salvage trench at VAHR 7921-1466

### **10.3.5 VAHR 7921-1410 (Clyde Creek IA 1)**

#### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1410 (Clyde Creek IA 1). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1410 (Clyde Creek IA 1) comprised an isolated surface artefact. The location of the surface artefact was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

### **10.3.6 VAHR 7921-1411 (Clyde Creek IA 2)**

#### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1411 (Clyde Creek IA 2). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1411 (Clyde Creek IA 2) comprised an isolated surface artefact. The location of the surface artefact was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

### **10.3.7 VAHR 7921-1412 (Clyde Creek IA 3)**

#### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1412 (Clyde Creek IA 3). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1412 (Clyde Creek IA 3) comprised an isolated surface artefact. The location of the surface artefact was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.

### **10.3.8 VAHR 7921-1413 (Clyde Creek IA 4)**

#### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1413 (Clyde Creek IA 4). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1413 (Clyde Creek IA 4) comprised an isolated surface artefact. The location of the surface artefact was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.



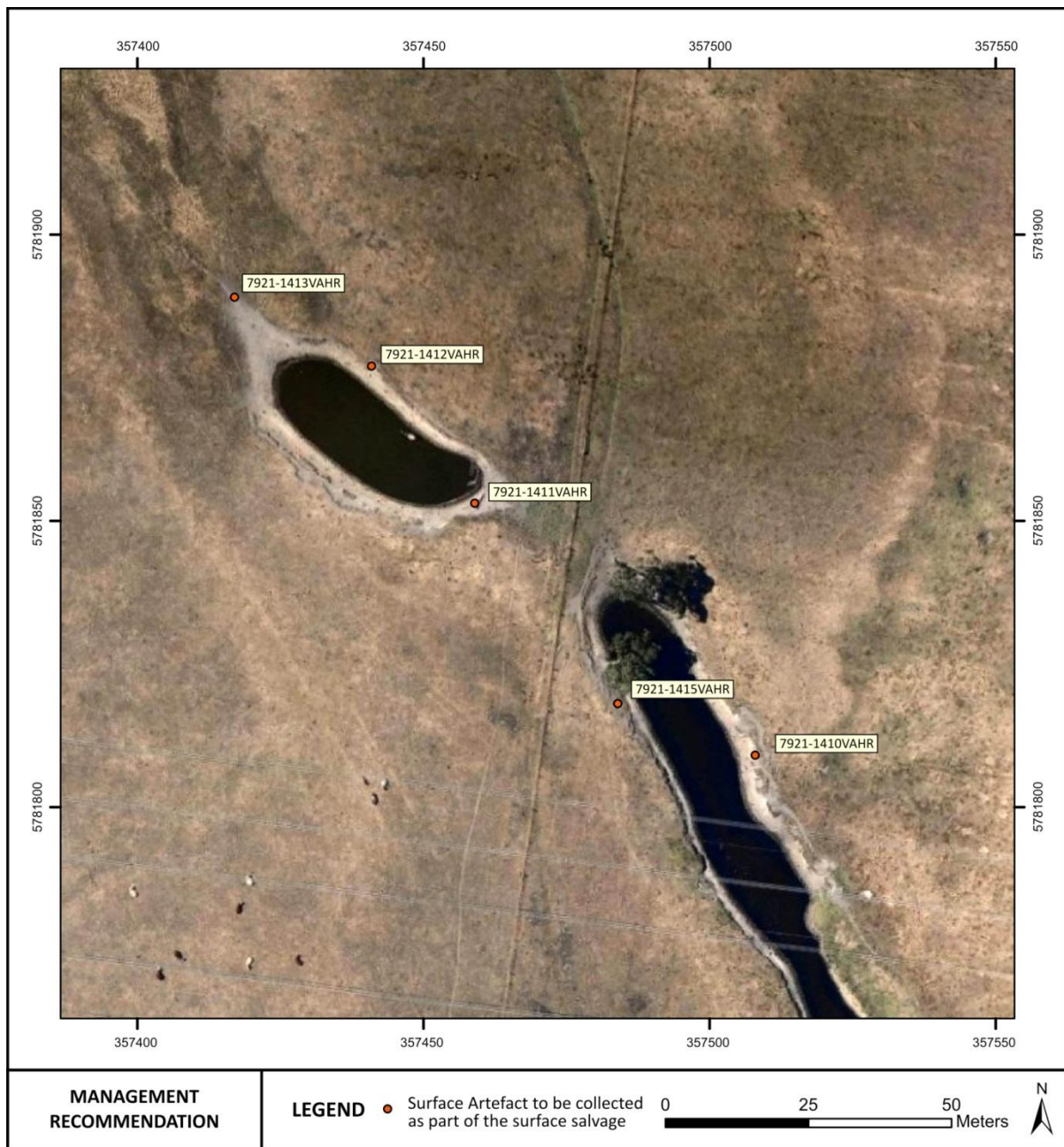
### **10.3.9 VAHR 7921-1415 (Clyde Creek 1)**

#### **Management Recommendation 1: Surface Collection**

As discussed in Section 9, it is not possible to conduct the proposed activity in a way that avoids or minimises harm to the whole of VAHR 7921-1415 (Clyde Creek 1). For this reason, it is therefore recommended that a surface collection be undertaken.

VAHR 7921-1415 (Clyde Creek 1) comprised a surface artefact scatter of two artefacts. The location of the surface artefact scatter was recorded with a differential GPS and left in the position in which it was originally located (Figure 9). As such, the surface artefact scatter must be relocated using the GPS co-ordinates and collected by the cultural heritage advisor and representatives of the Bunurong Land Council Aboriginal Corporation (BLCAC), the Wurundjeri Tribe Land and Compensation Cultural Heritage Council Incorporated (WTLCHC) and Boon Wurrung Foundation Ltd (BWFL) prior to the construction works for the proposed activity taking place.

All cultural material collected must be retained by the archaeologist until such time as all artefacts have been recorded, catalogued and analysed and a salvage report has been produced. The artefacts must then be packed into appropriate containers along with a copy of the artefact catalogue. The artefacts and a copy of the salvage report must then be submitted to the relevant Aboriginal communities for re-burial as per General Recommendation 10.2.



**Figure 9: Location of surface collection for VAHR 7921-1410 – 1413 and 7921-1415**

The contingency plans contained in Section 11 of this report form part of the Cultural Heritage Management Plan and *must* be incorporated into the development or Environmental Management Plan for the project. A copy of this management plan must be held on-site at all times.

## **11.0 Contingency Plans**

The approved form for a CHMP states that in accordance with Clause 13(1) Schedule 2 of the *Aboriginal Heritage Regulations 2007*, a management plan must also include specific contingency plans for:

- (a) the matters referred to in Section 61 of the *Aboriginal Heritage Act 2006*;
- (b) the resolution of any disputes between the Sponsor and the relevant registered Aboriginal parties in relation to the implementation of the plan or the conduct of the activity;
- (c) the management of Aboriginal cultural heritage found during the activity;
- (d) the notification, in accordance with the *Aboriginal Heritage Act 2006*, of the discovery of Aboriginal cultural heritage during the carrying out of the activity; and
- (e) reviewing compliance with the Management Plan and mechanisms for remedying non-compliance.

Contingency plans are required even in situations where it has been assessed that there is a low probability of Aboriginal archaeological sites being located within an Activity Area.

### **11.1 Section 61 Matters**

Section 61 of the *Aboriginal Heritage Act 2006* is concerned with the avoidance and/or minimisation of harm to Aboriginal cultural heritage and any specific measures required for the management of Aboriginal cultural heritage during and following the activity. Section 61 matters pertaining to the site discovered during this CHMP are discussed in Section 9. Section 61 matters pertaining to undiscovered cultural heritage that may become exposed during the activity are discussed in Section 11.3.

### **11.2 Dispute Resolution**

As no RAP has yet been appointed for the region in which the Activity Area is located and the Secretary is evaluating the CHMP, there is no requirement for a dispute resolution between a RAP and the Sponsor at this stage.

### **11.3 Discovery of Aboriginal Cultural Heritage during Works**

#### **11.3.1 Unexpected Discovery of Human Remains**

Although it is highly unlikely that Aboriginal human burials will occur within the Activity Area, the consultants are obliged to provide advice in the event that a human burial is discovered.

If any suspected human remains are found during any activity, works must cease. The Victoria Police and the State Coroner's Office should be notified immediately. If there are reasonable grounds to believe that the remains are Aboriginal, the Department of Sustainability and Environment's Emergency Coordination Centre must be contacted immediately on 1300 888 544.

Any such discovery at the Activity Area must follow these steps.

1. Discovery:

- If suspected human remains are discovered, all activity in the vicinity must stop to ensure minimal damage is caused to the remains; and
- The remains must be left in place, and protected from harm or damage.

2. Notification:

- Once suspected human skeletal remains have been found, the Coroner's Office and the Victoria Police must be notified immediately;
- If there are reasonable grounds to believe that the remains could be Aboriginal, the DSE Emergency Co-ordination Centre must be immediately notified on 1300 888 544;
- The relevant registered Aboriginal parties must be independently informed of the discovery;
- All details of the location and nature of the human remains must be provided to the relevant authorities;
- If it is confirmed by these authorities that the discovered remains are Aboriginal skeletal remains, the person responsible for the activity must report the existence of the human remains to the Secretary, DVC in accordance with s.17 of the Act; and
- Do not contact the media.

3. Impact Mitigation or Salvage:

- The Secretary, after taking reasonable steps to consult with any Aboriginal person or body with an interest in the Aboriginal human remains, will determine the appropriate course of action as required by s.18(2)(b) of the Act; and
- An appropriate impact mitigation or salvage strategy as determined by the Secretary must be implemented (this will depend on the circumstances in which the remains were found, the number of burials found and the type of burials and the outcome of consultation with any Aboriginal person or body).

Note: In consultation with the relevant registered Aboriginal parties, a Sponsor may consider incorporating a contingency plan to reserve an appropriate area for reburial of any recovered human remains that may be discovered during the activity. This may assist the Secretary in determining an appropriate course of action.

4. Curation and further analysis:

- The treatment of salvaged Aboriginal human remains must be in accordance with the direction of the Secretary.

5. Reburial:

- Any reburial site(s) must be fully documented by an experienced and qualified cultural heritage advisor, clearly marked and all details provided to the OAAV; and
- The relevant registered Aboriginal parties should be involved in any reburial process.



Appropriate management measures must be implemented to ensure that the remains are not disturbed in the future.

No photography, excepting that required by the Coroners Act, shall be taken of any Aboriginal human remains without the express prior permission of the relevant registered Aboriginal parties.

There has been no indication that there is any sensitive information within relation to the Activity Area. Protocols for handling sensitive information with relation to human remains have been outlined above within Section 11.3.1. Should an issue arise which the cultural heritage advisor or the relevant registered Aboriginal parties find sensitive, the issue must only be discussed between the relevant registered Aboriginal parties, the cultural heritage advisor and the Sponsor. The information must not be discussed with the media and must not be discussed with any parties who are outside of the project.

### **11.3.2 Unexpected Discovery of Isolated or Dispersed Aboriginal Cultural Heritage**

The following procedure must occur in the event of the discovery of isolated or dispersed cultural heritage:

- In the event that a RAP has been appointed, the RAP must be contacted in the first instance. The cultural heritage advisor must facilitate the involvement of the RAP. This would include an on-site investigation and assessment of the significance of the cultural heritage. In the event that a RAP has not yet been appointed, the relevant Aboriginal community representative or representatives must be contacted.
- In addition, the following must occur:
  - The location of the suspected Aboriginal cultural heritage must be fenced off with temporary webbing;
  - All works must cease within 10 metres of where the suspected Aboriginal cultural heritage is located and a cultural heritage advisor must immediately be notified of the discovery;
  - Work may continue in other parts of the Activity Area, away from the 10 metre buffer around the webbing;
  - A qualified cultural heritage advisor must attend the find within 48 hours of discovery;
  - The suspected Aboriginal cultural heritage must be examined by a qualified cultural heritage advisor, a relevant Aboriginal community representative and a representative of the Sponsor. The cultural heritage advisor must complete site records and advise on management strategies for the feature; and
  - Within a period of 3 working days a decision/recommendation must be made by the cultural heritage advisor, in consultation with the relevant Aboriginal community representative and the Sponsor, on a process to be followed to manage or salvage the Aboriginal cultural heritage in a manner which complies with the *Aboriginal Heritage Regulations 2007* and which is culturally appropriate.
- Works may recommence within the area of exclusion:
  - When the appropriate protective measures have been taken; and
  - When the relevant Aboriginal cultural heritage records have been updated and/or completed.

If the site cannot be retained within the development, then the site must be salvaged using an appropriate methodology as defined in the *AAV Guide to Preparing Cultural Heritage Management Plans 2010* (Aboriginal Affairs Victoria 2010).

### **11.3.3 Unexpected Discovery of Stratified Occupation Deposits**

The following must occur in the event of the discovery of stratified occupation deposits:

- In the event that a RAP has been appointed, the RAP must be contacted in the first instance. The cultural heritage advisor must facilitate the involvement of the RAP. This would include an on-site investigation and assessment of the significance of the cultural heritage. In the event that a RAP has not yet been appointed, the relevant Aboriginal community representative or representatives must be contacted.
- In addition, the following must occur:
  - The location of the suspected stratified occupational deposit must be fenced off with temporary webbing;
  - All works must cease within 10 metres of where the suspected stratified occupational deposit is located and a cultural heritage advisor must immediately be notified of the discovery;
  - Work may continue in other parts of the Activity Area, away from the 10 metre buffer around the webbing;
  - A qualified cultural heritage advisor must attend the find within 48 hours of discovery;
  - The suspected stratified occupational deposit must be examined by a qualified cultural heritage advisor, a relevant Aboriginal community representative and a representative of the Sponsor. The cultural heritage advisor must complete site records and advise on management strategies for the feature; and
  - Within a period of 3 working days a decision/recommendation must be made by the cultural heritage advisor, in consultation with the relevant Aboriginal community representative and the Sponsor, on a process to be followed to manage or salvage the suspected stratified occupational deposit in a manner which complies with the *Aboriginal Heritage Regulations 2007* and which is culturally appropriate.
- Works may recommence within the area of exclusion:
  - When the appropriate protective measures have been taken; and
  - When the relevant Aboriginal cultural heritage records have been updated and/or completed.

If the site cannot be retained within the development, then the site must be salvaged using an appropriate methodology as defined in the *AAV Guide to Preparing Cultural Heritage Management Plans 2010* (Aboriginal Affairs Victoria 2010).

#### **11.3.4 Unexpected Discovery of a Coastal Shell Midden**

The following must occur in the event of the discovery of a coastal shell midden:

- In the event that a RAP has been appointed, the RAP must be contacted in the first instance. The cultural heritage advisor must facilitate the involvement of the RAP. This would include an on-site investigation and assessment of the significance of the cultural heritage. In the event that a RAP has not yet been appointed, the relevant Aboriginal community representative or representatives must be contacted.
- In addition, the following must occur:
  - The location of the suspected midden must be fenced off with temporary webbing;
  - All works must cease within 10 metres of where the suspected midden is located and a cultural heritage advisor must immediately be notified of the discovery;
  - Work may continue in other parts of the Activity Area, away from the 10 metre buffer around the webbing;
  - A qualified cultural heritage advisor must attend the find within 48 hours of discovery;
  - The suspected midden must be examined by a qualified cultural heritage advisor, a relevant Aboriginal community representative and a representative of the Sponsor. The cultural heritage advisor must complete site records and advise on management strategies for the feature; and
  - Within a period of 3 working days a decision/recommendation must be made by the cultural heritage advisor, in consultation with the relevant Aboriginal community representative and the Sponsor, on a process to be followed to manage or salvage the suspected midden in a manner which complies with the *Aboriginal Heritage Regulations 2007* and which is culturally appropriate.
- Works may recommence within the area of exclusion:
  - When the appropriate protective measures have been taken; and
  - When the relevant Aboriginal cultural heritage records have been updated and/or completed.

If a coastal shell midden were to be located within the Activity Area, it would be considered a very rare occurrence and as such every effort must be made to retain the site within the development. If the site cannot be retained within the development, then the site must be salvaged using an appropriate methodology as defined in the *AAV Guide to Preparing Cultural Heritage Management Plans 2010* (Aboriginal Affairs Victoria 2010).



### 11.3.5 Unexpected Discovery of a Fresh Water Shell Midden

The following must occur in the event of the discovery of a fresh water shell midden:

- In the event that a RAP has been appointed, the RAP must be contacted in the first instance. The cultural heritage advisor must facilitate the involvement of the RAP. This would include an on-site investigation and assessment of the significance of the cultural heritage. In the event that a RAP has not yet been appointed, the relevant Aboriginal community representative or representatives must be contacted.
- In addition, the following must occur:
  - The location of the suspected midden must be fenced off with temporary webbing;
  - All works must cease within 10 metres of where the suspected midden is located and a cultural heritage advisor must immediately be notified of the discovery;
  - Work may continue in other parts of the Activity Area, away from the 10 metre buffer around the webbing;
  - A qualified cultural heritage advisor must attend the find within 48 hours of discovery;
  - The suspected midden must be examined by a qualified cultural heritage advisor, a relevant Aboriginal community representative and a representative of the Sponsor. The cultural heritage advisor must complete site records and advise on management strategies for the feature; and
  - Within a period of 3 working days a decision/recommendation must be made by the cultural heritage advisor, in consultation with the relevant Aboriginal community representative and the Sponsor, on a process to be followed to manage or salvage the suspected midden in a manner which complies with the *Aboriginal Heritage Regulations 2007* and which is culturally appropriate.
- Works may recommence within the area of exclusion:
  - When the appropriate protective measures have been taken; and
  - When the relevant Aboriginal cultural heritage records have been updated and/or completed.

If a freshwater shell midden were to be located within the Activity Area, it would be considered a rare occurrence and as such every effort must be made to retain the site within the development. If the site cannot be retained within the development, then the site must be salvaged using an appropriate methodology as defined in the *AAV Guide to Preparing Cultural Heritage Management Plans 2010* (Aboriginal Affairs Victoria 2010).

### **11.3.6 Unexpected Discovery of a Mound Site**

The following must occur in the event of the discovery of a mound site:

- In the event that a RAP has been appointed, the RAP must be contacted in the first instance. The cultural heritage advisor must facilitate the involvement of the RAP. This would include an on-site investigation and assessment of the significance of the cultural heritage. In the event that a RAP has not yet been appointed, the relevant Aboriginal community representative or representatives must be contacted.
- In addition, the following must occur:
  - The location of the suspected mound site must be fenced off with temporary webbing;
  - All works must cease within 10 metres of where the suspected mound is located and a cultural heritage advisor must immediately be notified of the discovery;
  - Work may continue in other parts of the Activity Area, away from the 10 metre buffer around the webbing;
  - A qualified cultural heritage advisor must attend the find within 48 hours of discovery;
  - The suspected mound must be examined by a qualified cultural heritage advisor, a relevant Aboriginal community representative and a representative of the Sponsor. The cultural heritage advisor must complete site records and advise on management strategies for the feature; and
  - Within a period of 3 working days a decision/recommendation must be made by the cultural heritage advisor, in consultation with the relevant Aboriginal community representative and the Sponsor, on a process to be followed to manage or salvage the suspected mound in a manner which complies with the *Aboriginal Heritage Regulations 2007* and which is culturally appropriate.
- Works may recommence within the area of exclusion:
  - When the appropriate protective measures have been taken; and
  - When the relevant Aboriginal cultural heritage records have been updated and/or completed.

If a mound site were to be located within the Activity Area, it would be considered a rare occurrence and as such every effort must be made to retain the site within the development. If the site cannot be retained within the development, then the site must be salvaged using an appropriate methodology as defined in the *AAV Guide to Preparing Cultural Heritage Management Plans 2010* (Aboriginal Affairs Victoria 2010).

### **11.3.7 Unexpected Discovery of a Quarry**

The following must occur in the event of the discovery of a quarry site:

- In the event that a RAP has been appointed, the RAP must be contacted in the first instance. The cultural heritage advisor must facilitate the involvement of the RAP. This would include an on-site investigation and assessment of the significance of the cultural heritage. In the event that a RAP has not yet been appointed, the relevant Aboriginal community representative or representatives must be contacted.
- In addition, the following must occur:
  - The location of the suspected quarry site must be fenced off with temporary webbing;
  - All works must cease within 10 metres of where the suspected quarry is located and a cultural heritage advisor must immediately be notified of the discovery;
  - Work may continue in other parts of the Activity Area, away from the 10 metre buffer around the webbing;
  - A qualified cultural heritage advisor must attend the find within 48 hours of discovery;
  - The suspected quarry must be examined by a qualified cultural heritage advisor, a relevant Aboriginal community representative and a representative of the Sponsor. The cultural heritage advisor must complete site records and advise on management strategies for the feature; and
  - Within a period of 3 working days a decision/recommendation must be made by the cultural heritage advisor, in consultation with the relevant Aboriginal community representative and the Sponsor, on a process to be followed to manage or salvage the suspected quarry in a manner which complies with the *Aboriginal Heritage Regulations 2007* and which is culturally appropriate.
- Works may recommence within the area of exclusion:
  - When the appropriate protective measures have been taken; and
  - When the relevant Aboriginal cultural heritage records have been updated and/or completed.

If a quarry site were to be located within the Activity Area, it would be considered a significant occurrence and as such every effort must be made to retain the site within the development. If the site cannot be retained within the development, then the site must be salvaged using an appropriate methodology as defined in the *AAV Guide to Preparing Cultural Heritage Management Plans 2010* (Aboriginal Affairs Victoria 2010).

### **11.3.8 Unexpected Discovery of a Stone Arrangement**

The following must occur in the event of the discovery of a stone arrangement:

- In the event that a RAP has been appointed, the RAP must be contacted in the first instance. The cultural heritage advisor must facilitate the involvement of the RAP. This would include an on-site investigation and assessment of the significance of the cultural heritage. In the event that a RAP has not yet been appointed, the relevant Aboriginal community representative or representatives must be contacted.
- In addition, the following must occur:
  - The location of the suspected stone arrangement must be fenced off with temporary webbing;
  - All works must cease within 10 metres of where the suspected stone arrangement is located and a cultural heritage advisor must immediately be notified of the discovery;
  - Work may continue in other parts of the Activity Area, away from the 10 metre buffer around the webbing;
  - A qualified cultural heritage advisor must attend the find within 48 hours of discovery;
  - The suspected stone arrangement must be examined by a qualified cultural heritage advisor, a relevant Aboriginal community representative and a representative of the Sponsor. In addition, an anthropologist must be engaged to provide, if possible, further information pertaining to the stone arrangement. The cultural heritage advisor must complete site records and advise on management strategies for the feature; and
  - Within a period of 3 working days a decision/recommendation must be made by the cultural heritage advisor, in consultation with the relevant Aboriginal community representative and the Sponsor, on a process to be followed to manage the site in a manner which complies with the *Aboriginal Heritage Regulations 2007* and which is culturally appropriate.
- Works may recommence within the area of exclusion:
  - When the appropriate protective measures have been taken; and
  - When the relevant Aboriginal cultural heritage records have been updated and/or completed.

If a stone arrangement were to be located within the Activity Area, it would be considered a significant occurrence and as such must be retained within the development. If the site cannot be retained within the development, then the site must be salvaged using an appropriate methodology as defined in the *AAV Guide to Preparing Cultural Heritage Management Plans 2010* (Aboriginal Affairs Victoria 2010).



### **11.3.9 Unexpected Discovery of Other Aboriginal Cultural Heritage**

The following must occur in the event of the discovery of any other suspected Aboriginal cultural heritage:

- In the event that a RAP has been appointed, the RAP must be contacted in the first instance. The cultural heritage advisor must facilitate the involvement of the RAP. This would include an on-site investigation and assessment of the significance of the cultural heritage. In the event that a RAP has not yet been appointed, the relevant Aboriginal community representative or representatives must be contacted.
- In addition, the following must occur:
  - The location of the suspected Aboriginal cultural heritage must be fenced off with temporary webbing;
  - All works must cease within 10 metres of where the suspected Aboriginal cultural heritage is located and a cultural heritage advisor must immediately be notified of the discovery;
  - Work may continue in other parts of the Activity Area, away from the 10 metre buffer around the webbing;
  - A qualified cultural heritage advisor must attend the find within 48 hours of discovery;
  - The suspected Aboriginal cultural heritage must be examined by a qualified cultural heritage advisor, a relevant Aboriginal community representative and a representative of the Sponsor. The cultural heritage advisor must complete site records and advise on management strategies for the feature; and
  - Within a period of 3 working days a decision/recommendation must be made by the cultural heritage advisor, in consultation with the relevant Aboriginal community representative and the Sponsor, on a process to be followed to manage or salvage the Aboriginal cultural heritage in a manner which complies with the *Aboriginal Heritage Regulations 2007* and which is culturally appropriate.
- Works may recommence within the area of exclusion:
  - When the appropriate protective measures have been taken; and
  - When the relevant Aboriginal cultural heritage records have been updated and/or completed.

If the feature cannot be retained within the development, then the feature must be salvaged using an appropriate methodology as defined in the *AAV Guide to Preparing Cultural Heritage Management Plans 2010* (Aboriginal Affairs Victoria 2010).

#### **11.4 Reporting Discovery of Aboriginal Cultural Heritage during Works**

In order to provide a system for notification of the discovery of Aboriginal cultural heritage during construction works, it will be necessary to provide an induction for project managers and construction workers about the discovery of Aboriginal cultural heritage on-site prior to the commencement of work. The purpose of the induction will be to describe items of Aboriginal cultural heritage to personnel engaged in construction, to create an awareness of their cultural value and to inform personnel about the procedure for reporting suspected Aboriginal cultural heritage. This induction must be presented by a relevant Aboriginal person in association with a cultural heritage advisor. This induction must be arranged and paid for by the Sponsor or site contractors.

There will also need to be a system of reporting any possible Aboriginal cultural heritage items which are discovered which must be built into any development or environmental management plan (EMP) for the site.

The project manager must appoint a qualified cultural heritage advisor for the duration of the project who will be available to give advice and act on the discovery of suspected Aboriginal cultural heritage. The cultural heritage advisor will need to:

- Be available to visit the site and inspect any items of suspected Aboriginal cultural heritage that may be found during any development;
- Document any items of Aboriginal cultural heritage that are found during any development and report the sites to the OAAV by means of completing an OAAV site card and registering the site;
- Complete the site documentation in association with a representative of the relevant Aboriginal community;
- Advise on appropriate treatment or salvage of any Aboriginal cultural heritage; and
- Provide adequate reporting on the treatment of any Aboriginal cultural heritage to standards required by the OAAV.

#### **11.5 Management of Aboriginal Cultural Heritage Discovered during Works**

In any case where previously unrecorded Aboriginal cultural material is located during the assessment, it will be the responsibility of the cultural heritage advisor to:

- Catalogue the Aboriginal cultural heritage;
- Label and package the Aboriginal cultural heritage with reference to provenance; and
- With the relevant community representative, arrange storage of the Aboriginal cultural heritage in a secure location with copies of the catalogue and assessment documentation.

Custody of any Aboriginal cultural heritage material identified during the activity must be ascribed in the following order of priority: the RAP (if one has been appointed); registered Native Title Holder; Native Title party; relevant Aboriginal persons with traditional or familiar links; relevant Aboriginal body or organisation with historical or contemporary links; the owner of the land; Museum Victoria.

## 11.6 Reviewing Compliance with the Plan

The Sponsor must ensure that compliance with this plan is reviewed. A review process must be incorporated in the Environmental Management Plan (EMP) or similar document for the project. It is recommended that each of the management actions in Section 10 above be listed in the Environmental Management Plan. There must be a mechanism included in the plan (such as a checklist or database) to indicate when the recommended actions for Aboriginal cultural heritage have been carried out. The project manager should be responsible for maintaining this list. Any associated documentation which accompanies the actions should be recorded on the checklist or database.

The record of compliance must be maintained by the project manager at all times and must be available for inspection by either an Inspector under the *Aboriginal Heritage Act 2006* or other representative of the Secretary.

It is illegal to harm cultural heritage outside of the recommendations contained within this management plan. Inspectors from the Office of Aboriginal Affairs Victoria may conduct CHMP compliance audits.

A checklist is provided below that specifies what measures will be undertaken to review compliance with the CHMP. The site manager must verify that the measures specified below have been undertaken.

Checklist for Reviewing Compliance with CHMP 11869		
	Yes	No
<b>Prior to works occurring</b>		
1: Has the site induction been completed by a relevant Aboriginal community representative/s?		
2: Have the contingency plans contained in Section 11.3 of this report been incorporated into the development or JEHA (Job Environment & Heritage Assessment) for the project?		
<b>Identification of Aboriginal cultural heritage</b>		
1: Has all activity within 10m ceased if 1-5 artefacts have been located or within the general area if a dense artefact scatter, <i>in situ</i> deposits, shell midden, hearth feature, stone or earth feature has been located?		
2: Has the relevant Aboriginal community/ies been notified?		
3: Has a cultural heritage advisor been notified?		
4: Have the artefacts been left in place?		
5: Has the find/s been protected (e.g. with fencing) if required?		
6: In relation to suspected human remains, have the Coroner's Office and Victoria Police been notified?		
7: Has an appropriate mitigation/salvage strategy been developed?		
8: Have the mitigation/salvage works been implemented?		
9: Have the salvaged finds/remains been treated in accordance with the direction of the Secretary?		
<b>Reburial procedure: Human remains</b>		
1: Has a suitably qualified archaeologist been engaged to fully document the reburial site?		
2: Has the reburial site been clearly marked?		
3: Have all details been provided to the OAAV?		
4: Has a strategy been developed to ensure no further disturbance (such as Section 173 in the Planning and Provision Act)?		

Review of this CHMP can be undertaken at any time by project delegates representing the Sponsor, or by an agreed independent reviewer to ensure that all parties are complying with the terms of this CHMP.

## 11.7 Resolution of Non-Compliance with the Plan

To ensure compliance with the terms of this CHMP, the site manager must verify that the measures specified in the above checklist have been undertaken. If any of the following breaches occur, the site manager must action the relevant remedy. The aim of this process is to resolve non-compliance issues by immediately actioning processes to remedy non-compliance through consultation with the Aboriginal representatives and the cultural heritage advisor.

If mechanisms for remedying non-compliance are not actioned and resolution cannot be reached then ultimately the Minister may order a cultural heritage audit to be carried out. Details of cultural heritage audits can be obtained from Part 6, Division 1 of the *Aboriginal Heritage Act 2006*.

Potential Breach	Remedy
<b>Prior to works occurring</b>	
1: Contingency plans contained in Section 11.3 of this report have not been incorporated into the development or JEHA (Job Environment & Heritage Assessment) for the project.	The site manager must ensure that the Contingency plans are incorporated within 48 hours. All employees must be made aware of the contingency requirements.
<b>During Development</b>	
1: Activity has not ceased within 10m if Aboriginal cultural heritage has been located.	Activity must cease immediately within 10m of the find and the Secretary notified within 48 hours. A cultural heritage advisor must immediately be notified to assess the find.
2: The Secretary has not been notified of any Aboriginal cultural heritage.	Notify the Secretary within 48 hours.
3: Harm to Aboriginal cultural heritage has occurred.	<p>Work within 10m of the Aboriginal cultural heritage must cease immediately. The Sponsor must notify the Secretary within 48 hours. The Sponsor must immediately notify a cultural heritage advisor to assess the level of harm and Aboriginal representatives in the following order of priority: the RAP; registered Native Title Holder; Native Title party; relevant Aboriginal persons with traditional or familiar links; relevant Aboriginal body or organisation with historical or contemporary links. The Sponsor and the RAP or Aboriginal representatives must undertake the following process:</p> <ul style="list-style-type: none"> <li>• Details of the harm must be documented by the Sponsor, the cultural advisor and Aboriginal representatives;</li> <li>• A meeting must be held within 48 hours to attempt to mitigate further harm;</li> <li>• The understanding of the issue by both parties must be clearly stated by the relevant representatives during the course of the meeting;</li> <li>• The parties must reach a resolution;</li> <li>• The objective of the meeting is to discuss and arrive at an understanding of the matter being disputed and reach a negotiated settlement of the dispute. This may include a formal protocol between the Sponsor and Aboriginal representatives; and</li> <li>• The resolution to the dispute must be recorded in writing and signed off on by both parties.</li> </ul>
4: Activity has not ceased if potential skeletal remains have been located.	Work within 10m of the Aboriginal cultural heritage must cease immediately. The Sponsor must immediately action the procedure outlined in Contingency 11.3.1.

**Note:** It is illegal to harm cultural heritage outside of the recommendations contained within this management plan. Inspectors from the Office of Aboriginal Affairs Victoria may conduct CHMP compliance audits.



## **12.0 Other Considerations**

### **12.1 Communication**

The Project Manager and any personnel involved with supervision of future construction must read the CHMP and be aware of the legal requirements and contingency procedures concerning Aboriginal heritage within the Activity Area. The Project Manager (or other relevant supervisory staff) must be responsible for implementing any conditions contained in the CHMP.

The Project Manager must set in place internal processes of communication to ensure that they are notified prior to any contractors conducting works (including archaeological contractors) at any of the archaeological sites on the property.

#### **Contact Details for the Sponsor**

All communication regarding this property and proposed activity should be directed to the client's agent as below.

Beveridge Williams  
Attn: Bernard Collins  
Phone: 0402 007 838

#### **Contact Details for the Bunurong Land Council Aboriginal Corporation**

Sonia Murray  
Director  
Bunurong Land Council Aboriginal Corporation

Phone: (03) 5968 1170  
Mobile: 0400 025 859  
Email: bunurong@dcsi.net.au

#### **Contact Details for the Boon Wurrung Foundation Ltd**

Boon Wurrung Foundation Ltd  
Phone: 0435 677 005  
Email: info@boonwurrung.org.au

#### **Contact Details for the Wurundjeri Tribe Land & Compensation Cultural Heritage Council Inc.**

Alexander Parmington  
Project Manager - Heritage  
Wurundjeri Tribe Land & Compensation Cultural Heritage Council Incorporated

1st Floor Providence Building  
Abbotsford Convent  
1 St Heliers Street  
Abbotsford VIC 3067

Phone: (03) 8673 0905  
Fax: (03) 9416 3095  
Mobile: 0419 811 888  
alex@wurundjeri.com.au

## **Bibliography**

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*Aboriginal Heritage Act 2006*  
*Aboriginal Heritage Regulations 2007*

### **Organisations**

DSE Laverton historic aerial photography archive  
Public Records Office of Victoria

### **Websites and Databases**

Bureau of Meteorology  
(<http://www.bom.gov.au/climate/data/>)

Department of Planning and Community Development, 2012: Aboriginal Affairs Victoria, ACHRIS

Department of Primary Industries: Biodiversity Interactive Map  
(<http://mapshare2.dse.vic.gov.au/MapShare2EXT/imf.jsp?site=bim>)

Department of Primary Industries: GeoVic - Department of Primary Industries  
(<http://www.dpi.vic.gov.au/earth-resources/exploration-and-mining/tools-and-resources/geovic>)

Department of Sustainability and Environment: EVC Benchmarks – Victorian Volcanic Plains  
Bioregion  
([www.dse.vic.gov.au/conservation-and-environment/native-vegetation-groups-for-victoria/ecological-vegetation-class-evc-benchmarks-by-bioregion/evc-benchmarks-gippsland-plain-bioregion](http://www.dse.vic.gov.au/conservation-and-environment/native-vegetation-groups-for-victoria/ecological-vegetation-class-evc-benchmarks-by-bioregion/evc-benchmarks-gippsland-plain-bioregion))

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## **Appendix 1: CHMP Notification**

## Notice of Intent to prepare a Cultural Heritage Management Plan for the purposes of the Aboriginal Heritage Act 2006

This form can be used by the Sponsor of a Cultural Heritage Management Plan to complete the notification provisions pursuant to s.54 of the *Aboriginal Heritage Act 2006* (the "Act").

### SECTION 1 – Sponsor Information

Name of Sponsor: GORDON GILL  
Business Name: G + M S GILL  
Postal Address: P.O. Box 155 BERWICK  
Telephone Number: 03 97075372 Fax number: 03 9769 9388  
Mobile: 0418 176 068  
Email Address: GORDGILL@BIGPOND.NET.AU

### SECTION 2 – Description of proposed activity and location

- Provide a project name: CAMPBELL PARK PROPERTY DEVELOPMENT
- List the relevant municipal district/s (ie. Local Council or Shire): CITY OF CASEY
- Clearly identify the proposed activity for which the cultural heritage management plan is to be prepared (ie. mining, road construction, housing subdivision):  
SUBDIVISION OF LAND
- Clearly identify the area (such as listing cadastral information, attaching a copy of a title search, or indicating the street address):  
1425 POUND ROAD CLYDE NORTH  
LOTS 2, 3, 4 PS 300094 LOT 2 PS 433177
- Attach a map (to scale, with a north arrow and indicating the municipal district - if any) that clearly identifies the area and boundaries in respect of which the cultural heritage management plan is to be prepared.
  - Please ensure the map refers to existing roads and features, rather than proposed roads and features.
  - Please ensure the map has the activity area outlined on it.
  - The map should have a legend, north arrow, scale, at least 3 readily identifiable geographical locations (such as road intersections, parcel boundaries, or road/river crossings), and should state the map's projection.

### SECTION 3 – Cultural Heritage Advisor

If you would like a Cultural Heritage Advisor (a person who has the qualifications or experience [or both] required under section 189 of the Act) notified of the status of this Cultural Heritage Management Plan, please provide the following details for that person:

JOHN YOUNG HERITAGE INSIGHT P/L  
Name Company (if any) Email address

### SECTION 4 – Expected start and finish date for the cultural heritage management plan

Start date: 15/08/2011 Finish date: 15/05/2012

**SECTION 5 – Why are you preparing this Cultural Heritage Management Plan?**

- ☐ A Cultural Heritage Management Plan is required by the Aboriginal Heritage Regulations 2007

What is the High Impact Activity listed in the regulations? SUBDIVISION OF LAND

Is any part of the activity in an area of cultural heritage sensitivity, as listed in the regulations? **YES** / NO  
Please Circle

- ☐ Other reasons (Voluntary)

- ☐ An Environmental Effects Statement is required

- ☒ A Cultural Heritage Management Plan is required by the Minister for Aboriginal Affairs

**SECTION 6 – List the relevant registered Aboriginal parties (if any)**

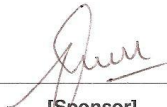
*This section should only be completed where there is a registered Aboriginal party in relation to the Plan*

THERE IS NO RAP APPOINTED FOR THE AREA

**SECTION 7 – Signature of Sponsor**

I certify that to the best of my knowledge and belief that the information supplied is correct and complete.

Signed:

  
[Sponsor]

Date: 15/08/2011

**SECTION 8 – Notification Checklist**

- ☐ Ensure appropriate attachment/s are completed and attached to this notification (see section 2 of this form).

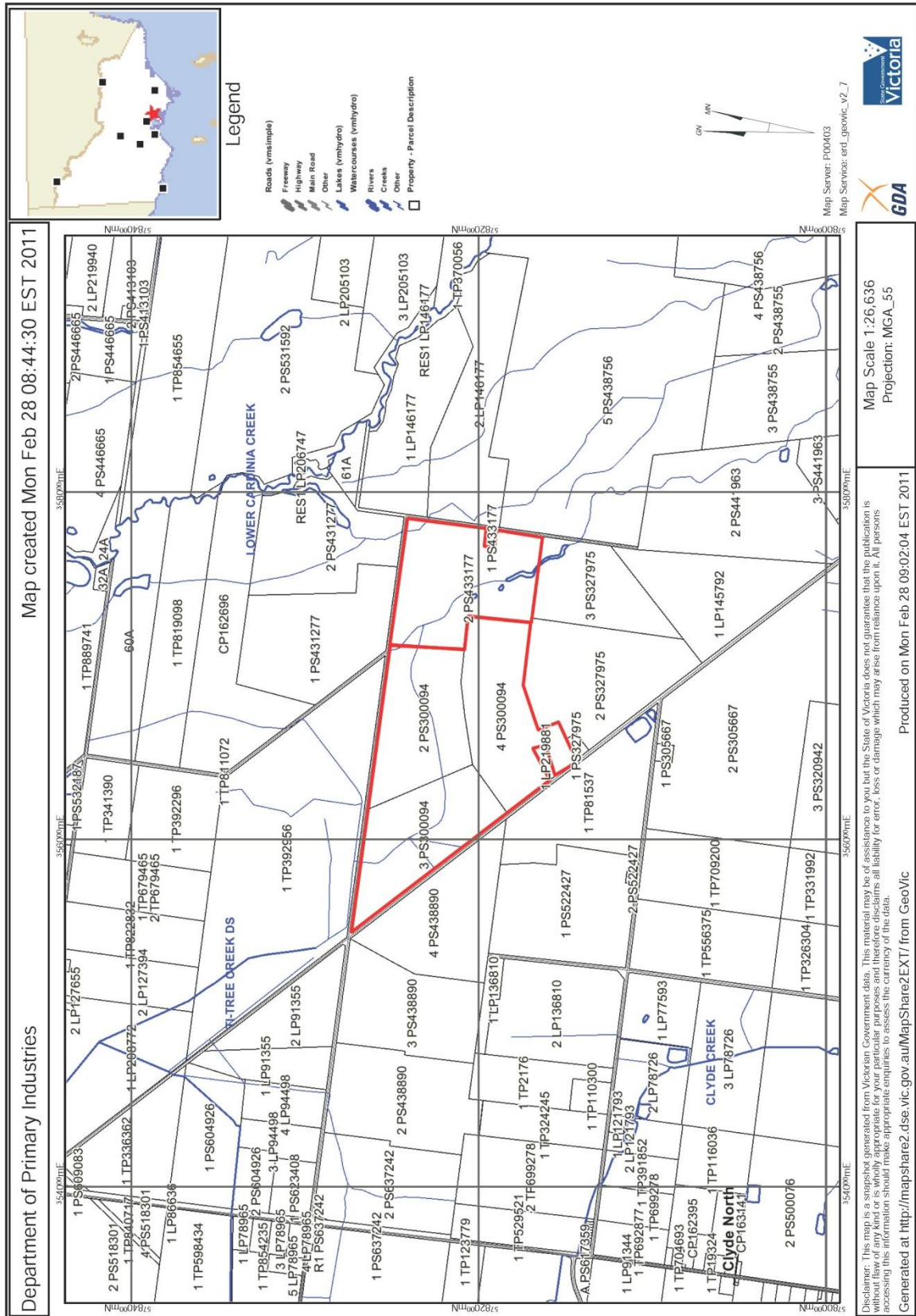
Please ensure this notice and all attached items are sent to the:

Deputy Director  
Aboriginal Affairs Victoria  
Department of Planning and Community Development  
GPO Box 2392  
MELBOURNE VIC 3001

**Notes:**

- Ensure that any relevant registered Aboriginal party/s is also notified. A copy of this notice may be used for this purpose. (A registered Aboriginal party is allowed up to 14 days to provide a written response to a notification specifying whether or not it intends to evaluate the management plan)
- In addition to notifying the Deputy Director and any relevant registered Aboriginal party/s, a sponsor must also notify any owner and/or occupier of any land within the area to which the management plan relates. A copy of this notice may be used for this purpose.





**To:** VAHR@dpcd.vic.gov.au  
**Cc:** collinsb@bevwill.com.au  
**Subject:** FW: Notice of Intent to Prepare CHMP 11869

Hi

This email is to advise an extended finish date for CHMP 11869 2100 Thompsons Road Clyde North. The original finish date was given as 15/5/2012. We are currently commencing a second round of fieldwork required to complete the CHMP and will therefore need to extend the finish date to 31/12/2013. Please also note that the cultural heritage advisor details have changed. The CHA is now David Rhodes, Heritage Insight Pty Ltd. Please let me know if you require a revised completed NOI form rather than an email advising of the changes (I've been told in the past that an email is sufficient to extend the finish date on a CHMP). If another NOI is required, please let me know ASAP so that I can get the form to the sponsor to sign, as we intend to do a second round of sub-surface testing commencing 21/1/2012.

Regards

David Rhodes  
Director

(m) 0417 366 972  
www.heritageinsight.com

This email, including all attachments, may contain confidential and privileged information and is only intended for the named addressee. If you are not the intended recipient, we request that you do not disclose, distribute, copy or use any information contained in this email or its attachments.

Any confidentiality or privilege of the information contained in this email and its attachments is not waived, lost or destroyed if this email has mistakenly been sent to any address other than the named addressee.

If you have received this email in error, please notify Heritage Insight Pty Ltd immediately, delete email from your system and destroy any copies.

—Original Message—

From: Paul.Brownrigg@dpcd.vic.gov.au [mailto:Paul.Brownrigg@dpcd.vic.gov.au]  
Sent: Tuesday, 17 July 2012 11:27 AM  
To: Lauren Prossor - Heritage Insight  
Cc: Liz.Kilpatrick@dpcd.vic.gov.au  
Subject: Fw: Notice of Intent to Prepare CHMP 11869

— Forwarded by Paul Brownrigg/Users/DVC on 17/07/2012 11:25 AM —

{In Archive} Notice of Intent to Prepare CHMP 11869

Paul Brownrigg  
to:  
gordgill, johnyoung  
02/09/2011 11:33 AM

Cc:  
Liz Kilpatrick, Boheme Rawoteea

From Paul Brownrigg/Users/DVC  
:

To: gordgill@bigpond.net.au, johnyoung@heritageinsight.com

Cc: Liz Kilpatrick/Users/DVC@VICGOV1, Boheme Rawoteea/Users/DVC@VICGOV1

Archive:

To whom it may concern,

This email is the formal response. This is an automated response indicating that, on 26-Aug-2011, the Secretary, Department of Planning and Community Development received a Notice of Intent to Prepare a Cultural Heritage Management Plan (CHMP) for:

Gordon Gill - Subdivision - Pound and Thompsons Road, Clyde North

The notification has been allocated the AAV Project Number:

CHMP Plan ID. 11869

Please quote this number when making any future enquires to AAV regarding this project.

If your activity lies within the boundaries of a registered Aboriginal party you must also notify this organisation of your intention to prepare the CHMP (if you have not already done so). Further information about registered Aboriginal parties can be found at:

<http://www1.dpcd.vic.gov.au/aav/heritage/registered>

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## **Appendix 2: Soils and Geomorphology Report (van de Graaff & Woolums 2011)**



ARCHEOLOGICAL INTERPRETATION  
OF THE SOILS AND LANDFORMS  
OF AN AREA AT CLYDE NORTH, VICTORIA  
(2100 Thompsons Road)

*for*

Heritage Insight Pty Ltd

1/28 Down Street,  
Collingwood, VIC., 3066

*by*

Robert H.M. van de Graaff, PhD

and

Helena Woolums, BSc Phys. Geography

*(27 September 2011)*



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## INTRODUCTION

Heritage Insight Pty Ltd requested van de Graaff & Associates Pty Ltd to carry out a survey of soils and landforms at a farming property enclosed by Thompsons Road, Pound Road and Smiths Lane, Clyde North, for the purpose of identifying any areas that may have an increased probability of possessing Aboriginal artefacts in the soil from former occupation.

The principles guiding the survey are that Aboriginal camp sites are more likely to occur where there are:

- Natural springs or soaks providing reliable<sup>1</sup> sources of water of good drinking quality;
- Varied environments that offer sources of food, such as swamps or water bodies for fish, eels and water birds, and open grassed areas for hunting kangaroos, wallabies, etc.;
- Natural protection from cold and weather, mostly arriving from the south west;
- Dry soil conditions for the camp sites; convex slopes with better surface drainage than concave slopes.
- Timber for firewood;
- Elevated position from which to survey the surroundings.

Important elements in the survey, therefore, are geology, topography and aspect, soil quality, and natural hydrology.

Previous work at a site in the Pakenham area, Green Hills, by Ian Allan of Geocode Mapping & Analysis Pty Ltd and Robert van de Graaff in conjunction with Heritage Insight Pty Ltd led to the discovery of Aboriginal artefact locations within 200m of springs and soaks. This discovery was to some extent fortuitous because indigenous sites are often found at much greater distances from potable water sources.

The survey has been assisted by a stereoscopic interpretation of large scale (1:10,000) old black & white aerial photography (1987), taken in summer to increase the contrast between dry and wet ground and comparing it with a recent aerial photograph of the area.

A detailed topographic map was provided by the client and is reproduced in Figure 1. The upper part of this map, enclosed in red boundary lines, constitutes the study area.

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<sup>1</sup> Providing relatively clean water throughout the year with little diminution in summer.

Figure 1 Topography of the study area (contour intervals of 0.2 m)

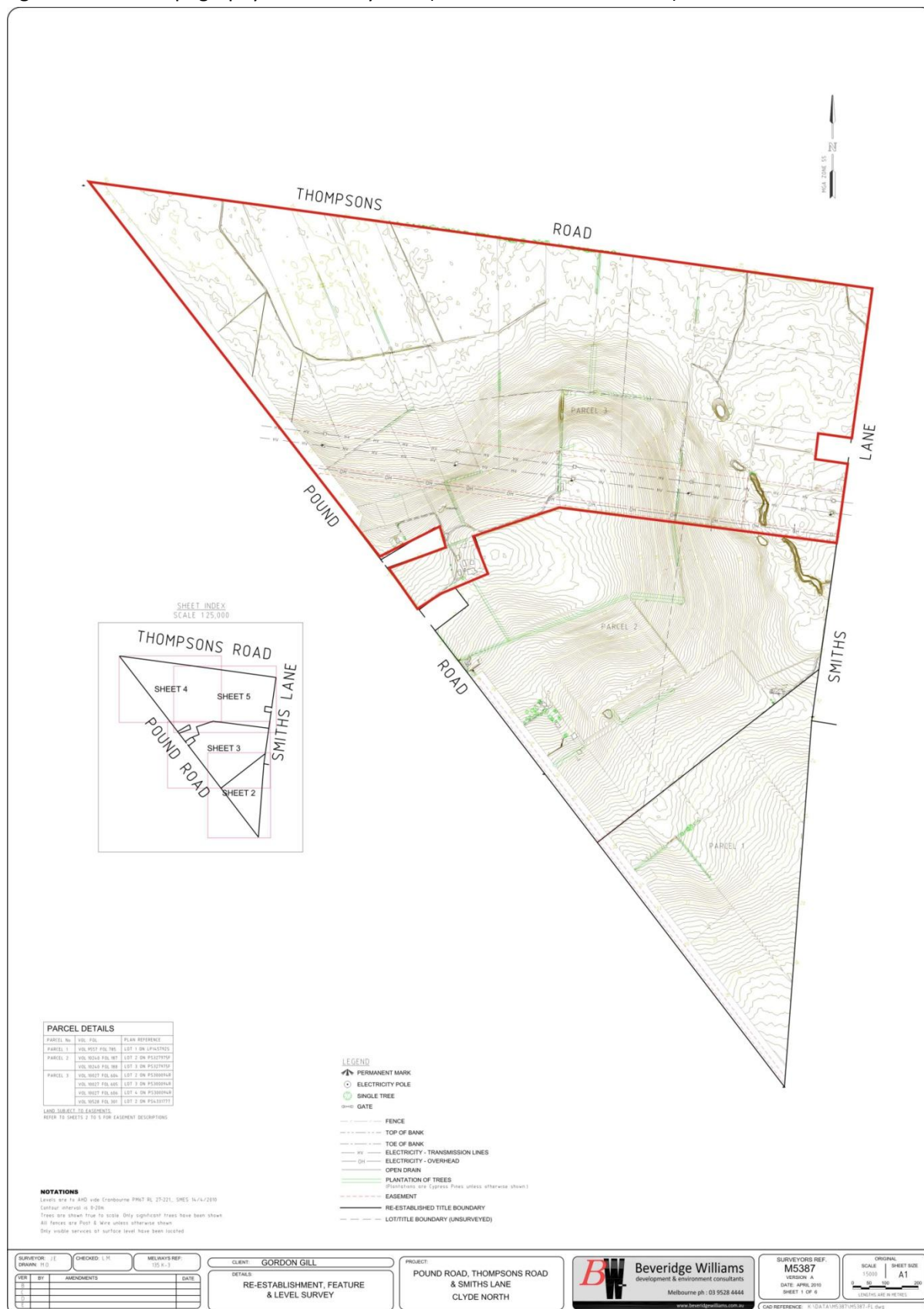




Figure 2                      Geology of the study area and surrounds



Figure 2 is a scan of a part of the geological map, Cranbourne sheet (scale 1:63,360; 1967) that covers the study area, delineated in red dotted line. The most elevated geological material in the study area is the Miocene Baxter Sandstone (Tb, yellow) consisting of ferruginous sandstone, sand, sandy clay and occasional gravel. The greater part of the low hill, Gordon Hill, in the area is in this formation. On the lower flanks to the northwest, the older underlying Silurian sandstone, siltstone and mudstone (S, grey) is exposed by removal (erosion) of the overlying Baxter Formation (Tb) sediments. The lower portions of the property, north and east, are in

the Quaternary Recent alluvial sediments, (Q3, yellow green, silt, sand, clay and occasional gravel) and Q5 (peaty clay, clay, mainly swamp deposits). At least in part the erosion products are now in these lower areas, making up the Q3 alluvium, and the remainder will have been moved downstream towards Western Port Bay.

As can be seen on Figure 2, the runoff from the higher lying country, Tb (yellow) and S (grey) flows in a north easterly direction, feeding a small natural, and probably ephemeral, stream (emphasised in a dark blue-black line) that flows around Gordon Hill to the south east, where it ultimately joins Cardinia Creek. The dark blue-black line represents the shallow ditch that farmers in the past have dug to remove unwanted water.

The Baxter Sandstone gives rise mainly to Duplex soils, defined as soil profiles having a light to medium light texture (sandy loam to sandy clay loam) resting abruptly on a much heavier textured subsoil (light to heavy clay, sandy clay). The permeability of this subsoil is limited, so that in cold and wet seasons the percolating rainfall is slowed down at the top of the subsoil and the overlying material may suffer from periodic waterlogging. The very small occurrence of Silurian sedimentary rocks, similarly, is expected to develop Duplex soils too. When the topsoils are waterlogged, any further rainfall will sheet off and flow towards the low-lying land to the north and east. These areas are occupied by much younger alluvial sediments and the soils developed on them show the effects of frequent waterlogging, with the wettest parts having black organic matter-rich topsoils, often high in clay content. The basin-like shape of these alluvial deposits, with the Q5 peaty clays in the centre, ensures that such runoff water cannot easily escape towards the east and thence towards the south along the minor creek bordering Gordon Hill. This basin (ie. Q3 and Q5 on the map) will generally have been too wet for Aboriginal encampments, but it contains small sandy rises which are not and where artefacts were indeed found.

Unless there are locally clay layers within the Baxter Sandstone formation (Tb) that are almost impermeable and slightly sloping, it is unlikely there will be springs or soaks on slopes that intersect

these layered deposits. The black and white aerial photographs do not show the presence of springs on the hill sides of Gordon Hill, except that just outside the study area there is one darker grey streak which may be the result of some natural seepage emerging on the surface (circled area 2, Figure 4). To the west, outside the study area, there are two more such vague, darker grey streaks that could be caused by emerging seepage (circled areas 5 and 6 in Figure 4).

## FIELDWORK AND AERIAL PHOTO INTERPRETATION

Fieldwork consisted of initially joining the Heritage Insight field party who were excavating small inspection pits in the most northerly wet alluvial soils and observing the sieving of the topsoil of the first of these pits. Heritage Insight is obliged to follow formal procedures to excavate pits on a grid basis, regardless of the suitability of the terrain for Aboriginal encampment. However, the van de Graaff team concentrated on the slopes of Gordon Hill and the narrow alluvial plain created by the unnamed stream that marks the eastern border of the study area (site 3 in Figure 3).

Stereoscopic analysis of vertically taken aerial photographs enables the viewer to look at such photos and see the landscape in three dimensions (See Appendix 2 for explanation).

Eight soil profiles were logged and at each site the GPS coordinates and elevation were taken using a Garmin Etrex navigator. These eight sites were chosen to cover representative parts of the slopes of Gordon Hill and the area immediately adjacent to the unnamed stream and its open water bodies (See Figure 3). They included north-west and east facing slopes and the summit area. The east facing slope may have been suitable for Aboriginal camp sites as it would offer protection from cold and wet south-westerly storms and offer proximity to the open water bodies, if these already existed in those times. The soil logs are presented below. Photographs of typical soil profiles are presented in Appendix 1.

Figure 3      Enlargement of recent aerial photograph of the study area with soil sampling site locations



Table 1. Site descriptions

Site 1	Elevation: 35 m S:38°05'622" E:145°21'142"	A1 - horizon (0-20cm) very dark grey brown 10YR3/2, reddish brown 5YR4/4 rootline mottling; clear transition to: A2 - very dark grey 10YR3/1, some yellow brown 10YR5/6 mottles; gradual transition to: B - dark grey 10YR4/1 with dense yellow brown 10YR5/6 mottling
Site 2	Elevation: 37 m S:38°06'116" E:145°22'307"	A1 – Brown 10YR4/3 deep sandy clay loam (0-30cm), fine red brown root line mottling; gradual transition to: A2 - Dark greyish brown 10YR4/2, saturated, some gleyed <sup>2</sup> mottles; abrupt transition to: B – Brown 10YR4/3 clay, intensely mottled dark yellow brown 10YR5/6, manganese and ferruginous concretions
Site 3	Elevation: 35 m S:38°06'102" E:145°22'379"  Flood plain soil small creek	A1 – Brown 10YR4/3 fine sandy loam; recent deposit; gradual transition to: A1b – Very dark greyish brown 10YR3/2 silty clay loam (buried original topsoil); gradual transition to: A2 – Pale brown 10YR6/3 gleyed, some red brown mottles, saturated; abrupt transition to: B – Brown 10YR5/3 fine sand strongly mottled, with yellow and red mottles <i>[sample collected of B horizon]</i>
Site 4	Elevation:42 m S:33°06'107" E:145°22'190"	A1 – 0-25 cm, Dark brown 10YR3/3 sandy clay loam, gradual transition to: A2 – 25-45 cm, Yellow brown 10YR5/4 with small olive brown 2.5YR4/4 mottles, coarse sandy clay loam; B – Olive brown 2.5YR4/4 olive brown sandy clay becoming increasingly mottled with red 2.5YR4/8 and dark grey 2.5YR3/0, ferruginous concretions
Site 5	Elevation:80 m S:38°06'078" E:145°22'012"	A – 0-20cm, Dark brown 10YR3/3 fine sandy clay loam; gradual transition to: A2 – 20-35 cm, Brown 10YR5/3 sandy clay with slight mottling of olive brown 2.5Y5/4; abrupt transition to: B – Olive brown 2.5Y5/4 clay with some sand, very common red mottles 2.5YR4/8 ferruginous concretions present, but this B horizon not as red as at site 4
Site 6	Elevation:54 m S:38°06'227" E:145°21'822"	A1 – 0-20 cm, Brown 10YR4/3 sandy clay loam; A2 – 20-25 cm, sandy clay loam; gradual transition to: B – Yellow brown 10YR5/8 and 10YR5/6 clay, strongly mottled with red 2.5YR4/8, manganese and ferruginous concretions
Site 7	Elevation:47m S:38°06'129" E:145°21'751"	A – Very dark brown 10YR3/3 sandy clay loam Large ironstone fragments & rounded quartz grains ≈ 3 mm diameter B – Olive brown 2.5Y4/4 sandy clay, very strongly mottled with red 2.5YR4/8 and yellow brown 10YR6/8
Site 8	Elevation:38 m 38°06'061" S:145°21'685" E:	A1 – 0-25 cm, Dark brown 10YR3/3 heavy fine sandy loam; A21 – 25-40 cm, Brown 10YR5/3 bleached slightly gleying layer; A22 – 40-60 cm, Light yellowish brown 10YR6/4 loamy fine sand, distinctly bleached; abrupt transition to: B – 60-80+, Greyish brown 10YR5/2 strongly mottled medium clay with brownish yellow 10YR6/8 and red 2.5YR3/6
Dry and moderately dry soils		Moderately wet soils
		Frequently waterlogged soils

<sup>2</sup> Gleyed, a term indicating the greyish-greenish-bluish colours exhibited by wetland soils due to anaerobic conditions.

Site 1 is almost at the lowest part of the property and receives run-on from long slopes above it, so it represents extremely wet land, which is well reflected in the soil characteristics, such as colour, heavy texture and high organic matter content. Extensive root line mottling and predominantly grey and dark grey colours down the profile indicate the soil is anaerobic most of the time.

Site 2 is situated on a straight to slightly concave lower slope with a long “catchment” of mid and upper slope above, contributing run-on. It suffers from seasonal waterlogging. The subsurface soil horizon has some greyish and light greyish mottles, suggesting a slight gleying.

Site 3 is in the narrow flood plain of the unnamed creek and also is typical of wet land, except that the proximity of the creek offers external and internal (seepage) drainage at times when its water level is low. Nevertheless some artefacts were found very near the test hole. It had a water-saturated subsurface when the soil profile was logged September 5<sup>th</sup>, 2011.

Site 4 is located on an upper slope which has only a small “catchment” upslope to produce run-on and has a slight concave form, which promotes water shedding. As a result it has a drainage status as a dry site.

Site 5 is located at a broad crest (near a hay shed) and has a soil that suggests a dry to moderately drainage status based on (a) its slightly mottled subsurface and prevalence of red colours with increasing depth and (b) apparent good development of structure, permeability and internal drainage.

Site 6 is located in small cattle holding area and the soil has been rated moderately dry. It occurs approximately on the top of the hill on a very flat grade and therefore seems to have less effective external drainage (runoff) than site 5, which is also on a broad crest. Its internal drainage seems to be good with the dominant subsoil colours being yellow brown indicating oxidation and good aeration.

Site 7 is just below the crest on a steeper, north-facing slope with good external and internal drainage on an upper north-facing slope, very close to a waste disposal trench, and has a very similar soil profile as site 4. It is judged to have a similar drainage status to site 4. There is a half-filled trench nearby with old timbers and building materials. There are large ironstone fragments around in the soil, suggesting it is close to a former ironstone cap that has eroded.

Site 8 is half way down the slope facing north and the soil shows greyish brown subsoil colours, indicative of regular wetness and lack of oxidation. However, at the time of the inspection it was quite moist but had no saturated layer within the profile.



The aerial photo interpretation results are shown in Figure 4 and discussed below.

Figure 4 Aerial photo of the study area with mapping boundary and numbered points of interest. Yellow boundaries delineate the study area.



The subject property is shown within the yellow boundaries except that the far eastern portion is not shown on the photo. The land enclosed by the red line represents the wettest parts of the property but some sites with artefacts did occur within it. The green line is a very narrow and shallow constructed ditch taking runoff to the east towards the unnamed small creek. Note that only blue circle #4 is within the study area. The other blue circles represent sites that may merit inspection if the other land will also be developed for residential or commercial uses.

- Circled Area 1 is outside the study area and appears to indicate a hollow from which, perhaps in 1987 and before, groundwater was emerging. It does not show up on the recent aerial photo.
- Circled Area 2, also outside the study area, appears more distinctly like a source of groundwater emergence and down slope seepage towards the creek following the dark grey streak. It does not show up on the recent aerial photo.

- Circled Areas 5 and 6 outside the study area also look like emerging groundwater sources that have a down slope seepage path over the surface, showing as a darker grey streak. They appear also on the recent aerial photo in the same spots.
- Circled Area 3, outside the study area, appears to be an excavation, perhaps made for disposal of wastes. It is not visible on the recent airphoto. It was probably an excavation made by the farmer .
- Circled Area 4 inside the study area appears to be an excavated trench and also shows up on the recent aerial photo. It is a waste disposal trench and the present landholder will know about its history.

## DISCUSSION

The study area initially did not appear to have any features that would strongly suggest that parts of it could have presented especially favourable sites for Aboriginal encampments. However, of seven test pits done by Heritage Insight, five yielded artefacts. Landforms where artefacts were found include two sandy rises and a terrace overlooking the prior watercourse. It is also understood that several stone artefacts were found in the embankment of the small unnamed creek that traverses the property in the east, although remnant significant springs or soaks that could have provided a reliable drinking water supply were not found within the study area. It is probable that the unnamed creek was once much larger, or included multiple channels which may have been a sufficiently clean water source.

In Stage 1 of sub-surface testing, Heritage Insight found stone artefacts on the sandy rises of the Q3 alluvium. Given the geology (Figure 2) and evidentiary soils (Site 1, Figure 3), the lower area of the property was clearly once a larger floodplain, with potentially many meandering channels. Channel migration over time results in vertical and lateral sediment accretions through erosion, transport and deposition. In sufficiently fast-flowing water, larger sediment particles (sand, gravel, stones etc) are taken up into the stream-flow, and then deposited when the force of the water on the particles is less than the force of gravity, or a physical barrier prevents further movement. This uptake erosion and subsequent deposition is frequently seen in the form of a bank attached sand bar just after a channel curve, a mid-stream sand bar if the channel widens quickly or at the mouth of an adjoining stream. Sandy rises may also be formed by vertical accretions forming levees on a channel's bank. As the channel slowly migrates, the deposition of sand and coarse material is left, leaving a sandy rise.

When a channel overflows its banks, the smallest and lightest sediments are transported and deposited the farthest away from the original channel while larger particles are deposited much closer as the force of water is not sufficient to carry them as far. It is likely the sandy rises found on the low-lying portions of the Clyde North property are remnants of such processes. Since mid-channel bars, bank-attached bars and stream edges are excellent locations for hunting or fishing as they provide best access to the water, the sandy rises are likely to contain many artefacts.

Consistent with the landscape types, Heritage Insight Stage 1 subsurface testing found no artefacts in the outer western portion of the flood plain (Figure 3, site 1). These soils are wet and high in organic matter with a clay texture (Site 1, Appendix 1) which rests well with the idea that the

unnamed creek may have had several channels that flooded and deposited small particles on the outer floodplain. Even during periods of dry, the eastern corner of the property displays signs of nearly-constant waterlogging (gleyed soils), and thus would have not have been a good place for an Aboriginal campsite. Contrarily, the eastern slopes and floodplain would have been an ideal spot due to proximity to the water, drier soils on the upper slopes and protection from weather usually coming from the south west.

It is important that the reader does not overlook the fact of gross changes in the natural vegetation since European settlement which will have affected the natural water balance between the input of rainfall and the outputs of evapo-transpiration, groundwater recharge (percolation of rainwater) and runoff. Under the natural vegetation, at least under climatic conditions similar to those of today, the evapo-transpiration of a woodland or open forest must be far greater than it is from a grazed pasture. In similar climates elsewhere in Victoria there is good evidence that the native vegetation almost fully used up the rainfall, so that large scale clearing caused significant groundwater table rises and soil salinisation from much increased groundwater recharge.

Furthermore, a forest soil is usually much more permeable and allows more rapid natural drainage for excess water, but at the same time the amount of runoff is likely less than under a smooth pasture surface with a more compacted surface soil.

Notwithstanding the above, the wettest parts of the property today will have been the wettest parts in prehistory, but the moderately wet slopes may have been much drier and more hospitable environments at the time.



## APPENDIX 1

## Photographs of typical soil profiles



Site 1: very poorly drained soil, high organic matter (black) and greyish gleyed colours in subsoil. This soil represents a site that is far too wet for Aboriginal camps.



Site 3: alluvial soil of minor flood plain of unnamed creek, frequently saturated soil, unsuitable for Aboriginal camps.



Site 6: well drained soil showing bright colouration typical of oxidised, hence aerobic soils ( Munsell colour charts in foreground), dry site, potentially suitable for camp sites.



Site 6: landscape on the crest of Gordon Hill, dry enough for camp sites but not close to any known springs or soaks.



Site 2: Midslope location with moderately wet soil



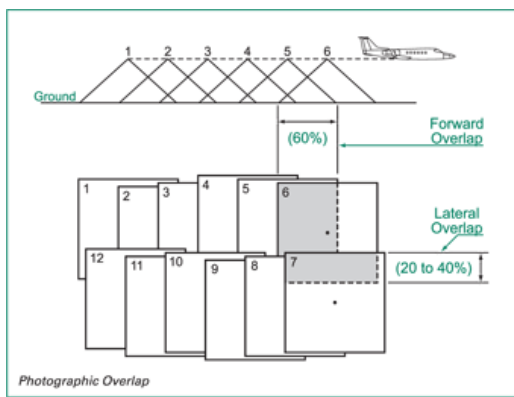
Site 2: view of landscape from site 2 towards the east. Poor site for camps due to seasonal waterlogging



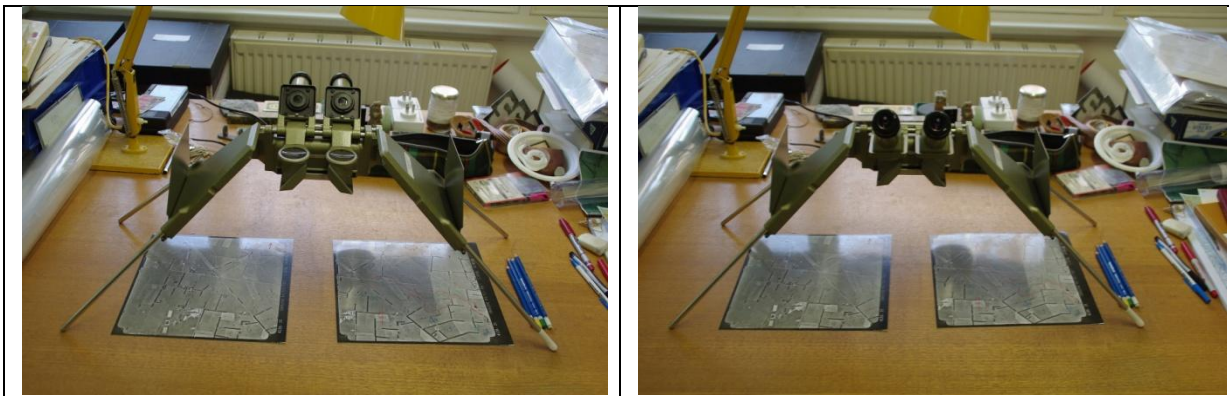
## APPENDIX 2 Stereoscopic analysis of vertical aerial photographs

We used stereo air photography to assist us with our landscape interpretation. Such photography is important because it allows us to view the landscape in three dimensions. This means that in the office one can pick areas with slopes, depressions and other landscape features, relating them to elevation, as well as shades of grey or colours betraying differences in soil wetness (if the photo was in colour) that would be important to check while in the field.

Aerial photographs are taken vertically by a plane flying along a straight, predetermined course at set intervals, such that each successive photograph covers at least 60% of the area photographed in the previous photograph. Thus each point on the ground is photographed three times from different positions above (see diagram 1, found in Google). A mirror stereoscope is used for viewing successive prints of these photographs placed under each of the two mirrors so that 60% of the viewed area is on both photographs and each point on the ground is seen from two different angles. The images are reflected from the mirrors into two prisms, fitted out with oculars, allowing the viewer to see the land surface as three-dimensional images.



The ability to view heights and depths on aerial photographs is extremely helpful in analysing and understanding the landscape. The mirror stereoscope is pictured below, with on the left the magnifier oculars raised and on the right with them in position.



### **Appendix 3: Aboriginal Places in Geographic Region**

Aboriginal Place No	Aboriginal Place Name	Component Place No	Component Type	Component Feature Type
7921-0188	CARDINIA CREEK 1	7921-0188-1	Artefact Scatter	
7921-0189	CARDINIA CREEK 2	7921-0189-1	Artefact Scatter	
7921-0190	CARDINIA CREEK 3	7921-0190-1	Scarred Tree	
7921-0191	CARDINIA CREEK 4	7921-0191-1	Artefact Scatter	
7921-0192	CARDINIA CREEK 5	7921-0192-1	Artefact Scatter	
7921-0194	CARDINIA CREEK 6	7921-0194-1	Artefact Scatter	
7921-0195	CARDINIA CREEK 7	7921-0195-1	Artefact Scatter	
7921-0196	CARDINIA CREEK 8	7921-0196-1	Scarred Tree	
7921-0197	BERWICK HILLS 1	7921-0197-1	Artefact Scatter	
7921-0204	CARDINIA CREEK 9	7921-0204-1	Artefact Scatter	
7921-0205	CARDINIA CREEK 10	7921-0205-1	Artefact Scatter	
7921-0206	CARDINIA CREEK 11	7921-0206-1	Scarred Tree	
7921-0207	CARDINIA CREEK 12	7921-0207-1	Scarred Tree	
7921-0208	CARDINIA CREEK 13	7921-0208-1	Artefact Scatter	
7921-0209	CARDINIA CREEK 14	7921-0209-1	Artefact Scatter	
7921-0210	CARDINIA CREEK 15	7921-0210-1	Artefact Scatter	
7921-0211	CARDINIA CREEK 16	7921-0211-1	Artefact Scatter	
7921-0212	BERWICK HILLS 2	7921-0212-1	Artefact Scatter	
7921-0219	BERWICK HILLS 3	7921-0219-1	Artefact Scatter	
7921-0220	BERWICK HILLS 4	7921-0220-1	Artefact Scatter	
7921-0224	GUM SCRUB CREEK	7921-0224-1	Artefact Scatter	
7921-0229	CARDINIA CREEK 17	7921-0229-1	Artefact Scatter	
7921-0230	CARDINIA CREEK 18	7921-0230-1	Artefact Scatter	
7921-0231	CARDINIA CREEK 19	7921-0231-1	Artefact Scatter	
7921-0232	CARDINIA CREEK 20	7921-0232-1	Artefact Scatter	
7921-0233	CARDINIA CREEK 21	7921-0233-1	Artefact Scatter	
7921-0234	CARDINIA CREEK 22	7921-0234-1	Artefact Scatter	
7921-0235	CARDINIA CREEK 23	7921-0235-1	Artefact Scatter	
7921-0241	CRANBOURNE 6	7921-0241-1	Artefact Scatter	
7921-0244	CARDINIA CK BYPASS 1	7921-0244-1	Artefact Scatter	
7921-0245	CARDINIA CK BYPASS 2	7921-0245-1	Earth Feature	Soil Deposit
7921-0246	THOMPSONS RD 1	7921-0246-1	Artefact Scatter	
7921-0247	THOMPSONS RD 2	7921-0247-1	Artefact Scatter	
7921-0248	THOMPSONS RD 3	7921-0248-1	Artefact Scatter	
7921-0250	THOMPSONS RD 5	7921-0250-1	Artefact Scatter	
7921-0251	THOMPSONS RD 6	7921-0251-1	Artefact Scatter	
7921-0252	THOMPSONS RD 7	7921-0252-1	Artefact Scatter	
7921-0253	THOMPSONS RD 8	7921-0253-1	Artefact Scatter	
7921-0401	PAKENHAM BYPASS 3	7921-0401-1	Artefact Scatter	
7921-0402	PAKENHAM BYPASS 4	7921-0402-1	Artefact Scatter	
7921-0403	PAKENHAM BYPASS 6	7921-0403-1	Scarred Tree	
7921-0415	GRASSMERE CK 1A	7921-0415-1	Artefact Scatter	
7921-0417	KELLY BROS 1	7921-0417-1	Artefact Scatter	
7921-0449	DIRUN DJIRRI 1	7921-0449-1	Artefact Scatter	
7921-0450	DIRUN DJIRRI 2	7921-0450-1	Artefact Scatter	
7921-0451	DIRUN DJIRRI 3	7921-0451-1	Artefact Scatter	
7921-0452	DIRUN DJIRRI 4	7921-0452-1	Artefact Scatter	
7921-0453	DIRUN DJIRRI 5	7921-0453-1	Artefact Scatter	

Aboriginal Place No	Aboriginal Place Name	Component Place No	Component Type	Component Feature Type
7921-0454	DIRUN DJIRRI 6	7921-0454-1	Artefact Scatter	
7921-0455	DIRUN DJIRRI 7	7921-0455-1	Artefact Scatter	
7921-0462	KIMBERLEY DOWNS 1	7921-0462-1	Artefact Scatter	
7921-0497	BRYN MAWR IA 1	7921-0497-1	Artefact Scatter	
7921-0498	TURUN 1	7921-0498-1	Artefact Scatter	
7921-0499	CLYDE ROAD 1	7921-0499-1	Artefact Scatter	
7921-0507	EDEN RISE 1	7921-0507-1	Artefact Scatter	
7921-0526	GOLDEN GROVE 1	7921-0526-1	Artefact Scatter	
7921-0527	GOLDEN GROVE 2	7921-0527-1	Artefact Scatter	
7921-0528	GOLDEN GROVE 3	7921-0528-1	Artefact Scatter	
7921-0529	GOLDEN GROVE 4	7921-0529-1	Artefact Scatter	
7921-0547	POUND RD IS 1	7921-0547-1	Artefact Scatter	
7921-0585	CHS 1	7921-0585-1	Artefact Scatter	
7921-0586	CHS 2	7921-0586-1	Artefact Scatter	
7921-0587	CHS 3	7921-0587-1	Artefact Scatter	
7921-0588	CHS 4	7921-0588-1	Artefact Scatter	
7921-0589	CHS 5	7921-0589-1	Artefact Scatter	
7921-0590	CHS 6	7921-0590-1	Artefact Scatter	
7921-0596	CHS 12	7921-0596-1	Artefact Scatter	
7921-0603	MYA-LONG IA1	7921-0603-1	Artefact Scatter	
7921-0604	MYA-LONG AS1	7921-0604-1	Artefact Scatter	
7921-0612	OF-1 OFFICER FARM	7921-0612-1	Artefact Scatter	
7921-0613	OF 2 - OFFICER FARM	7921-0613-1	Artefact Scatter	
7921-0629	MYA-LONG AS2	7921-0629-1	Artefact Scatter	
7921-0630	MYA-LONG IA2	7921-0630-1	Artefact Scatter	
7921-0631	MYA-LONG IA3	7921-0631-1	Artefact Scatter	
7921-0632	MYA-LONG IA4	7921-0632-1	Artefact Scatter	
7921-0633	MYA-LONG IA5	7921-0633-1	Artefact Scatter	
7921-0634	MYA-LONG IA6	7921-0634-1	Artefact Scatter	
7921-0635	MYA-LONG IA7	7921-0635-1	Artefact Scatter	
7921-0636	MYA-LONG IA8	7921-0636-1	Artefact Scatter	
7921-0637	MYA-LONG IA9	7921-0637-1	Artefact Scatter	
7921-0638	MYA-LONG IA10	7921-0638-1	Artefact Scatter	
7921-0652	CENTRE ROAD 1	7921-0652-1	Artefact Scatter	
7921-0655	POLYPORUS 1	7921-0655-1	Artefact Scatter	
7921-0682	MONASH UNI 1	7921-0682-1	Artefact Scatter	
7921-0683	MONASH UNI 2	7921-0683-1	Artefact Scatter	
7921-0685	HANCOCK DRIVE 1	7921-0685-1	Artefact Scatter	
7921-0689	NARRE WARREN IA 1	7921-0689-1	Artefact Scatter	
7921-0690	NARRE WARREN IA 2	7921-0690-1	Artefact Scatter	
7921-0691	NARRE WARREN AS 1	7921-0691-1	Artefact Scatter	
7921-0692	NARRE WARREN AS 2	7921-0692-1	Artefact Scatter	
7921-0699	BRYN MAWR AS1	7921-0699-1	Artefact Scatter	
7921-0720	NARRE WARREN SST HAMMERSTONE	7921-0720-1	Artefact Scatter	
7921-0737	PB1 N2	7921-0737-1	Artefact Scatter	
7921-0737	PB1 N2	7921-0737-2	Object Collection	
7921-0738	PB1 N4	7921-0738-1	Artefact Scatter	



Aboriginal Place No	Aboriginal Place Name	Component Place No	Component Type	Component Feature Type
7921-0739	PB1 N5	7921-0739-1	Artefact Scatter	
7921-0740	PB1 N6	7921-0740-1	Artefact Scatter	
7921-0741	PB1 N13	7921-0741-1	Artefact Scatter	
7921-0786	BROOKFORD ESTATE 1	7921-0786-1	Artefact Scatter	
7921-0787	PBM 1	7921-0787-1	Artefact Scatter	
7921-0788	PBM 2	7921-0788-1	Artefact Scatter	
7921-0789	PBM 3	7921-0789-1	Artefact Scatter	
7921-0790	PBM 4	7921-0790-1	Artefact Scatter	
7921-0799	PB 5	7921-0799-1	Artefact Scatter	
7921-0800	PB 6	7921-0800-1	Artefact Scatter	
7921-0801	PB 7	7921-0801-1	Artefact Scatter	
7921-0801	PB 7	7921-0801-2	Object Collection	
7921-0802	PB 8	7921-0802-1	Artefact Scatter	
7921-0803	PB 9	7921-0803-1	Artefact Scatter	
7921-0826	OFFICER RIDGELINE IA 1	7921-0826-1	Artefact Scatter	
7921-0827	OFFICER RIDGELINE IA 2	7921-0827-1	Artefact Scatter	
7921-0828	OFFICER RIDGELINE IA 3	7921-0828-1	Artefact Scatter	
7921-0829	OFFICER RIDGELINE IA 4	7921-0829-1	Artefact Scatter	
7921-0838	PBCCB SS3	7921-0838-1	Artefact Scatter	
7921-0861	THOMPSONS RD 9	7921-0861-1	Artefact Scatter	
7921-0862	THOMPSONS RD 10	7921-0862-1	Artefact Scatter	
7921-0863	THOMPSONS RD 11	7921-0863-1	Artefact Scatter	
7921-0864	THOMPSONS RD 12	7921-0864-1	Artefact Scatter	
7921-0865	PB2M1	7921-0865-1	Artefact Scatter	
7921-0866	OFFICER SOUTH RISING MAIN 1	7921-0866-1	Artefact Scatter	
7921-0867	OFFICER SOUTH RISING MAIN 2	7921-0867-1	Artefact Scatter	
7921-0868	THOMPSONS ROAD 13	7921-0868-1	Artefact Scatter	
7921-0869	THOMPSONS ROAD 14	7921-0869-1	Artefact Scatter	
7921-0876	EGERTON 1	7921-0876-1	Artefact Scatter	
7921-0884	CRANBOURNE EAST 5	7921-0884-1	Artefact Scatter	
7921-0885	CRANBOURNE EAST 6	7921-0885-1	Artefact Scatter	
7921-0886	CRANBOURNE EAST 7	7921-0886-1	Artefact Scatter	
7921-0887	CRANBOURNE EAST 8	7921-0887-1	Artefact Scatter	
7921-0918	THORNLEY DR 1	7921-0918-1	Artefact Scatter	
7921-0925	GLASSCOCKS ROAD	7921-0925-1	Artefact Scatter	
7921-0962	O'SHEA RD BERWICK 1	7921-0962-1	Artefact Scatter	
7921-0963	O'SHEA ROAD BERWICK 2	7921-0963-1	Artefact Scatter	
7921-0964	O'SHEA RD BERWICK 3	7921-0964-1	Artefact Scatter	
7921-0973	ROSEBANK 1	7921-0973-1	Artefact Scatter	
7921-0974	ROSEBANK 2	7921-0974-1	Artefact Scatter	
7921-0986	1 THE AVENUE CRANBOURNE NORTH	7921-0986-1	Artefact Scatter	
7921-0987	2 THE AVENUE CRANBOURNE NORTH	7921-0987-1	Artefact Scatter	
7921-0988	3 THE AVENUE CRANBOURNE NORTH	7921-0988-1	Artefact Scatter	
7921-0989	4 THE AVENUE CRANBOURNE NORTH	7921-0989-1	Artefact Scatter	

Aboriginal Place No	Aboriginal Place Name	Component Place No	Component Type	Component Feature Type
7921-0990	5 THE AVENUE CRANBOURNE NORTH	7921-0990-1	Artefact Scatter	
7921-0991	6 THE AVENUE CRANBOURNE NORTH	7921-0991-1	Artefact Scatter	
7921-0992	7 THE AVENUE CRANBOURNE NORTH	7921-0992-1	Artefact Scatter	
7921-0993	8 THE AVENUE CRANBOURNE NORTH	7921-0993-1	Artefact Scatter	
7921-0994	9 THE AVENUE CRANBOURNE NORTH	7921-0994-1	Artefact Scatter	
7921-0997	HAILEYBURY 1	7921-0997-1	Artefact Scatter	
7921-1027	CLYDE NORTH 1	7921-1027-1	Artefact Scatter	
7921-1028	CLYDE NORTH 2	7921-1028-1	Artefact Scatter	
7921-1038	THOMPSON RD 1	7921-1038-1	Artefact Scatter	
7921-1039	POUND ROAD 2	7921-1039-1	Artefact Scatter	
7921-1040	ROSEBANK 3	7921-1040-1	Artefact Scatter	
7921-1049	BEACONSFIELD PIPELINE 1	7921-1049-1	Artefact Scatter	
7921-1050	BEACONSFIELD PIPELINE 2	7921-1050-1	Artefact Scatter	
7921-1051	BEACONSFIELD PIPELINE 3	7921-1051-1	Artefact Scatter	
7921-1052	BEACONSFIELD PIPELINE 4	7921-1052-1	Artefact Scatter	
7921-1056	BROOKFORD CRANBOURNE EAST 1	7921-1056-1	Artefact Scatter	
7921-1057	BROOKFORD CRANBOURNE EAST 2	7921-1057-1	Artefact Scatter	
7921-1058	CLYDE NORTH 3	7921-1058-1	Artefact Scatter	
7921-1079	HAILEYBURY 2	7921-1079-1	Artefact Scatter	
7921-1082	CASEY CENTRAL 1	7921-1082-1	Artefact Scatter	
7921-1114	CASEY CENTRAL 2	7921-1114-1	Artefact Scatter	
7921-1115	CASEY CENTRAL 3	7921-1115-1	Artefact Scatter	
7921-1116	CASEY CENTRAL 4	7921-1116-1	Artefact Scatter	
7921-1117	CASEY CENTRAL 5	7921-1117-1	Artefact Scatter	
7921-1129	CLEVELAND PARK AS1	7921-1129-1	Artefact Scatter	
7921-1130	CLEVELAND PARK AS2	7921-1130-1	Artefact Scatter	
7921-1137	RIX - STEPHENS RDS 1	7921-1137-1	Artefact Scatter	
7921-1158	CARRUM SWAMP 1	7921-1158-1	Artefact Scatter	
7921-1158	CARRUM SWAMP 1	7921-1158-2	Object Collection	
7921-1170	CLYDE NORTH PRECINCT STRUCTURE PLAN 1	7921-1170-1	Artefact Scatter	
7921-1171	CLYDE NORTH PRECINCT STRUCTURE PLAN 2	7921-1171-1	Artefact Scatter	
7921-1172	CLYDE NORTH PRECINCT STRUCTURE PLAN 3	7921-1172-1	Artefact Scatter	
7921-1173	CLYDE NORTH PRECINCT STRUCTURE PLAN 4	7921-1173-1	Artefact Scatter	
7921-1174	CLYDE NORTH PRECINCT STRUCTURE PLAN 5	7921-1174-1	Artefact Scatter	
7921-1175	CLYDE NORTH PRECINCT STRUCTURE PLAN 6	7921-1175-1	Artefact Scatter	
7921-1176	CLYDE NORTH PRECINCT STRUCTURE PLAN 7	7921-1176-1	Artefact Scatter	
7921-1184	NARRE WARREN STH IAS1	7921-1184-1	Artefact Scatter	
7921-1184	NARRE WARREN STH IAS1	7921-1184-2	Object Collection	

Aboriginal Place No	Aboriginal Place Name	Component Place No	Component Type	Component Feature Type
7921-1204	CARDINIA ROAD EMPLOYMENT PRECINCT (CREP) 1	7921-1204-1	Artefact Scatter	
7921-1205	CARDINIA ROAD EMPLOYMENT PRECINCT (CREP) 2	7921-1205-1	Artefact Scatter	
7921-1222	LYALL ROAD 1	7921-1222-1	Artefact Scatter	
7921-1225	KARA 1	7921-1225-1	Artefact Scatter	
7921-1225	KARA 1	7921-1225-2	Object Collection	
7921-1226	KARA 2	7921-1226-1	Artefact Scatter	
7921-1226	KARA 2	7921-1226-2	Object Collection	
7921-1227	KARA 3	7921-1227-1	Artefact Scatter	
7921-1227	KARA 3	7921-1227-2	Object Collection	
7921-1229	THOMPSONS RD 16	7921-1229-1	Artefact Scatter	
7921-1239	STARLING ROAD 1	7921-1239-1	Artefact Scatter	
7921-1250	Redgum Ave	7921-1250-2	Object Collection	
7921-1251	Starling Road 3	7921-1251-1	Artefact Scatter	
7322-0089	Mortons Lane Wind Farm 1	7322-0089-2	Object Collection	
8021-0361	Vineyard Estate Lang Lang 1	8021-0361-2	Object Collection	
7921-1293	Monash University Wetlands 1	7921-1293-1	Artefact Scatter	
8021-0362	Vineyard Estate Lang Lang 2	8021-0362-2	Object Collection	
8422-0631	Metung Rd 1	8422-0631-2	Object Collection	
7822-2791	Lollypop Creek/Ballan Road 5	7822-2791-2	Object Collection	
7822-2792	Lollypop Creek/Ballan Road 6	7822-2792-2	Object Collection	
7821-0861	Scotch Court, Rosebud West	7821-0861-1	Object Collection	
7822-2863	Green Hill Access 5	7822-2863-2	Object Collection	
7822-2869	Green Hill Access 3	7822-2869-2	Object Collection	
7921-1240	STARLING ROAD 2	7921-1240-1	Artefact Scatter	
7921-1314	Glasscocks Road 3	7921-1314-2	Object Collection	
7921-1358	1100 POUND ROAD CLYDE NORTH	7921-1358-1	Artefact Scatter	
7921-1327	Lot 18 King Georges Ave	7921-1327-2	Object Collection	
8422-0631	Metung Rd 1	8422-0631-3	Object Collection	
7921-1350	Ballarto Road AS1	7921-1350-2	Object Collection	
7921-1356	Cranbourne/Frankston Road South AS2	7921-1356-2	Object Collection	
7921-1354	Robinsons Road AS1	7921-1354-2	Object Collection	
7921-1352	Robinsons Road AS2	7921-1352-2	Object Collection	
7921-1353	Robinsons Road AS4	7921-1353-2	Object Collection	
7921-1351	Robinsons Road AS3	7921-1351-2	Object Collection	
7921-1359	Cranbourne/Frankston Road South AS4	7921-1359-2	Object Collection	
7921-1369	Thompsons Road 17	7921-1369-1	Artefact Scatter	
7822-3197	550 Craigieburn Road 2 IA	7822-3197-2	Object Collection	
7822-3198	550 Craigieburn Rd 1	7822-3198-2	Object Collection	
8020-0274	Cape Paterson AS1	8020-0274-2	Object Collection	
8322-0216	Hoyt St 1	8322-0216-2	Object Collection	
8020-0275	5261 Bass Highway	8020-0275-2	Object Collection	
7823-0245	Green St. Kilmore Artefact Scatter 1	7823-0245-2	Object Collection	
7823-0244	Green St. Kilmore Artefact Scatter 2	7823-0244-2	Object Collection	
7921-1381	Toomuc Creek Retarding Basin 1	7921-1381-2	Object Collection	

Aboriginal Place No	Aboriginal Place Name	Component Place No	Component Type	Component Feature Type
7921-1382	Toomuc Creek Retarding Basin 2 IA	7921-1382-2	Object Collection	
7921-1383	Toomuc Creek Retarding Basin 3	7921-1383-2	Object Collection	
7921-1384	Toomuc Creek Retarding Basin 4	7921-1384-2	Object Collection	
7921-1385	Toomuc Creek Retarding Basin 5	7921-1385-2	Object Collection	
7921-1386	Toomuc Creek Retarding Basin 6	7921-1386-2	Object Collection	
7921-1387	Toomuc Creek Retarding Basin 7	7921-1387-2	Object Collection	
7921-1388	Toomuc Creek Retarding Basin 8 IA	7921-1388-2	Object Collection	
7921-1380	Cardinia Creek 24 IA	7921-1380-1	Artefact Scatter	
8020-0276	Bald Hills Wind Farm 3	8020-0276-2	Object Collection	
7921-1389	Grices Rd Clyde 1	7921-1389-1	Artefact Scatter	
7921-1390	Grices Rd Clyde 2	7921-1390-1	Artefact Scatter	
8021-0368	Candowie Reservoir IA 1	8021-0368-2	Object Collection	
7522-0089	Lower Darlington Road Lismore IA 1	7522-0089-2	Object Collection	
7521-0130	Lower Darlington Road Lismore IA 2	7521-0130-2	Object Collection	
7521-0131	Lower Darlington Road Lismore IA 3	7521-0131-2	Object Collection	
7921-1410	Clyde Creek IA 1	7921-1410-1	Artefact Scatter	
7921-1411	Clyde Creek IA 2	7921-1411-1	Artefact Scatter	
7921-1412	Clyde Creek IA 3	7921-1412-1	Artefact Scatter	
7921-1413	Clyde Creek IA 4	7921-1413-1	Artefact Scatter	
7921-1415	Clyde Creek 1	7921-1415-1	Artefact Scatter	
7921-1416	335 Grices Road Clyde North AS 1	7921-1416-1	Artefact Scatter	
7921-1417	335 Grices Road Clyde North IA 1	7921-1417-1	Artefact Scatter	
7921-1418	335 Grices Road Clyde North AS 2	7921-1418-1	Artefact Scatter	
7921-1417	335 Grices Road Clyde North IA 1	7921-1417-2	Object Collection	
7921-1418	335 Grices Road Clyde North AS 2	7921-1418-2	Object Collection	
7921-1416	335 Grices Road Clyde North AS 1	7921-1416-2	Object Collection	
7822-3357	Mt Mary Rd 4 IA	7822-3357-2	Object Collection	
7822-3360	Mt Mary Rd 5	7822-3360-2	Object Collection	
7822-3361	Mt Mary Rd 6	7822-3361-2	Object Collection	
7822-3362	Mt Mary Rd 7	7822-3362-2	Object Collection	
7822-3359	Mt Mary Rd 8 IA	7822-3359-2	Object Collection	
7822-3364	Mt Mary Rd 3	7822-3364-2	Object Collection	
7921-1420	1505-1525 (Lot 2) Pound Road Clyde North IA 1	7921-1420-1	Artefact Scatter	
7921-1426	1505-1525 (Lot 2) Pound Road Clyde North IA 2	7921-1426-1	Artefact Scatter	
7921-0833	BROOKFORD ESTATE 4		Object Collection	
7921-0832	BROOKFORD ESTATE 3		Object Collection	
7921-0834	BROOKFORD ESTATE 7		Object Collection	
7822-1614	EYNESBURY SAS 9	7822-1614-2	Object Collection	
7822-1940	GREEN HILL 11	7822-1940-2	Object Collection	
7822-1937	GREEN HILL 8	7822-1937-2	Object Collection	
7822-1792	EYNESBURY SAS 20	7822-1792-2	Object Collection	
7921-1426	1505-1525 (Lot 2) Pound Road Clyde North IA 2	7921-1426-2	Object Collection	
7921-1420	1505-1525 (Lot 2) Pound Road Clyde North IA 1	7921-1420-2	Object Collection	
8021-0375	Lindhe Lane 1	8021-0375-2	Object Collection	
7921-1429	Cardinia Creek Parklands 1 IA	7921-1429-1	Artefact Scatter	



Aboriginal Place No	Aboriginal Place Name	Component Place No	Component Type	Component Feature Type
7921-1430	Cardinia Creek Parklands 2 IA	7921-1430-1	Artefact Scatter	
7921-1432	Cardinia Creek Parklands 4	7921-1432-1	Artefact Scatter	
7921-1431	Cardinia Creek Parklands 3	7921-1431-1	Artefact Scatter	
7821-0877	Waterfall Gully Artefact Scatter 1	7821-0877-2	Object Collection	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-1	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-2	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-3	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-4	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-5	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-6	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-7	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-8	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-9	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-10	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-11	Low Density Artefact Distribution	
7921-1437	Narre Warren Cranbourne Rd 1	7921-1437-12	Low Density Artefact Distribution	
7921-1438	Narre Warren Cranbourne Rd 2	7921-1438-1	Low Density Artefact Distribution	
7921-1438	Narre Warren Cranbourne Rd 2	7921-1438-2	Low Density Artefact Distribution	
7921-1438	Narre Warren Cranbourne Rd 2	7921-1438-3	Low Density Artefact Distribution	
7921-1438	Narre Warren Cranbourne Rd 2	7921-1438-4	Low Density Artefact Distribution	
7921-1439	Smiths Lane, Clyde North LDAD 1	7921-1439-1	Low Density Artefact Distribution	
7921-1439	Smiths Lane, Clyde North LDAD 1	7921-1439-2	Low Density Artefact Distribution	
8422-0640	Tamhaven Drive 1	8422-0640-2	Object Collection	
7921-1448	Manuka Road 1	7921-1448-2	Artefact Scatter	
7921-1454	Pattersons Road 3	7921-1454-1	Low Density Artefact Distribution	
7921-1454	Pattersons Road 3	7921-1454-2	Low Density Artefact Distribution	

## **Appendix 4: Previous Reports in Geographic Region**

Report No.	Title	Author	Report Year
12197	525 to 625 Princes Highway Officer	Sarah Skews and Edward East	
12196	1A Galloway Drive, Narre Warren South	Steven O'Reilly and Sarah Skews	
12161	120 Cardinia Road, Officer - Subdivision	Kathleen Hislop and Maya Barker	
12160	265 Berwick-Cranbourne Road, Clyde North - Subdivision	Anita Barker	
12115	1505 to 1525 Pound Road, Clyde North	Andrea Murphy and Tom Rymer	
12096	335 Grices Road, Clyde North	Andrea Murphy, Tom Rymer	
11968	Car Park Extension, Beaconsfield Railway Station, Beaconsfield Avenue, Beaconsfield	Jen Burch	
11858	Old Princes Highway Berwick to Princes Highway Beaconsfield	Stacey Kennedy	
11833	240 Rix Road, Officer Residential Subdivision	Dr Michael Green	
11697	1100 Pound Road, Clyde North- Subdivision	Andrea Murphy and Tom Rymer	
11684	15 & 33 Mary Street Officer, Victoria	Keith Patton	
11636	Residential Subdivision 121 Grices Road, Clyde North	Andrea Murphy and Dr Tom Rymer	
11530	Wetlands Development, Monash University, Berwick Campus	Jennifer Chandler and Roark Muhlen-Schulte	
11469	Cardinia Creek Parkland Development: Walking Track, Car Park and Picnic Area	Laurinda Dugay-Grist, Alex Cowled and Renee McAlister	
11452	Glismann Road, Beaconsfield Structure Plan	Andrea Murphy & Dale Owen	
11381	15 Elizabeth Street, Cranbourne North: Six Unit Development	Laurinda Dugay-Grist and Renee McAlister	
11298	Clyde Road Upgrade, Berwick Cultural Heritage Management Plan	Anna Light	
11251	Complex Cultural Heritage Management Plan for Merinda Park Railway Station Car Park Extension	Saad, P McMillan, R Berelov, I & Thiele, F	2010
11156	Industrial Subdivision - Thompsons Road, Cranbourne North	Martin North, Ilya Berelov, Tim Cavanagh	
11091	VicUrban@Officer Mixed Use Development, Officer	John Stevens & Gary Vines	
11051	PSP No.16-Cranbourne North (Stage 2) - Cnr Thompsons & Clyde Road	Day, C	2010
11039	Residential Subdivision Lots 1, 2, 12, & 14 Starling, Brown & McMullen Roads Officer	Andrea Murphy & Stacey Kennedy	
11005	308 Centre Road, Narre Warren South: Proposed Residential Sub Division	Adams, C, Dugay-Grist, L & McAlister, R	2010
10982	Gum Scrub Creek Frog Pond, Officer, Victoria	Allia, S & Vines, G	2009
10939	Residential Subdivision, Lots 2 & 3 Rix Road, Officer	Murphy, A & Rymer, T	2009
10881	Victorian Desalination Project- Cranbourne Extension of the Power Supply Alignment, Cranbourne, Victoria	Ford, A, Hutchinson, M, Birch, J, & Freedman, D	2009
10857	Residential and Retail Subdivision, 1095 Pound Road and 181 Grices Road, Clyde North	Andrea Murphy & Dr Tom Rymer	

Report No.	Title	Author	Report Year
10764	Narre Warren - Cranbourne Road Duplication,	Anita Barker, Jodi Turnbull, David Thomas	
10755	Proposed Berwick Select Entry School Stage 2, Berwick	Stone, T & Defteros, G	2009
10725	Casey Central Shopping Centre, City of Casey	Feldman, R	2009
10704	Planned Sub Division 110 Cardinia Road, Officer	Hyett, J	2009
10691	Beaconsfield Transfer Main and Sewer Retic, Cardinia Shire	Barker, M	2009
10656	Cardinia Rd Employment Precinct Structure Plan, Officer South	Andrea Murphy, Andrew Morris	
10649	Narre Warren Fire Station, 292-298 Cranbourne Road, Narre Warren South	Veres, M	2009
10646	Brookford Estate, Proposed Multi-Lot Subdivision, Cranbourne East, Cultural Heritage Management Plan	Alyssa Gilchrist	
10636	Pakenham-Narre Warren Sewerage Transfer Scheme, South East Melbourne, Victoria	Patterson, S	
10620	Desalination Project Transfer Pipeline and Power Utilities Corridor, Wonthaggi to Cranbourne, Victoria	Fiddian, J	2009
10612	Development of Sports Ovals, Haileybury College, Berwick	Tucker, C & Hyett, J	2010
10552	Proposed Berwick Select Entry School Stage 1, Berwick	Dr Tim Stone	2008
10531	Crown Allotment 29, Thompsons Road, Cranbourne North, Residential Subdivision	Murphy, A	2009
10497	Narre Warren South Tennis Complex, Narre Warren Victoria	Vanessa Flynn	2008
10470	Residential Subdivision 485 Narre Warren-Cranbourne Road, Cranbourne North	Feldman, R	2009
10392	Lot 2 (Plan No 5464430D), Cnr Evans and Thompsons Roads, Lyndhurst	Murphy, A & Owen, D	2008
10386	625 Princes Highway, Officer & 707 Princes Highway Pakenham, Victoria	Parmington, A	
10285	Lot 29A, Thornley Drive, Berwick	Mathews, D & Long, A	2008
10275	Beaconsfield Light Industrial Development, Lot 2 Beaconsfield Avenue, Beaconsfield	Clark, V	2008
10228	Thompson Road Widening, Cranbourne	Murphy, A & Dugay-Grist, L	2008
10227	Narre Warren-Cranbourne Road Duplication, Narre Warren South	Murphy, A	2008
10223	Land for Proposed Residential Sub Division, 150-170 Ormond Road, Hampton Park	Di Fazio, B & Young, J	2009
10222	1040 Glasscocks Road, Cranbourne North	Adams, C & Stevens, J	2008
10215	55 Kangan Drive, Berwick, Victoria	Nicolson, O & Burch, J	2008
10168	1435 Thompsons Road, Cranbourne, Victoria	Vines, G	
10130	VicUrban's Residential Subdivision Project at Officer, Victoria, Cardinia Road Precinct	Gary Vines, Jenny Fiddian, Melanie Thomson, Andrew Cooper, Katrina Niland, Martin Lawler	2008



Report No.	Title	Author	Report Year
10110	2 - 30 Golf Links Road, Berwick Residential Subdivision	Andrea Murphy and Laurinda Dugay-Grist	2008
10086	Desalination Project: Desalination Plant, Wonthaggi	Martin Lawler, Andrew Orr, Helen Cekalovic, Oona Nicholson and Luke Kirkwood	2009
10084	Proposed Development at 560 Narre Warren - Cranbourne Road, Cranbourne Victoria	Fiddian, J & Lawler M	2007
10045	Sewer Rising Main, Officer South	Murphy, A & Rymer, T	2008
10022	1435 Thompsons Road, Cranbourne, Victoria	Vines, G	
10009	Proposed Housing Subdivision, 305 Berwick-Cranbourne Road, Clyde North, Victoria	Clarke, D	2009
4387	Salvage Excavations at 1435 Thompsons Road, Cranbourne Victoria: Subdivision Stage 2 - CHMP 10168	Gary Vines and Andrew Orr	
4336	Sub-Surface Archaeological Salvage Cranbourne Extension Victorian Desalination Project, Cranbourne Draft Report Volume 1 & 2 - CHMP 10881	Amanda Atkinson, Clare Anderson, Balazs Hansel and Kristen Mann	
4289	Thompsons Road Widening, Cranbourne	Light, A	2010
4283	Pakenham-Narre Warren Sewerage Transfer Scheme, Southeast Melbourne, Victoria Salvage Report	Jenkins, R	2010
4279	Beaconsfield Transfer Main and Sewer Retic, Cardinia Shire, Salvage Excavations	Murphy, A & Amorosi, L	2009
4251	St Peters College, 255 Cranbourne-Berwick Road, Cranbourne East, Victoria	Nicolson, O & Ford, A	2009
4120	Proposed Road Widening Thompsons Rd Between South Gippsland Hwy & Narre Warren-Cranbourne Rd	Murphy,A & Dugay-Grist, L	2008
4118	Narre Warren-Cranbourne Road Narre Warren South	Murphy,A & Dugay-Grist, L	2008
4096	Cranbourne North Service Business Precinct: Preliminary Cultural Heritage Management Plan	Orr, A	2007
4091	2-30 Golf Links Road, Berwick	Murphy, A & Dugay-Grist, L	2007
4052	Pakenham Bypass Cardinia Creek Excavations	Murphy, A, Thomson, S & Rymer, T	2007
4028	Report on Archaeological Excavations AAV 7921/0564 and 7921/0565 Glasscocks Road Extension Lyndhurst	Rhodes, D	2007
4012	Brookford Estate 545 Berwick-Cranbourne Road Clyde North	Murphy, A & Rymer, T	2007
4011	Thompsons Road between South Gippsland Highway & Narre Warren - Cranbourne Road	Murphy, A & Dugay-Grist, L	2007
3953	An Archaeological/Cultural Heritage Assessment of 565-625 Princes Highway Officer, Victoria	Duncan, B.	2007
3952	Archaeological Sub-Surface Testing of an Area of Aboriginal Sensitivity, 625 Princes Highway, Officer	Griffen, D., Ward, J.	2007
3950	An Archaeological/Cultural Heritage Assessment of 625 Princes Highway, Officer, Victoria	Ward, J., Nicolson, O., Griffen, D.	2007
3919	Officer South Rising Main	Murphy, A & Rymer, T	2007
3909	An Archaeological Survey at 1435 Thompsons Road, Cranbourne East, Victoria	Lawler, M., Fiddian, J.	2007

Report No.	Title	Author	Report Year
3883	Melbourne 2030 Casey Cardinia Growth Area. Aboriginal Archaeological Desktop Report	Feldman, R., Long, A.	2006
3858	River Gum Creek, Hampton Park, Cultural Heritage Desktop Assessment	Hyett, J.	2007
3760	'Highfield' 800 Berwick-Cranbourne Rd, Clyde North. Sub-Surface Testing Investigation	Murphy, A & Rymer, T	2006
3667	Archaeological Desktop Investigation Lots 1 & 4, Homestead Road Berwick	Bell, J	2006
3632	Lot 2, Corner of Evans & Thompsons Rds, Cranbourne: Cultural Heritage Assessment	Murphy, A	2006
3537	Eden Rise Estate: Monitoring of AAV Site 7921-0655	Bell, J	2006
3521	An Archaeological Assessment for Section 5A of the Pakenham-Narre Warren Sewerage Transfer System, Victoria	Matthews, L & Vines, G	2006
3466	Pakenham Bypass Section 1 & 3. Archaeological Sub-Surface Testing Programme	Howell-Meurs, J & Long, A	2006
3375	Stage 2: Aboriginal Archaeological Sub-surface Investigations for the Proposed Officer Development Project, Officer, Victoria.	Thomson, M & Muir, S	2006
3374	Stage 1: Aboriginal Archaeological Assessment for the Proposed Officer Development Project, Officer, Victoria	Thomson, M & Nicolson, O	2006
3373	A Desktop Archaeological Survey of Land at Officer, Victoria	Muir, S & Nicolson, O	2006
3293	Archaeological Sub-surface Testing of a Proposed Development Site, Narre Warren-Cranbourne Road, Narre Warren, Victoria	Matthews, L	2005
3159	An Archaeological Sub-Surface Testing Program for Bryn Mawr Boulevard Rail Bridge Construction, Berwick, Victoria	Thomson, M.	2005
3076	Archaeological Sub-surface Testing, Intersection of Pound Road and Berwick Cranbourne Road, Clyde North	S. Muir	2005
3074	Monash University (Berwick Campus)	J. Bell	2003
3067	Monash University (Berwick Campus) Archaeological Sub-Surface Testing	J. Bell	2005
3052	Aboriginal Archaeological Sub-surface Testing, 74A Hancock Drive, Berwick	J.Hyett	2005
3018	Archaeological Sub-Surface Testing 396 Centre Road Berwick	Terra Culture	2005
3005	An Archaeological Survey of a Proposed School Site at Bridgewater Boulevard, Berwick South, Victoria	Matthews, L & Nicolson, O	2005
2990	An Archaeological Investigation Thompsons Road, Evans Road to South Gippsland Freeway Cranbourne	Hyett, J & Chamberlain, M	2005
2987	Eden Rise Estate Salvage Excavation AAV Site 7921-0655	Bell, J	2005
2983	Proposed Golf Course, McGregor Road, Pakenham: Cultural Heritage Assessment	Murphy, A	2004
2971	Centre, Ward & Homestead Roads, Berwick	Murphy, A	2004

Report No.	Title	Author	Report Year
2961	62 Rix Road, Officer	Murphy, A	2004
2910	Eastern Irrigation Scheme Archaeological Assessment	Long, A, Schell, P & Howell-Meurs, J	2004
2901	Eden Rise Estate Archaeological Sub-Surface Testing	Bell, J	2004
2899	An Archaeological Assessment 396-430 Centre Road Berwick	Hyett, J & Myers, S	2004
2807	Report on the Results of Sub-surface Testing at Officer Farm, Pakenham	Rhodes, D	2004
2772	Shire of Cardinia Urban Growth Corridor Aboriginal Heritage Study	Rhodes, D & Bell, J	2004
2674	Stage 1 and 2 Cultural Heritage Survey of Clyde Five Ways Road, Pound Road to Ballarto Road, Victoria	Muir, S	2003
2648	Officer Farm, Officer	Murphy, A.	2003
2528	An Archaeological Survey Narre Warren - Cranbourne Road, Narre Warren South	Chamberlain, M.	2003
2521	Cultural Heritage Assessment of 920 Pound Road, Cranbourne North, Victoria	Debney, T.	2003
2431	Bryn Mawr Estate, Berwick Sub-Surface Testing and Monitoring Program	Murphy, A. and Amorosi, L.	2003
2394	An Archaeological Survey of a Road Intersection Narre Warren - Cranbourne Road, Narre Warren South	Rhodes, D.	2002
2365	The Archaeological Sensitivity of the Gum Scrub Creek and Officer Drain Catchments Near Berwick, Victoria	Stone, T.	2002
2352	Proposed Residential Sub-Division Favero Gardens Narre Warren Road Cranbourne North Victoria	Haley, M. & Weaver, F.	2002
2326	An Archaeological Survey: Clyde Five Ways, Cranbourne	Bell, J.	2002
2292	Bryn Mawr Estate, Berwick, Cultural Heritage Assessment	Murphy, A.	2002
2282	An Archaeological Survey 325 Princes Highway Officer, Victoria	Kajewski, P and Matthews, L	2003
2229	An Archaeological Survey of a Proposed Residential Subdivision: Pound Road, Narre Warren South	Webb, C.& Chamberlain, M	2002
2183	Proposed Residential Subdivision: Clyde Road, Berwick, Victoria: A Survey for Aboriginal and Historic Archaeological Sites	Haley, M. and Weaver, F.	2001
2131	An Archaeological Survey of Proposed Primary School Site, Berwick, Victoria	Di Fazio, B.	2001
2050	Grasmere Creek Drainage Works: Cultural Heritage Survey	Murphy. A	2001
1930	A Cultural Heritage Survey of the Proposed Pakenham Bypass of the Princes Freeway from Beaconsfield to Nar Nar Goon, Victoria	Tulloch, J.	2001
1914	An Archaeological Assessment Golden Grove Estate, Narre Warren South	Bell, J.	2003
1904	An Aboriginal Heritage Impact Assessment of the Proposed Widening of the Narre Warren-Cranbourne Road, Narre Warren	Marshall.B & Webb.C	2001

Report No.	Title	Author	Report Year
1818	An Aboriginal Archaeological Survey of a Proposed Residential Subdivision: Greaves and Clyde Roads, Berwick	Webb.C & Marshall.B	2000
1817	A Salvage Excavation of Aboriginal Archaeological Site Eden Rise 1 (AAV 7921-0507)	Terra Culture	2003
1635	Hallam Bypass Project Stage 1: Investigative Cultural Heritage Survey.	Marshall, B. Webb, C.	2000
1558	Desktop Archaeological Assessment of Pipeline between Cardinia Reservoir and Pearcedale.	Debney, T	1999
1490	An Archaeological Survey of Canning Drive, Berwick, Victoria	Cekalovic, H.	1999
1410	An Archaeological Survey of a Proposed School Site, Fairholme Boulevard, Berwick, Victoria	Cekalovic, H.	1999
1320	Aboriginal Archaeological Sensitivities Study of the Water Ways and Flood Plains Greater Melbourne	Du Cros, H. & Rhodes, D.	1998
1021	An Overview of the Aboriginal Archaeology within the "Casey Foothills", Narre Warren North & Harkaway	Murphy, A.	1996
1004	Pakenham Reservoir Inlet Main Number 2: An Archaeological Survey	Brown, S.	1996
989	An Archaeological Survey for a Local Structure Plan, Berwick, Victoria.	Sciusco, L.	1996
971	Archaeology of the Central Highlands Background Study: Draft	Bird, C.	1993
933	An Archaeological Survey of Three Proposed School Sites in Narre Warren and Carrum Downs, Victoria	Lane, S.	1996
774	Central Highlands Aboriginal Archaeological Heritage: National Estate Threshold Analysis	Rhoads, J.	1994
720	Sub-surface Archaeological Investigations at Berwick South	Marshall, B.	1997
529	An Archaeological Survey of a Proposed Landfill Site, Thompsons Rd, Cranbourne, Victoria	Weaver, F.	1992
485	A Sub-Surface Investigation of Terraces Affected by Cardinia Creek By-Pass, Officer, Victoria	Du Cros & Associates	1992
439	Berwick-Pakenham Corridor Aboriginal Archaeology	Smith, L.	1991
373	History of the Coast Tribe	Massola, A	1959
271	Aboriginal Occupation of the Melbourne Area, District 2	Goulding, M.	1988
232	The Berwick-Pakenham Corridor: The Archaeological Survey of Aboriginal Sites	Smith, L.	1989
193	Aboriginal Boundaries and Movements in Western Port, Victoria	Gaughwin, D. & Sullivan, H.	1984
20	An Archaeological Survey of the Melbourne Metropolitan Area	Presland, G.	1983
4	Sites of Archaeological Significance in the Westernport Catchment	Gaughwin, D.	1981



## **Appendix 5: Excavation Logs for Phase 2 Sub-surface Testing**

*Proposed Residential Subdivision, 2100 Thompsons Road  
and 1425 Pound Road, Clyde North  
CHMP 11869 - Heritage Insight Pty Ltd*

Probe No	Map Zone	Probe Easting	Probe Northing	Context Name	Context Depth (mm)	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	Percentage Inclusions	Artefacts (Y/N)	Total No. Artefacts	Interpretation and comments
BHT03	55	357597.759	5782397.862	C1 - Topsoil	300-400mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
BHT03	55	357597.759	5782397.862	C2 - Alluvial Silt	500-600mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		
BHT03	55	357597.759	5782397.862	C5	600-700mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		
BHT05	55	357406.704	5782376.958	C1 - Topsoil	600-700mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
BHT05	55	357406.704	5782376.958	C2 - Alluvial Silt	900-1000mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			Y	2	
BHT05	55	357406.704	5782376.958	C4 - Alluvial Silt		6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		depth of 1600-1700mm. Base not found, water began to seep into trench
BHT05 R01	55	357408.997	5782384.869	C1 - Topsoil	720	6.5	5YR 4/1 - dark gray	Silt					N		
BHT05 R01	55	357408.997	5782384.869	C4 - Alluvial Silt	1200	7	10YR 3/3 - dark brown						N		
BHT05 R02	55	357414.907	5782373.396	C1 - Topsoil	440	6.5	5YR 4/1 - dark gray	Silt		Firm			Y	1	
BHT05 R02	55	357414.907	5782373.396	C2 - Alluvial Silt	710	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT05 R02	55	357414.907	5782373.396	C6	730	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Firm			N		
BHT05 R03	55	357404.783	5782367.255	C1 - Topsoil	430	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT05 R03	55	357404.783	5782367.255	C2 - Alluvial Silt	630	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT05 R03	55	357404.783	5782367.255	C8	830					Firm			N		
BHT05 R03	55	357404.783	5782367.255	C4 - Alluvial Silt	850	7	10YR 3/3 - dark brown	Clayey Sand		Firm			N		
BHT05 R04	55	357396.054	5782376.490	C1 - Topsoil	230	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT05 R04	55	357396.054	5782376.490	C2 - Alluvial Silt	360	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT05 R04	55	357396.054	5782376.490	C4 - Alluvial Silt	480	7	10YR 3/3 - dark brown			Firm			N		
BHT05 R05	55	357407.199	5782379.962	C1 - Topsoil	640	6.5	5YR 4/1 - dark gray	Silt		Firm			Y	1	
BHT05 R05	55	357407.199	5782379.962	C2 - Alluvial Silt	1160	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT05 R06	55	357405.906	5782372.212	C1 - Topsoil	400	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT05 R06	55	357405.906	5782372.212	C2 - Alluvial Silt	690	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT05 R06	55	357405.906	5782372.212	C4 - Alluvial Silt	810	7	10YR 3/3 - dark brown			Firm			N		
BHT05 R07	55	357400.840	5782375.849	C1 - Topsoil	380	6.5	5YR 4/1 - dark gray	Silt		Firm			N		

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Probe No	Map Zone	Probe Easting	Probe Northing	Context Name	Context Depth (mm)	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	Percentage Inclusions	Artefacts (Y/N)	Total No. Artefacts	Interpretation and comments
BHT05 R07	55	357400.840	5782375.849	C2 - Alluvial Silt	680	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT05 R07	55	357400.840	5782375.849	C4 - Alluvial Silt	970	7	10YR 3/3 - dark brown			Compact/Hard			N		
BHT05 R08	55	357417.333	5782383.194	C1 - Topsoil	470	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
BHT05 R08	55	357417.333	5782383.194	C2 - Alluvial Silt	800	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
BHT05 R08	55	357417.333	5782383.194	C5	830	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT05 R09	55	357424.595	5782370.998	C1 - Topsoil	400	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			y	2	
BHT05 R09	55	357424.595	5782370.998	C2 - Alluvial Silt	780	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			y	1	
BHT05 R09	55	357424.595	5782370.998	C5	790	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT05 R10	55	357413.138	5782364.586	C1 - Topsoil	420	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
BHT05 R10	55	357413.138	5782364.586	C2 - Alluvial Silt	670	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
BHT05 R10	55	357413.138	5782364.586	C5	690	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT07	55	357596.112	5782317.216	C1 - Topsoil	300-400mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		depth of 310mm
BHT07	55	357596.112	5782317.216	C2 - Alluvial Silt	300-400mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		depth of 370mm
BHT07	55	357596.112	5782317.216	C5	300-400mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		depth of 380mm
BHT08	55	357686.521	5782289.931	C1 - Topsoil	200-300mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		depth of 300mm
BHT08	55	357686.521	5782289.931	C2 - Alluvial Silt	300-400mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		depth of 460mm
BHT08	55	357686.521	5782289.931	C5	300-400mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		depth of 490mm
BHT09	55	357758.977	5782256.145	C2 - Alluvial Silt	1100-1200mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		depth of 1170mm
BHT09	55	357758.977	5782256.145	C5	1100-1200mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		depth of 1180mm
BHT09	55	357758.977	5782256.145	C1 - Topsoil	700-800mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			Y	3	depth of 710mm
BHT09 R01	55	357748.652	5782255.140	C1 - Topsoil	260	6.5	5YR 4/1 - dark gray	Silt		Firm	Charcoal	0.05	Y	1	
BHT09 R01	55	357748.652	5782255.140	C2 - Alluvial Silt	1040	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT09 R01	55	357748.652	5782255.140	C6	1050	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Firm			N		
BHT09 R02	55	357759.627	5782263.519	C1 - Topsoil	570	6.5	5YR 4/1 - dark gray	Silt		Firm	Charcoal	0.05	Y	8	
BHT09 R02	55	357759.627	5782263.519	C2 - Alluvial Silt	850	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		

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Probe No	Map Zone	Probe Easting	Probe Northing	Context Name	Context Depth (mm)	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	Percentage Inclusions	Artefacts (Y/N)	Total No. Artefacts	Interpretation and comments
BHT09 R02	55	357759.627	5782263.519	C6	860	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Firm			N		
BHT09 R03	55	357768.594	5782252.018	C1 - Topsoil	600	6.5	5YR 4/1 - dark gray	Silt		Firm			Y	5	
BHT09 R03	55	357768.594	5782252.018	C2 - Alluvial Silt	1150	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			Y	9	
BHT09 R03	55	357768.594	5782252.018	C5	1160	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		
BHT09 R04	55	357756.912	5782244.704	C1 - Topsoil	600	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT09 R04	55	357756.912	5782244.704	C2 - Alluvial Silt	1290	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT09 R04	55	357756.912	5782244.704	C5	1310	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		
BHT09 R05	55	357737.732	5782257.793	C1 - Topsoil	490	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
R05	55	357737.732	5782257.793	C2 - Alluvial Silt	900	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT09 R05	55	357737.732	5782257.793	C6	1040	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Firm			N		
BHT09 R06	55	357749.064	5782265.941	C1 - Topsoil	360	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT09 R06	55	357749.064	5782265.941	C2 - Alluvial Silt	590	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT09 R06	55	357749.064	5782265.941	C6	990	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Firm			N		
BHT09 R07	55	357760.822	5782274.334	C1 - Topsoil	400	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT09 R07	55	357760.822	5782274.334	C2 - Alluvial Silt	600	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT09 R07	55	357760.822	5782274.334	C6	930	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Firm			N		
BHT09 R08	55	357769.939	5782261.487	C1 - Topsoil	390	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT09 R08	55	357769.939	5782261.487	C2 - Alluvial Silt	900	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			y	1	
BHT09 R08	55	357769.939	5782261.487	C6	900	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Firm			N		
BHT09 R09	55	357777.961	5782250.272	C1 - Topsoil	420	6.5	5YR 4/1 - dark gray	Silt		Firm			y	1	
BHT09 R09	55	357777.961	5782250.272	C2 - Alluvial Silt	660	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			y	1	



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Probe No	Map Zone	Probe Easting	Probe Northing	Context Name	Context Depth (mm)	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	Percentage Inclusions	Artefacts (Y/N)	Total No. Artefacts	Interpretation and comments
BHT09 R09	55	357777.961	5782250.272	C6	780	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Firm			N		
BHT09 R10	55	357765.470	5782242.473	C1 - Topsoil	630	6.5	5YR 4/1 - dark gray	Silt		Firm			Y	1	
BHT09 R10	55	357765.470	5782242.473	C2 - Alluvial Silt	960	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT10	55	357328.783	5782249.035	C1 - Topsoil	200-300mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		depth of 250mm
BHT10	55	357328.783	5782249.035	C2 - Alluvial Silt	300-400mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		depth of 400mm
BHT10	55	357328.783	5782249.035	C5	400-500mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		depth of 410mm
BHT11	55	357482.127	5782229.594	C1 - Topsoil	400-500mm	6.5	5YR 4/1 - dark gray	Silt		Cemented	Charcoal	0.01	N		
BHT11	55	357482.127	5782229.594	C2 - Alluvial Silt	700-800mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented	Charcoal	0.01	N		Hardened clay inclusions increasing towards bottom of context
BHT11	55	357482.127	5782229.594	C5	800-900mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		
BHT14	55	357771.390	5782175.203	C2 - Alluvial Silt	1000-1100mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		
BHT14	55	357771.390	5782175.203	C5	1100-1200mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		
BHT14	55	357771.390	5782175.203	C1 - Topsoil	600-700mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			Y	2	
BHT14 R01	55	357767.817	5782165.884	C1 - Topsoil	880	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT14 R01	55	357767.817	5782165.884	C2 - Alluvial Silt	1090	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT14 R01	55	357767.817	5782165.884	C5	1100	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		
BHT14 R02	55	357782.156	5782174.381	C1 - Topsoil	970	6.5	5YR 4/1 - dark gray	Silt		Firm	Glass	0.02	Y	2	
BHT14 R02	55	357782.156	5782174.381	C2 - Alluvial Silt	1290	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm					
BHT14 R02	55	357782.156	5782174.381	C5	1310	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT14 R03	55	357775.655	5782186.233	C1 - Topsoil	560	6.5	5YR 4/1 - dark gray	Silt		Firm			y	2	
BHT14 R03	55	357775.655	5782186.233	C2 - Alluvial Silt	1030	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			n		
BHT14 R03	55	357775.655	5782186.233	C5	1210	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT14 R03	55	357775.655	5782186.233	C5	1310	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		
BHT14 R03	55	357775.655	5782186.233	C5	1320	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT14 R04	55	357762.900	5782178.656	C1 - Topsoil	700	6.5	5YR 4/1 - dark gray	Silt					N		
BHT14 R04	55	357762.900	5782178.656	C2 - Alluvial Silt	1200	6.5	10YR 7/1 - light gray	Silt	Fine Sand				Y	1	

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Probe No	Map Zone	Probe Easting	Probe Northing	Context Name	Context Depth (mm)	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	Percentage Inclusions	Artefacts (Y/N)	Total No. Artefacts	Interpretation and comments
BHT14 R05	55	357764.257	5782190.097	C1 - Topsoil	490	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT14 R05	55	357764.257	5782190.097	C2 - Alluvial Silt	900	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
BHT14 R05	55	357764.257	5782190.097	C5	1030	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT14 R06	55	357752.678	5782182.078	C1 - Topsoil	400	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT14 R06	55	357752.678	5782182.078	C2 - Alluvial Silt	600	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			n		
BHT14 R06	55	357752.678	5782182.078	C5	1130	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT14 R07	55	357757.559	5782167.204	C1 - Topsoil	460	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
BHT14 R07	55	357757.559	5782167.204	C2 - Alluvial Silt	920	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			n		
BHT14 R07	55	357757.559	5782167.204	C5	1130	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT16	55	357452.093	5782133.791	C1 - Topsoil	200-300mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
BHT16	55	357452.093	5782133.791	C2 - Alluvial Silt	300-400mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		
BHT16	55	357452.093	5782133.791	C5	700-800mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		
BHT16	55	357452.093	5782133.791	C6	800-900mm	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Cemented			N		Dug past sandy clay to determine if anything else was below. Mottled brown and orange clay
BHT17	55	357542.333	5782118.240	C1 - Topsoil	200-300mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
BHT17	55	357542.333	5782118.240	C6	300-400mm	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Cemented			N		
BHT21	55	357461.204	5782023.569	C1 - Topsoil	300-400mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			Y	2	
BHT21	55	357461.204	5782023.569	C2 - Alluvial Silt	400-500mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		
BHT21	55	357461.204	5782023.569	C5	500-600mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		
BHT21 R01	55	357462.980	5782032.678	C1 - Topsoil	480	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
BHT21 R01	55	357462.980	5782032.678	C2 - Alluvial Silt	510	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
BHT21 R01	55	357462.980	5782032.678	C5	530	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT21 R02	55	357451.344	5782024.950	C1 - Topsoil	400	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
BHT21 R02	55	357451.344	5782024.950	C2 - Alluvial Silt	520	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
BHT21 R02	55	357451.344	5782024.950	C5	720	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT21 R03	55	357460.311	5782012.674	C1 - Topsoil	430	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		



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BHT21 R03	55	357460.311	5782012.674	C2 - Alluvial Silt	560	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
BHT21 R03	55	357460.311	5782012.674	C5	580	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
BHT21 R04	55	357471.415	5782021.400	C1 - Topsoil	580	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
BHT21 R04	55	357471.415	5782021.400	C1 - Topsoil	850	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
BHT21 R04	55	357471.415	5782021.400	C2 - Alluvial Silt	870	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
BHT22	55	357554.399	5782014.676	C1 - Topsoil	300-400mm	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
BHT22	55	357554.399	5782014.676	C6	600-700mm	6.5	Mottled: 7.5YR 5/1 (brown) and 4/6 (strong brown)	Clay		Cemented			N		
BHT24	55	357745.161	5781980.942	C1 - Topsoil	200-300mm	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		depth of 210mm
BHT24	55	357745.161	5781980.942	C2 - Alluvial Silt	300-400mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		depth of 310mm
BHT24	55	357745.161	5781980.942	C5	300-400mm	6.5	10 YR 5/4 - yellowish brown	Sandy Clay	Coarse Sand	Cemented			N		depth of 360mm
BHT25	55	357447.740	5781894.902	C1 - Topsoil	400-500mm	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
BHT25	55	357447.740	5781894.902	C2 - Alluvial Silt	800-900mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Cemented			N		
BHT27	55	357485.746	5781806.310	C2 - Alluvial Silt	1100-1200mm	6.5	10YR 7/1 - light gray	Sandy Loam	Fine Sand	Firm			N		
BHT27	55	357485.746	5781806.310	C1 - Topsoil	500-600mm	6.5	5YR 4/1 - dark gray	Silt		Firm			Y	1	
BHT27	55	357485.746	5781806.310	C7	700-800mm	6.5	10YR 3/4 - dark yellowish brown	Silt		Firm			N		
BHT27 R01	55	357486.091	5781794.780	C1 - Topsoil	670	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
BHT27 R01	55	357486.091	5781794.780	C2 - Alluvial Silt	900	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
BHT27 R01	55	357486.091	5781794.780	C3 - Clay Subsoil	1200	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
BHT27 R02	55	357473.040	5781803.700	C1 - Topsoil	300	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
BHT27 R02	55	357473.040	5781803.700	C2 - Alluvial Silt	660	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		Clay increasing towards base
BHT27 R02	55	357473.040	5781803.700	C3 - Clay Subsoil	670	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
BHT27 R03	55	357480.079	5781811.394	C7	670					Cemented			N		Large rock inclusions
BHT27 R03	55	357480.079	5781811.394	C2 - Alluvial Silt	1100	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
BHT27 R03	55	357480.079	5781811.394	C3 - Clay Subsoil	1120	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		
TP02 R01	55	357676.895	5782413.639	C1 - Topsoil	450	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP02 R01	55	357676.895	5782413.639	C2 - Alluvial Silt	770	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		

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TP02 R01	55	357676.895	5782413.639	C5	1190	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		
TP02 R02	55	357683.708	5782405.141	C1 - Topsoil	410	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP02 R02	55	357683.708	5782405.141	C2 - Alluvial Silt	720	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP02 R02	55	357683.708	5782405.141	C5	800	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		
TP02 R03	55	357673.987	5782397.681	C1 - Topsoil	500	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP02 R03	55	357673.987	5782397.681	C2 - Alluvial Silt	1000	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP02 R03	55	357673.987	5782397.681	C5	1100	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		
TP02 R04	55	357667.489	5782406.303	C1 - Topsoil	500	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP02 R04	55	357667.489	5782406.303	C2 - Alluvial Silt	920	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP02 R04	55	357667.489	5782406.303	C5	1020	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Firm			N		
TP03 R01	55	357197.252	5781983.802	C3 - Clay Subsoil	550	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
TP03 R01	55	357197.252	5781983.802	C1 - Topsoil	670	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP03 R02	55	357192.732	5781970.422	C1 - Topsoil	690	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP03 R02	55	357192.732	5781970.422	C3 - Clay Subsoil	750	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
TP03 R03	55	357181.352	5781974.463	C1 - Topsoil	680	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP03 R03	55	357181.352	5781974.463	C3 - Clay Subsoil	700	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
TP03 R04	55	357186.777	5781986.847	C1 - Topsoil	530	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP03 R04	55	357186.777	5781986.847	C3 - Clay Subsoil	600	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
TP05 R01	55	357306.568	5781928.808	C1 - Topsoil	0 to 50	6.5	5YR 6/1 - gray	Silty Loam		Cemented	Grass Roots	50%	N		Cow trodden topsoil largely defined by the presence of the root system
TP05 R01	55	357306.568	5781928.808	C2 - Alluvial Silt	50 to 790	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented	Stone	0.05	N		
TP05 R01	55	357306.568	5781928.808	C3 - Clay Subsoil	790+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R02	55	357316.661	5781917.518	C1 - Topsoil	0 to 30	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R02	55	357316.661	5781917.518	C2 - Alluvial Silt	30 to 500	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			Y	4	



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TP05 R02	55	357316.661	5781917.518	C3 - Clay Subsoil	500 +	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R03	55	357307.600	5781909.075	C1 - Topsoil	0 to 40	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R03	55	357307.600	5781909.075	C2 - Alluvial Silt	40 to 410	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			Y	58	Dense lense of artefacts between 30 and 40 cm
TP05 R03	55	357307.600	5781909.075	C3 - Clay Subsoil	410+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R04	55	357297.595	5781916.871	C1 - Topsoil	0 to 30	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R04	55	357297.595	5781916.871	C2 - Alluvial Silt	30 to 430	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP05 R04	55	357297.595	5781916.871	C3 - Clay Subsoil	430 +	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R05	55	357306.877	5781923.888	C1 - Topsoil	0 to 40	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R05	55	357306.877	5781923.888	C2 - Alluvial Silt	40 to 660	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP05 R05	55	357306.877	5781923.888	C3 - Clay Subsoil	660+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R06	55	357302.826	5781916.719	C1 - Topsoil	0 to 70	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R06	55	357302.826	5781916.719	C3 - Clay Subsoil	470+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R06	55	357302.826	5781916.719	C2 - Alluvial Silt	70 to 470	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP05 R07	55	357314.992	5781928.649	C1 - Topsoil	0 to 50	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R07	55	357314.992	5781928.649	C2 - Alluvial Silt	50 to 730	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP05 R07	55	357314.992	5781928.649	C3 - Clay Subsoil	730+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R08	55	357326.239	5781918.635	C1 - Topsoil	0 to 70	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R08	55	357326.239	5781918.635	C3 - Clay Subsoil	380+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R08	55	357326.239	5781918.635	C4 - Alluvial Silt	70 to 380	7	10YR 3/3 - dark brown						n		
TP05 R09	55	357317.137	5781909.873	C1 - Topsoil	0 - 30	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R09	55	357317.137	5781909.873	C2 - Alluvial Silt	30 - 470	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			n		
TP05 R09	55	357317.137	5781909.873	C3 - Clay Subsoil	470+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R10	55	357307.623	5781898.972	C1 - Topsoil	0 to 30	6.5	5YR 6/1 - gray	Silty Loam		Cemented			Y	1	
TP05 R10	55	357307.623	5781898.972	C2 - Alluvial Silt	30 - 470	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			y	3	

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TP05 R10	55	357307.623	5781898.972	C3 - Clay Subsoil	470+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			Y	1	
TP05 R11	55	357297.871	5781909.168	C1 - Topsoil	0 to 60	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R11	55	357297.871	5781909.168	C3 - Clay Subsoil	380+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R11	55	357297.871	5781909.168	C2 - Alluvial Silt	60 to 380	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			n		
TP05 R12	55	357315.399	5781924.328	C1 - Topsoil	0 to 60	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R12	55	357315.399	5781924.328	C2 - Alluvial Silt	60 to 660	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			n		
TP05 R12	55	357315.399	5781924.328	C3 - Clay Subsoil	660+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R13	55	357321.400	5781918.868	C1 - Topsoil	0 to 120	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R13	55	357321.400	5781918.868	C4 - Alluvial Silt	120 to 520	7	10YR 3/3 - dark brown	Silty Loam	Fine Sand	Cemented			n		
TP05 R13	55	357321.400	5781918.868	C3 - Clay Subsoil	520+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R14	55	357307.418	5781888.677	C1 - Topsoil	0 to 80	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R14	55	357307.418	5781888.677	C3 - Clay Subsoil	390+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R14	55	357307.418	5781888.677	C2 - Alluvial Silt	80 to 390	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			n		
TP05 R15	55	357297.751	5781898.684	C1 - Topsoil	0 to 70	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R15	55	357297.751	5781898.684	C3 - Clay Subsoil	690+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R15	55	357297.751	5781898.684	C2 - Alluvial Silt	70 to 690	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			y	1	
TP05 R16	55	357317.612	5781898.995	C1 - Topsoil	0 to 40	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R16	55	357317.612	5781898.995	C2 - Alluvial Silt	40 to 520	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			n		
TP05 R16	55	357317.612	5781898.995	C3 - Clay Subsoil	520+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R17	55	357312.750	5781899.016	C1 - Topsoil	0 to 70	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R17	55	357312.750	5781899.016	C3 - Clay Subsoil	570+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R17	55	357312.750	5781899.016	C2 - Alluvial Silt	70 to 570	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			n		
TP05 R18	55	357307.482	5781893.727	C1 - Topsoil	0 to 60	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R18	55	357307.482	5781893.727	C3 - Clay Subsoil	420+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		



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TP05 R18	55	357307.482	5781893.727	C2 - Alluvial Silt	60 to 420	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			y	2	
TP05 R19	55	357298.103	5781888.760	C1 - Topsoil	0 to 20	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R19	55	357298.103	5781888.760	C2 - Alluvial Silt	29 to 490	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			n		
TP05 R19	55	357298.103	5781888.760	C3 - Clay Subsoil	490+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R20	55	357288.444	5781898.318	C1 - Topsoil	540	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		Dug with backhoe
TP05 R20	55	357288.444	5781898.318	C3 - Clay Subsoil	630	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R21	55	357297.689	5781893.310	C1 - Topsoil	0 to 30	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R21	55	357297.689	5781893.310	C2 - Alluvial Silt	30 to 390	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			n		
TP05 R21	55	357297.689	5781893.310	C3 - Clay Subsoil	390+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R22	55	357318.039	5781894.019	C1 - Topsoil	0 to 60	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R22	55	357318.039	5781894.019	C3 - Clay Subsoil	410+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R22	55	357318.039	5781894.019	C4 - Alluvial Silt	60 to 410	7	10YR 3/3 - dark brown						y	1	
TP05 R23	55	357307.329	5781883.496	C1 - Topsoil	0 to 130	6.5	5YR 6/1 - gray	Silty Loam		Cemented			N		
TP05 R23	55	357307.329	5781883.496	C4 - Alluvial Silt	130 to 410	7	10YR 3/3 - dark brown						n		
TP05 R23	55	357307.329	5781883.496	C3 - Clay Subsoil	410+	6.5	10 YR 4/4 - dark yellowish brown	Clay	Fine Sand	Cemented			N		
TP05 R24	55	357319.738	5781883.415	C1 - Topsoil	470	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		Dug with backhoe- photo board incorrect
TP05 R24	55	357319.738	5781883.415	C3 - Clay Subsoil	570	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R25	55	357328.776	5781893.083	C1 - Topsoil	690	6.5	5YR 4/1 - dark gray	Silt		Cemented	Charcoal	0.02	Y	1	Dug with backhoe
TP05 R25	55	357328.776	5781893.083	C3 - Clay Subsoil	710	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R26	55	357328.963	5781882.874	C1 - Topsoil	510	6.5	5YR 4/1 - dark gray	Silt		Cemented			Y	2	Dug with backhoe
TP05 R26	55	357328.963	5781882.874	C3 - Clay Subsoil	600	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R27	55	357338.748	5781892.295	C1 - Topsoil	540	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		Dug with backhoe
TP05 R27	55	357338.748	5781892.295	C3 - Clay Subsoil	660	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R28	55	357328.644	5781904.875	C1 - Topsoil	600	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		Dug with backhoe

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TP05 R28	55	357328.644	5781904.875	C3 - Clay Subsoil	700	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R29	55	357339.176	5781883.616	C1 - Topsoil	610	6.5	5YR 4/1 - dark gray	Silt		Cemented			Y	1	Dug with backhoe
TP05 R29	55	357339.176	5781883.616	C3 - Clay Subsoil	750	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R30	55	357330.246	5781873.892	C1 - Topsoil	600	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		Dug with backhoe
TP05 R30	55	357330.246	5781873.892	C3 - Clay Subsoil	690	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R31	55	357349.313	5781882.840	C1 - Topsoil	550	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		Dug with backhoe
TP05 R31	55	357349.313	5781882.840	C3 - Clay Subsoil	670	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R32	55	357340.370	5781872.828	C1 - Topsoil	590	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		Dug with backhoe
TP05 R32	55	357340.370	5781872.828	C3 - Clay Subsoil	700	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP05 R33	55	357339.759	5781877.617	C1 - Topsoil	720	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP05 R33	55	357339.759	5781877.617	C3 - Clay Subsoil	740	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Dug with backhoe
TP07 R01	55	357434.348	5781850.109	C2 - Alluvial Silt	670	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm	Charcoal	0.01	Y	5	Sandy Silt, possibly associated with ploughing in top soil with lower original layer of silt
TP07 R01	55	357434.348	5781850.109	C3 - Clay Subsoil	690	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		Base Clay
TP07 R02	55	357439.039	5781847.975	C1 - Topsoil	280	6.5	5YR 4/1 - dark gray	Silt		Firm	Charcoal	0.01	Y	1	
TP07 R02	55	357439.039	5781847.975	C2 - Alluvial Silt	590	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm	Charcoal	0.01	Y	1	
TP07 R02	55	357439.039	5781847.975	C3 - Clay Subsoil	610	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		
TP07 R03	55	357443.148	5781845.984	C1 - Topsoil	280	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
TP07 R03	55	357443.148	5781845.984	C2 - Alluvial Silt	570	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
TP07 R03	55	357443.148	5781845.984	C3 - Clay Subsoil	590	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		
TP07 R04	55	357447.804	5781844.105	C1 - Topsoil	320	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
TP07 R04	55	357447.804	5781844.105	C2 - Alluvial Silt	590	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
TP07 R04	55	357447.804	5781844.105	C3 - Clay Subsoil	600	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		



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TP07 R05	55	357425.939	5781854.362	C1 - Topsoil	160	6.5	5YR 4/1 - dark gray	Silt		Firm			N		
TP07 R05	55	357425.939	5781854.362	C2 - Alluvial Silt	410	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Firm			N		
TP07 R05	55	357425.939	5781854.362	C3 - Clay Subsoil	420	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		
TP07 R06	55	357421.035	5781856.641	C1 - Topsoil	120	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
TP07 R06	55	357421.035	5781856.641	C2 - Alluvial Silt	180	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
TP07 R06	55	357421.035	5781856.641	C3 - Clay Subsoil	300	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
TP07 R07	55	357424.906	5781843.598	C2 - Alluvial Silt	400	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		Strongly cemented
TP07 R07	55	357424.906	5781843.598	C3 - Clay Subsoil	410	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		Strongly cemented
TP07 R08	55	357431.659	5781845.273	C1 - Topsoil	370	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
TP07 R08	55	357431.659	5781845.273	C2 - Alluvial Silt	460	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
TP07 R08	55	357431.659	5781845.273	C3 - Clay Subsoil	470	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		
TP07 R09	55	357436.258	5781843.142	C1 - Topsoil	370	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			y	7	
TP07 R09	55	357436.258	5781843.142	C2 - Alluvial Silt	610	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Compact/Hard			N		
TP07 R09	55	357436.258	5781843.142	C3 - Clay Subsoil	620	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		
TP07 R10	55	357427.374	5781847.196	C1 - Topsoil	330	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP07 R10	55	357427.374	5781847.196	C2 - Alluvial Silt	390	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP07 R10	55	357427.374	5781847.196	C3 - Clay Subsoil	490	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
TP07 R11	55	357429.119	5781840.929	C1 - Topsoil	300	6.5	5YR 4/1 - dark gray	Silt		Cemented	Charcoal		N		
TP07 R11	55	357429.119	5781840.929	C3 - Clay Subsoil	420	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
TP07 R12	55	357431.349	5781833.376	C1 - Topsoil	250	6.5	5YR 4/1 - dark gray	Silt		Cemented			N		
TP07 R12	55	357431.349	5781833.376	C2 - Alluvial Silt	460	6.5	10YR 7/1 - light gray	Silt	Fine Sand	Cemented			N		
TP07 R12	55	357431.349	5781833.376	C3 - Clay Subsoil	550	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Cemented			N		
TP07 R13	55	357433.825	5781838.033	C1 - Topsoil	600	6.5	5YR 4/1 - dark gray	Silt					N		
TP07 R13	55	357433.825	5781838.033	C2 - Alluvial Silt	1550	6.5	10YR 7/1 - light gray	Silt	Fine Sand						

Probe No	Map Zone	Probe Easting	Probe Northing	Context Name	Context Depth (mm)	pH	Soil Colour	Soil Description	Grain Size	Consistency	Inclusions	Percentage Inclusions	Artefacts (Y/N)	Total No. Artefacts	Interpretation and comments
TP07 R13	55	357433.825	5781838.033	C5	1600	6.5	10YR 5/6 - yellowish brown	Sandy Clay	Coarse Sand	Compact/Hard			N		
TP07 R14	55	357441.046	5781840.347	C1 - Topsoil	600	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
TP07 R14	55	357441.046	5781840.347	C3 - Clay Subsoil	1160	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		
TP07 R15	55	357444.886	5781839.022	C1 - Topsoil	600	6.5	5YR 4/1 - dark gray	Silt		Compact/Hard			N		
TP07 R16	55	357444.886	5781839.022	C3 - Clay Subsoil	1160	6.5	10 YR 4/4 - dark yellowish brown	Silty Clay		Compact/Hard			N		

## **Appendix 6: Site Gazetteer**

VAHR No.	VAHR Name	Site Type	Co-ordinates (GDA 94) (Zone 55)	Landform	Landform Element	Soil	Nearest Potable Water Source	Vegetation
7921-1456	Thompsons Road, Clyde North Low Density Artefact Distribution 1	Low Density Artefact Distribution	357524.868E 5781708.020N	N/A	N/A	N/A	Unnamed watercourse	Agricultural grasses
7921-1464	Thompsons Road, Clyde North Artefact Scatter 2	Sub-surface Artefact Scatter	357307.775E 5781917.189N	Terrace	Lower slope	Silt & sand	Unnamed watercourse	Agricultural grasses
7921-1465	Thompsons Road, Clyde North Artefact Scatter 3	Surface & Sub-surface Artefact Scatter	357430.068E 5781851.758N	Banks of prior watercourse	-	Silt & sand	Unnamed watercourse	Agricultural grasses
7921-1466	Thompsons Road, Clyde North Artefact Scatter 4	Sub-surface Artefact Scatter	357777.960E 5782250.272N	Low sandy rise	Crest	Silt & sand	Unnamed watercourse	Agricultural grasses
7921-1410	Clyde Creek IA 1	Surface Artefact	357508E 5781809N	Banks of prior watercourse	-	Silt	Unnamed watercourse	-
7921-1411	Clyde Creek IA 2	Surface Artefact	357459E 5781853N	Banks of prior watercourse	-	Silt	Unnamed watercourse	-
7921-1412	Clyde Creek IA 3	Surface Artefact	357441E 5781877N	Banks of prior watercourse	-	Silt	Unnamed watercourse	-
7921-1413	Clyde Creek IA 4	Surface Artefact	357417E 5781889N	Banks of prior watercourse	-	Silt	Unnamed watercourse	-
7921-1415	Clyde Creek 1	Surface Artefact Scatter	357484E 5781818N	Banks of prior watercourse	-	Silt	Unnamed watercourse	-



VAHR No.	VAHR Name	Site Aspect	Ground Surface Visibility	Maximum Dimensions N-S	Maximum Dimensions E-W	Disturbance to Site	Condition	Integrity
7921-1456	Thompsons Road, Clyde North Low Density Artefact Distribution 1	Open	<1%	N/A	N/A	Agricultural activities. Dam construction	Fair - good	Fair
7921-1464	Thompsons Road, Clyde North Artefact Scatter 2	Open	<1%	30m	21m	Agricultural activities only	Fair - good	Fair
7921-1465	Thompsons Road, Clyde North Artefact Scatter 3	Open	<1%	10m	9m	Agricultural activities. Dam construction	Fair - good	Fair
7921-1466	Thompsons Road, Clyde North Artefact Scatter 4	Open	<1%	29m	30m	Agricultural activities only	Fair - good	Fair
7921-1410	Clyde Creek IA 1	Open	70%	N/A	N/A	Dam construction	Poor	Poor
7921-1411	Clyde Creek IA 2	Open	90%	N/A	N/A	Dam construction	Poor	Poor
7921-1412	Clyde Creek IA 3	Open	90%	N/A	N/A	Dam construction	Poor	Poor
7921-1413	Clyde Creek IA 4	Open	90%	N/A	N/A	Dam construction	Poor	Poor
7921-1415	Clyde Creek 1	Open	30%	N/A	N/A	Dam construction	Poor	Poor

## **Appendix 7: Glossary**

**Adze** A flake with stepped retouch along lateral margins that can be hafted for use as a tool.

**Anvil** A flat object on which a core was placed to flake material from. Anvils often have a small pit/groove, usually in the centre of the object, as a result of this action.

**Archaeology** The study of cultural remains from past cultures and generations.

**Artefact Scatter** The material remains of past Aboriginal peoples' activities. Usually contain stone artefacts, but other material may also be present, including charcoal, animal bone, shell and ochre. An artefact scatter is usually represented by a single stone flake or a concentration of flaked stone pieces (or fragments).

**Assemblage** A collection of artefacts that are derived from the same site.

**Backed Blade** Stone artefact associated with the Australian small tool tradition. They are characterised by unidirectional or bidirectional retouch found along a lateral margin, thought to be blunt for hafting (Holdaway & Stern 2004: 260).

**Basalt** A fine-grained rock occurring from lava flows.

**Bifacially Flaked** Flakes removed from two faces of an object such as a core.

**Blade** A flake that is twice as long as it is wide.

**Bondi Point** An asymmetrical blade with a point at one end with backing retouch. Part of the Australian Small Tool Tradition.

**Burial** Human Remains, normally found as concentrations of human bones or teeth, exposed by erosion or earthworks. They are sometimes associated with charcoal or ochre, although shell, animal bone and stone tools may also be present. Tend to be located in soft soils and sand, although can occur in rock shelters, caves and dead trees.

**Burin** A truncated flake formed by snapping or retouching along one lateral margin that then forms a platform from which small flakes are removed forming a triangular scar that acts as a working edge (Holdaway & Stern 2004: 241-243).

**Ceramic** A term used to identify wares made from either clay or fusible stone such as stoneware, earthenware, porcelain or terracotta (Davies & Buckley 1987: 186).

**Chert** A compact, fine-grained rock made of crypto-crystalline silica and can occur in a variety of colours, usually red, green or black.

**Core** A specimen of rock that has undergone a process of reduction through the removal of a number of flakes and as a result they have negative flake scars. Cores can contain a single platform, have two platforms or have had flakes removed in multiple directions.

**Cortex** The original surface of a mineral or rock subjected to weathering by the elements.

**Cultural Material** Any material remains which are produced by human activity.

**Debitage** Detached pieces of stone that are discarded during the reduction process.

**Dry Stone Wall** A wall formed of a number of courses of rock (usually basalt or limestone) with no bond or binding component. Walls are usually tapered, have two faces and can have hearting (packing), or plugging.

**Earthenware** A non-vitreous (porous) whiteware, usually used for domestic tablewares. Most earthenware is glazed and decorated, transfer printed or left plain (Davies & Buckley 1987: 186).

**Earth Feature** Collective term used to refer to mounds, rings, hearths, postholes and ovens.

**Earth Mound** Mounds generally appear as raised areas of darker soil. They are commonly found in the volcanic plains of western Victoria or on higher ground near water bodies. Mounds often contain charcoal, burnt clay or stone heat retainers from cooking ovens, animal bones, shells, stone tools and sometimes, Aboriginal burials.

**Earth Ring** Banked circles of soil often associated with stone arrangements, which had a ceremonial purpose for Aboriginal people in the past.

**Excavation** A controlled means of soil disturbance (digging) allowing for detailed recording of the soil profile, features and artefacts exposed.

**Flake** A stone artefact that contains characteristics such as the presence of a platform, bulb of percussion and termination which reveal that the stone has been struck from a core and is the result of stone working (Holdaway & Stern 2004: 5).

**Flake Core** A flake that has subsequently been used as a core and had other flakes removed from it.

**Flaked Piece** Small fragments of stone that have been removed from flakes resulting from tool maintenance or tool production (Holdaway & Stern 2004: 17). Flaked pieces do not display the characteristics evident in a complete flake.

**Flint** Similar to chert with a pale cortex and conchoidal fracture. Usually occurring in limestone (Roberts 1998: 65).

**Footing** The structural base/footprint from structures often built from bluestone, brick or wooden posts.

**Geometric Microlith** Part of the Australian small tool tradition. They are symmetrical in form, pointed at both ends and can be backed along a lateral margin (Holdaway & Stern 2004: 262).

**Glaze** A coating put over wares fired in a kiln. Glazes can come in a variety of colours and can also be transparent.

**Greenstone** A metamorphic rock derived from basalt containing feldspar and quartz and is made green by chlorite and epidote. Often used for the manufacture of hand axes.

**Grindstone** A flat slab of rock with central depression used to grind, crush or pound seeds, ochre, or sharpen tools, etc. Grindstones are usually made on sedimentary rocks with an abrasive surface and can be used in conjunction with a muller.

**Ground Edge Axes** A sharpening process – flaking, pecking and polishing, usually along a single lateral margin. The axes are generally hafted with the worked edge forming the tool edge.

**Ground Surface Visibility** The extent to which the natural soil surface below the vegetation on the ground is visible.

**Hammerstone** A hard rock or mineral used to flake fragments of stone from a core (Holdaway & Stern 2004: 4).

**Hearth** The remains of a fireplace containing charcoal and sometimes burnt earth, bone, stone artefacts or other organic material.

**In situ** An artefact or feature that remains in its original position, or where it was left.

**Manuport** A stone block that displays no attributes of being either a core or a flake.

**Microblade** Has the same characteristics as a blade but just of smaller proportions (Holdaway & Stern 2004: 17).

**Ochre** Earth varying in colour from yellow to red, used as a pigment.

**Organic** Compounds formed from living organisms (plants or animals).

**Oven Mound** Usually circular or oval in shape and often situated close to a water source. They were used for cooking and contain a rich greasy organic mix of soil and organic material. An oven mound is likely to contain charcoal, burnt clay or stone heat retainers, stone tools, bones, shell and on occasion, burials (AAV Mini Poster 4).

**Platform** The surface from which the flake was struck off the core – natural, flaked or abraded (Holdaway & Stern 2004: 120).

**Point** A flake that has two edges that form a point with retouch along one or both lateral margins (Holdaway & Stern 2004: 16).

**Porcelain** A non-porous ceramic with a glass-like appearance. Can be translucent, can be used for tableware or more decorative features such as ornaments.

**Post-contact** The period after contact between Aboriginal people and Europeans.

**Pre-contact** The period before contact between Aboriginal people and Europeans.

**Quarry** Outcrop of stone or ochre that has been quarried by Aboriginal people in the past. Generally associated with a large amount of broken stone and flakes. The outcrop (cores) bear negative scars from flaking.

**Quartz** A mineral that commonly occurs in sedimentary, igneous and metamorphic rocks. Quartz can come in a number of forms including crystal, rose, and smoky.

**Quartzite** A metamorphic rock formed by the recrystallization of quartz. Quartz is rich in sandstone and limestone (Roberts 1998: 109).

**Retouch** A worked edge or modification of a flake formed by removing a number of small flakes along an edge. This can be done as a form of maintenance or to produce a tool.

**Rock Art** Paintings created on the rock surfaces of caves and rock shelters and engravings in limestone caves. Artwork includes stencils, prints and drawings. The paint consists of ochres, clays and charcoal mixed with fats.



**Scarred Tree** A tree which has had a slab of bark removed, exposing the sapwood on the trunk or branch of a tree. Aboriginal people used the bark to make shelters, containers (coolamons) and canoes.

**Scraper** A flake with at least one edge that has continuous retouch. Scraper types include steep-edged, end, side and nose scraper (Holdaway & Stern 2004: 16).

**Shell Midden** A surface and/or sub-surface deposit composed of shell and sometimes stone artefacts, charcoal and bone. Middens are normally found in association with coastlines, rivers, creeks and swamps – wherever coastal, riverine or estuarine shellfish resources were available and exploited.

**Silcrete** A fine-grained rock derived from shale or siltstone mixed with silica.

**Spit** A horizontal unit of soil removed during excavation. Spits can be arbitrary (dug to a depth of 50, 100, 200, 300mm, etc.) or can be confined to a particular soil type or context. The excavation of spits allows for greater understanding, analysis and interpretation of the soil profile.

**Stone Feature** Includes cairns, rock wells, stone arrangements, fish traps, stone structures and grinding grooves. May be a natural feature, which was used or modified to be used by Aboriginal people in the past (rock well, stone arrangement), or a stone feature which has been deliberately constructed for a specific purpose (fish trap, stone structure, cairn), or is the result of a specific activity carried out by Aboriginal people in the past (grinding grooves).

**Stoneware** A vitreous (non-porous) ceramic, usually light brown in colour, used for drinking containers or used industrially. Often glazed or unglazed (salt glaze or slip applied) (Davies & Buckley 1987: 186).

**Stratification** The position of sediments and rocks in sequence throughout time.

**Subsurface Testing** A method of excavation that involves ground disturbing works to identify the potential for cultural material. Subsurface testing may comprise hand excavation and/or machine excavation.

**Survey** An inspection of land either by foot or by car (windscreen survey) noting conditions on surface visibility, landforms and the presence of cultural material.

**Termination** The shape of the distal end of a flake (Holdaway & Stern 2004: 129).

**Terracotta** A low-fired clay (ceramic), usually orange to red in colour and very porous. Often used for plumbing (drainage components) or garden ware.

**Tool** Modified flakes usually with retouch present along an edge (Holdaway & Stern 2004: 33).

**Transect** An excavated stretch of ground that can be of varying lengths in a straight line.

**Transfer Printed** A design is traced and engraved onto a copper plate on which ink and oil is then applied. The design is pressed onto tissue paper and then placed on an object and the paper removed. The object is then fired and glazed. Transfer printed ceramics come in a variety of colours and patterns and were mass produced.

**Trench** An area confined by excavation usually in the form of a square (e.g., 2x2m) or rectangular (e.g., 1.5x1m).

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## **Appendix 8: Artefact Analysis by Lauren Prossor**

# 2100 Thompsons Rd, Clyde North Artefact Analysis Report



A Report for CHMP 11869

March 22, 2013

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## Executive Summary

### Introduction

This Artefact Analysis report forms part of the discussion of the artefacts recorded during the standard and Complex assessments of Cultural Heritage Management Plan (CHMP) 11869 by Hislop *et al* (2013).

The Activity Area is approximately 170ha (1,700,000m<sup>2</sup>) in area and encompasses the parcels of land known as 2100 Thompsons Road and 1425 Pound Road, Clyde North, Lot 1 PS433177, Lot 2 PS433177, Lot 2 PS300094, Lot 3 PS300094, Lot 4 PS300094, Parish of Cranbourne, County of Mornington, City of Casey. The Activity Area is located in the suburb of Clyde North, approximately 40km south-east of the Melbourne CBD (Map 1).

### Summary of Artefacts recorded during the Standard and Complex Assessments

There were a total of 13 artefacts recorded during the standard assessment. The majority of the artefacts recorded were silcrete ( $n=10$ ) and three were quartz. Angular fragments dominated ( $n=9$ ) and there were a total of four proximal flakes recorded (see Table 1). These artefacts were registered on the Victorian Aboriginal Heritage Register (VAHR) within VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1) and VAHR 7921-1465 (Thompsons Road, Clyde North Artefact Scatter 3).

The complex assessment was undertaken in two Phases (Phase One and Phase Two). Phase One was undertaken during September 2011 and Phase Two was undertaken in January 2013. A total of 34 artefacts were excavated during Phase One from five test pits (TP02 ( $n=5$ ), TP03 ( $n=5$ ), TP04 ( $n=1$ ), TP05 ( $n=11$ ) and TP07 ( $n=12$ )) (Chart 1). Chart 1 shows the majority of the artefacts recorded at each excavation unit were flakes ( $n=17$ ). Only one core was recorded in TP05 ( $n=1$ ). The remaining form of artefact recorded was flaked pieces ( $n=16$ ). Two thirds of the artefact assemblage was excavated from TP05 and TP07. These test pits were located on two different landforms. TP05 was excavated on the terrace of the large rise overlooking the prior watercourse in the eastern half of the Activity Area, whereas TP07 was excavated on the bank of the prior watercourse. There was a difference in raw materials utilised at TP07 and TP05. Chart 2 shows that silcrete was the only raw material utilised at the location of TP07. Perhaps different activities were undertaken at each location (Map 3).

There were a total of 123 artefacts excavated from 26 excavation units during Phase Two of the complex assessment. Chart 2 illustrates the location, number and artefact type excavated during Phase Two. It was immediately clear (see Chart 3) that there were three distinct zones containing artefacts within the testing. These zones are located around TP05 and TP07 as well as BHT09 from Phase Two. These zones have been registered as VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1), VAHR 7921- 1464 (Thompsons Road, Clyde North 2), VAHR 7921-1465 (Thompsons Road, Clyde North 3) and VAHR 7921-1466 (Thompsons Road, Clyde North 4).

A total of four sites were recorded during the complex assessment. These sites are VAHR 7921-1456, VAHR 7921- 1464, VAHR 7921-1465 and VAHR 7921-1466, (Hislop *et al.* 2013, Appendix 7). The subsurface artefacts which were not in the three distinct zones, mentioned above, were incorporated into the low density artefact distribution VAHR 7921-1456. Chart 3 displays the artefact types comprising the total numbers excavated from each excavation unit.

The utilised raw materials differ across the Activity area. Chart 4 illustrates the total number of artefacts at each excavation unit by raw material. The dominate raw material utilised across the Activity area is silcrete. Around BHT09, BHT 14 and BHT05 there is a clear difference in raw material utilisation.

Here, quartz and quartzite are utilised, whereas they are almost non-existent at the other testing locations.

#### **VAHR 7921-1456 (Thompsons Rd, Clyde North Low Density Artefact Distribution 1)**

This site is a Low Density Artefact Distribution within the Activity Area which includes surface ( $n=7$ ) and subsurface material ( $n=23$ ). The vertical distribution of the artefacts excavated from VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1) shows the highest number of artefacts occurred between 300mm and 400mm in depth, however small numbers of artefacts were found between 900mm and 1000mm at this site. The excavated artefacts comprised 15 flakes (complete  $n=9$ , distal  $n=2$ , medial  $n=1$ , proximal  $n=3$ ) and eight flaked pieces (complete  $n=5$ , medial  $n=1$  and unidentified  $n=2$ ). There was one retouched artefact present between 300-400mm in depth. The majority of artefacts within the low density artefact distribution are likely to have been deposited by slope wash from elevated artefact bearing ground (such as the location of BHT05 and BHT14) in the activity area and inundation from the prior watercourse along with modern disturbance from cattle trampling when ground was water-logged.

#### **VAHR 7921-1464 (Thompsons Rd, Clyde North 2)**

VAHR 7921-1464 is located on the terrace of the large rise overlooking the prior watercourse in the eastern half of the Activity Area (Map 4). The vertical distribution of the artefacts excavated from VAHR 7921-1464 shows the highest number of artefacts occurred between 200mm and 400mm in depth, however small numbers of artefacts were found down to 500mm. The artefacts comprised two bending flakes (complete  $n=2$ ), one core, 57 flakes and 19 flaked pieces (complete  $n=10$ , distal  $n=1$ , proximal  $n=1$  and unidentified  $n=7$ ). There were six retouched artefacts present between 200-400mm in depth. Three of these retouched artefacts were backed blades and there were two points and one retouched artefact.

#### **VAHR 7921-1465 (Thompsons Rd, Clyde North 3)**

Thirty artefacts were identified at VAHR 7921-1465, within eroded surface and subsurface contexts. The vertical distribution of the artefacts excavated from VAHR 7921-1465 shows the highest number of artefacts occurred between 200mm and 500mm in depth. The subsurface artefacts comprised 10 flakes (complete  $n=4$ , distal  $n=3$ , unidentified  $n=2$ , proximal  $n=1$ ), 13 flaked pieces (complete  $n=8$ , distal  $n=1$ , proximal  $n=1$  and unidentified  $n=3$ ) and one core. There were five retouched artefacts present between 200-500mm in depth. Two of these retouched artefacts were backed blades and three retouched artefacts. Due to proximity of prior watercourse, the most likely factors identified in formation of the site are a result of slope wash from elevated ground to the southwest (VAHR 7921-1464) and inundation from the watercourse along with modern disturbance from cattle trampling when ground was water-logged. This also explains the high artefact fragmentation rate at this site (Map 4).

#### **VAHR 7921-1466 (Thompsons Rd, Clyde North 4)**

VAHR 7921-1466 (Thompsons Rd, Clyde North 4) is located on a low sandy rise (Map 4). The vertical distribution of the artefacts excavated from VAHR 7921-1466 shows the highest number of artefacts occurred between 500mm and 600mm in depth, however small numbers of artefacts were found between 600mm and 900mm at this site. The artefacts comprised one proximal bending flake, 14 flakes (complete  $n=7$ , distal  $n=1$ , medial  $n=1$ , proximal  $n=2$ , left longitudinal split  $n=2$ , and unidentified  $n=1$ ) and 16 flaked pieces (complete  $n=13$ , distal  $n=1$ , and unidentified  $n=2$ ). There were two retouched artefact present between 300-500mm in depth. The raw materials represented at VAHR 7921-1466 are silcrete ( $n=20$ ), quartz ( $n=3$ ), and 8 quartzite artefacts. Quartz and Quartzite artefacts were present between 500-900mm in depth. This is a very different pattern to the other sites within the Activity Area. A larger variety of raw materials were utilised at all the other sites within the Activity Area.

## Conclusions

Knapping (primary working of flaked stone to make tools for use), was undertaken within the Activity Area. The presence of cortex in the assemblage indicates that artefacts were being manufactured and maintained within the Activity Area. This is because the presence of cortex on artefacts indicates the stone flakes are from early in the reduction sequence. However, the majority of the assemblage collected from all four sites had no cortex present (artefacts with cortex  $n=31$  of a total 157 artefacts across the four sites), which means that these artefacts are from further into the reduction sequence of working the stone (see Appendix 1 for a glossary of terms).

A total of 14 retouched artefacts in four registered sites. Of these, two points and five backed blades (geometric microliths) were identified between 200-500mm. Ten of these retouched artefacts were steeply retouched as indicated by Kuhn's (1990) Geometric Index of Reduction (GUIR). Clarkson's (2002) Index of Invasiveness showed that this retouch was marginal.

The archaeological evidence from the standard and complex assessments of CHMP 11869 suggest that VAHR 7921-1464 and VAHR 7921-1466 were campsites that the traditional *Bun wurrung* owners established to exploit the resources of the Koo Wee Rup swamp or the prior watercourse (Hislop *et al.* 2013, Section 5.2.3). These sites were most likely temporary camps where resources from the area were processed and consumed.

The difference in raw materials utilised at VAHR 7921-1466 compared to VAHR 7921-1464 and VAHR 7921-1456 may indicate different activities were occurring between these sites. These raw materials were quartz and quartzite. They were excavated from deeper contexts, (between 500-900mm), which indicates a change in raw material utilisation over time.

Even though, the presence of backed blades in VAHR 7921-1465 may be due to slope wash from VAHR 7921-1464 and other sites in the activity area, the presence of backed blades in the assemblages may indicate this site could have initial occupation in the early Holocene. Hiscock and Attenbrow (1998) have demonstrated the presence of backed technology during the early Holocene in Australia. VAHR 7921-1464 and VAHR 7921-1466 represents the remains of two Aboriginal short term campsites that were, most likely, occupied prior to the arrival of Europeans and within the last 2,000 years.

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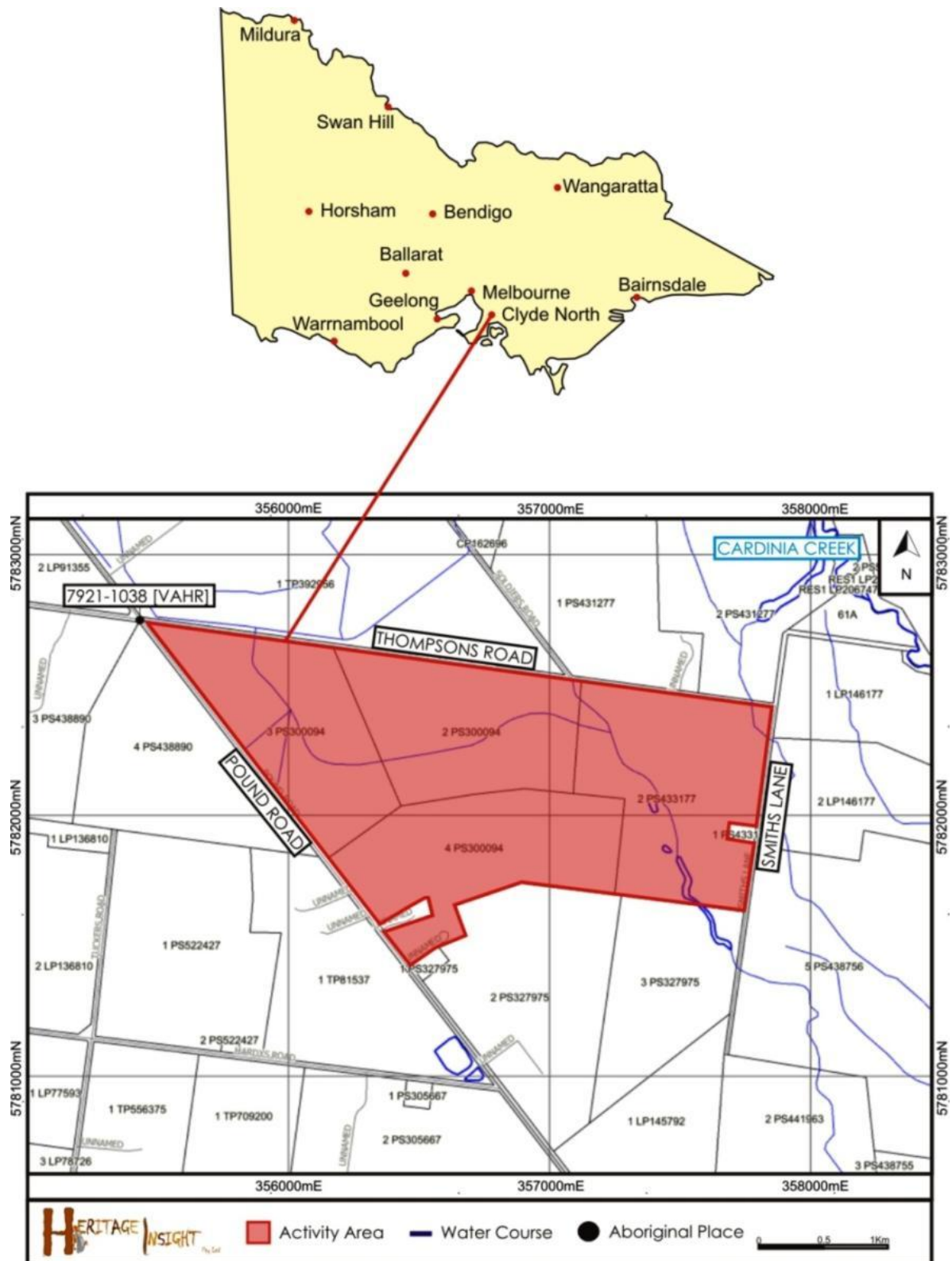
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## 1.0 Introduction

This Artefact Analysis report forms part of the discussion of the artefacts recorded during the standard and Complex assessments of Cultural Heritage Management Plan (CHMP) 11869 by Hislop *et al* (2013).

The Activity Area is approximately 170ha (1,700, 000m<sup>2</sup>) in area and encompasses the parcels of land known as 2100 Thompsons Road and 1425 Pound Road, Clyde North, Lot 1 PS433177, Lot 2 PS433177, Lot 2 PS300094, Lot 3 PS300094, Lot 4 PS300094, Parish of Cranbourne, County of Mornington, City of Casey. The Activity Area is located in the suburb of Clyde North, approximately 40km south-east of the Melbourne CBD (Map 1).

Section 2 of this report discusses the methodologies and approaches taken regarding the artefact cataloguing and analysis. The artefact analysis of all four sites identified (VAHR 7921-1456 (Thompsons Road, Clyde North Low Density Artefact Distribution 1), VAHR 7921-1464 (Thompsons Road, Clyde North 2), VAHR 7921-1465 (Thompsons Road, Clyde North 3) and VAHR 7921-1466 (Thompsons Road, Clyde North 4)) during the standard and complex assessments of CHMP 11869 is discussed in Section 3 of this report. Discussions of site formation processes artefact fragmentation, minimum number of flakes (MNF), minimum number of artefacts (MNA), reduction sequence, quantification of the artefact assemblages and an in-depth discussion of the retouched artefacts is presented within the artefact analysis. The conclusions of the artefact analysis and interpretations of the four registered sites (VAHR 7921-1456, VAHR 7921-1464, VAHR 7921-1465 and VAHR 7921-1466) are presented in Section 4. Terminology and definitions of the Measurements taken during artefact cataloguing are presented in Appendices 1 and 2 respectively. The calculation of the Kuhn's (1990) Geometric Index of Reduction (GUIR), Index of Invasiveness (Clarkson 2002), and other measures of morphology on retouched artefact are presented in Appendix 3. The artefact catalogue can be found in appendix 4.



**Map 1: Location of the Activity Area of CHMP 11869.**

## 2.0 Methodology

### 2.1. Artefact Cataloguing

Reporting on artefacts is a multi-stage process. This process begins with the cataloguing (describing) of the attributes of the individual artefacts (Crook et al. 2002, p.29). Producing an artefact catalogue is a standard component of the archaeological recording process (Crook et al. 2002, p.26). This catalogue forms part of the lasting record of the site. Subsequent stages of analysis and interpretation are of equal importance to the documentation of sites.

Producing an artefact catalogue, or classifying the artefacts and recording attributes, serves a number of purposes:

1. To provide structural boundaries to the analysis;
2. To enable study replication and comparison of archaeological data (Clarkson & O'Connor 2006, p.176); and
3. To provide a set of terminological conventions, allowing simplified and understandable communication of archaeological data (Lyman et al. 1997, p.15).

The artefact attributes recorded within the catalogue are presented in Appendix 1.

### 2.2. Artefact Analysis

Analysis of the artefact assemblage was undertaken at both broad and localised scales in order to investigate regional and location-specific significance in relation to the Activity Area. The analysis of artefacts incorporates both qualitative and quantitative description of size, shape, level of reduction, raw material, and technological and typological categories for each artefact in the assemblage (Clarkson & O'Connor 2006, p.182).

The assemblage is then quantified. Archaeologists quantify artefacts in a variety of ways, most commonly through counts of the raw material present, artefact types (using a typology such as Holdaway and Stern (2004)) and measurement of attributes. All attributes were recorded in millimetres (mm).

The horizontal and vertical distribution of the total number of artefacts excavated from each site is discussed, paying particular attention to any patterns or changes in raw materials, artefact types and technology. The horizontal distribution was investigated in order to ascertain whether there were occupation areas where different activities were being undertaken which would be reflected in different patterns of raw material or technology present in different areas horizontally within the site extent. The vertical distribution of the artefacts from each excavation unit was investigated to ascertain if the patterns seen in the whole assemblage were consistent within each excavation unit. In order to investigate if there was a change in technology within the site, the artefact type, and more specifically artefact form and the vertical location of tools, was investigated. Close attention was also paid to the platform types, raw materials upon which the artefacts were made and the presence and/or absence of cortex on the artefacts. The platform type can give indications to the use and reuse of artefacts within an assemblage, whereas the presence and/or absence of cortex on an artefact indicates the level of reduction an artefact has undergone in its lifespan (Holdaway & Stern 2004, p.120).

The extent to which reduction occurred via artefact retouch was quantified with the Index of Invasiveness (bifacially retouched artefacts) and Kuhn's (1990) Geometric Index of Unifacial Reduction (GUIR) (unifacial retouched flakes only). The combination of these indices forms a powerful description of almost any form of retouch and its intensity (steep/marginal and acute/invasive) (Clarkson 2007; Clarkson & O'Connor 2006, p.191). Other measures of flake form were:



- Elongation Index;
- Length/Thickness;
- Width/Thickness; and
- Percentage Perimeter of Retouch.

The full definitions and methods used to calculate these measures and indices are presented in Appendix 1.

To overcome any biases caused by artefact fragmentation the following calculations were also made. These calculations can aid in the accurate determination of how much flaking took place at a site (Clarkson & O'Connor 2006, p.193).

- Minimum Number of Flakes (MNF); and
- Minimum Number of Artefacts (MNA).

Following on from the above MNF and MNA assessments, two ratios of artefact fragmentation were calculated to investigate the severity of attritional processes occurring within the sites.

The full definitions and methods used to calculate these measures are presented in Appendix 2.

These indices and measures were then interpreted to make conclusions regarding flake morphology, average amount of retouch occurring on the assemblage and the fragmentation of the artefact assemblage recovered during the fieldwork.

### 3.0 Artefact Analysis

When reading the artefact analysis which follows, it is important to have an understanding of what an artefact is, the basic principles of fracture mechanics of stone and stone artefact manufacture techniques. Archaeological assemblages are samples only. They are only a fraction of the discarded artefacts at a site. Artefacts may remain in uninvestigated sections of the site.

Stone artefacts are a very important part of the archaeological record as stone does not deteriorate as rapidly as organic materials (Holdaway & Stern 2004, p.1). In many Australian archaeological sites stone tools are all that remains. Stone artefacts are human-modified pieces of rock, whether modified intentionally or not. “This is quite a broad definition and is generally applied to portable, chipped, ground or pecked stone objects created either by a single person or a small group of individuals within the context of early human societies (Clarkson & O’Connor 2006, p.160).

Generally, the rocks and minerals used in artefact manufacture have a number of properties in common. They are hard, brittle, have a low fracture resistance and are isotropic (have a consistent internal structure) (Holdaway & Stern 2004, p.25; Andrefsky 1998, p.24). Generally, siliceous rocks have hardness similar to that in siliceous minerals. This property of the rocks lends itself to easy working (flaking) and also means the flake retains its sharp edge for longer before it requires sharpening (retouching of the sharp edge) (Holdaway & Stern 2004, p.25; Andrefsky 1998, p.24). Quartzite, when flaked, produces sharp and durable edges. Flaked chert also produces a relatively sharp and hard-wearing edge (Holdaway & Stern 2004, p.25).

Stone working is a reductive technology and all reduction events form a continuum (a reduction sequence) in which artefacts are knapped for use either in a single spatially restricted event (in one place and in a continuous sequence) or artefacts are reduced in stages which occur in different places at different times (Bleed 2002; see also Clarkson 2007 for a discussion of Bleed’s 2002 paper). Every time you strike a core, more and more mass will be removed (Holdaway & Stern 2004, p.2). This is due to the fracture properties of the rock and basic engineering principles affecting the size and geometry of the core (Clarkson 2007; Clarkson & O’Connor 2006, p.183).

It must be noted here that the small sample of artefacts located during the standard and complex assessments for “insert property address” presents a constraint on the analysis of the stone assemblage. It has been noted that the artefacts of interest (retouched flakes) are generally rare, “...less than 5% of an assemblage”, and are less likely to be present in small assemblages (Clarkson & O’Connor 2006). Further, the diversity of an assemblage will always be lower in smaller assemblages (Clarkson & O’Connor 2006). Hiscock (2001, p.49), notes that archaeological assemblages are just samples because they are only a fraction of the discarded artefacts that exist at a site. Hiscock (2001) investigated what he termed the ‘sample-size effect’ on four archaeological assemblages from Australia. Hiscock (2001, p.49) posed that the diversity of an artefact assemblage is impacted upon by the size of that assemblage. In all four assemblages Hiscock (2001) demonstrated the effects of sample size, however he concluded that site function may also impact upon the composition of an artefact assemblage. Keeping the above constraints in mind, the artefact analysis that follows investigates the patterns within the artefact assemblage.

### 3.1. Summary of Artefacts recorded during the Standard and Complex Assessments

#### Standard Assessment

There were a total of 13 artefacts recorded during the standard assessment. The majority of the artefacts recorded were silcrete ( $n=10$ ) and three were quartz. Angular fragments dominated ( $n=9$ ) and there were a total of four proximal flakes recorded (see Table 1). These artefacts were registered on the Victorian Aboriginal Heritage Register (VAHR) as part of VAHR 7921-1456 ( $n=7$ ) and VAHR 7921-1465 ( $n=6$ ).

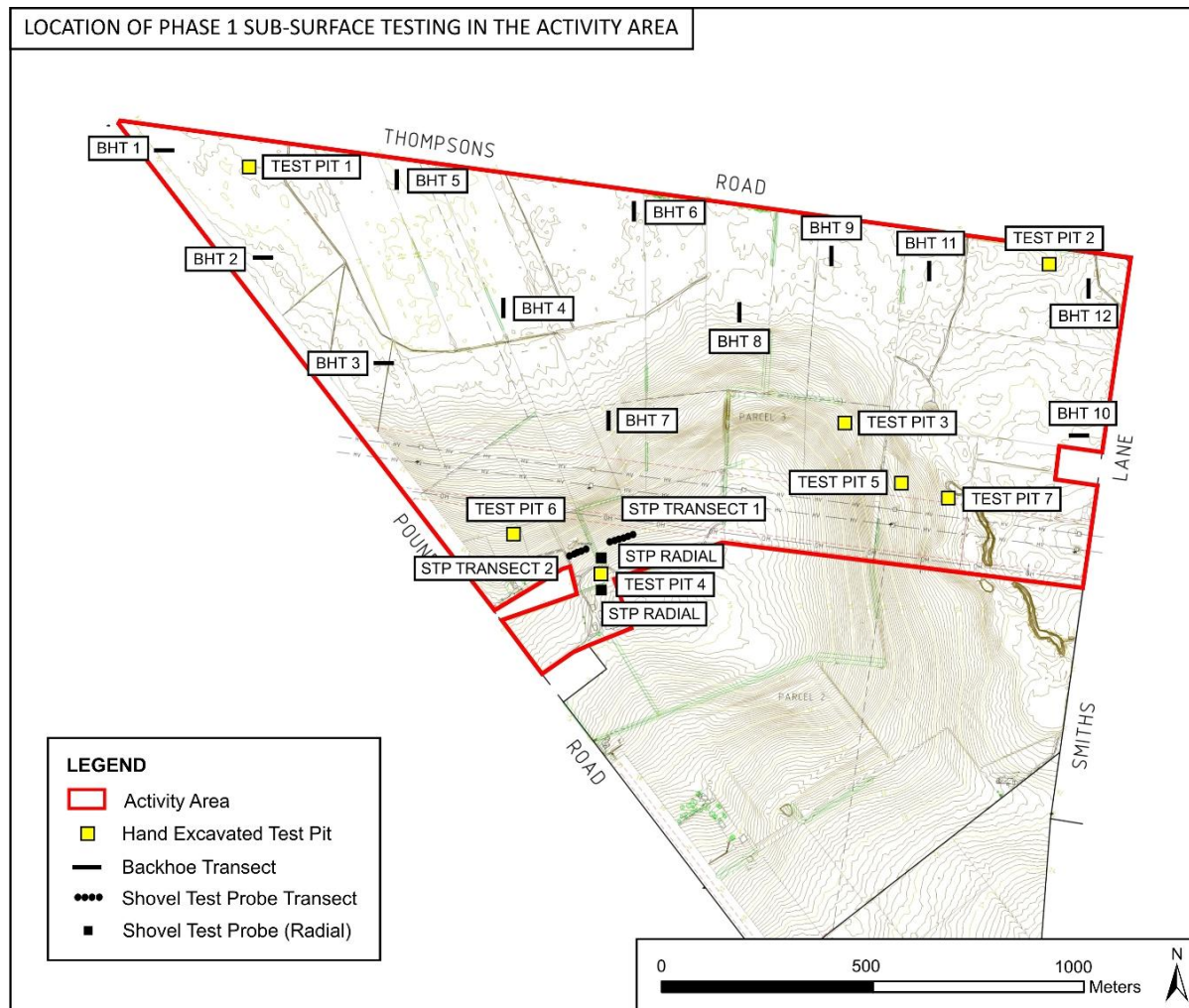
Table 1: Artefacts recorded during the Standard Assessment.

Primary Form	Quartz	Silcrete	Grand Total
<b>7921-1465</b>		<b>6</b>	<b>6</b>
Angular Fragment		4	4
Flake - Proximal		2	2
<b>7921-1456</b>	<b>3</b>	<b>4</b>	<b>7</b>
Angular Fragment	3	2	5
Flake - Proximal		2	2
<b>Grand Total</b>	<b>3</b>	<b>10</b>	<b>13</b>

#### Complex Assessment

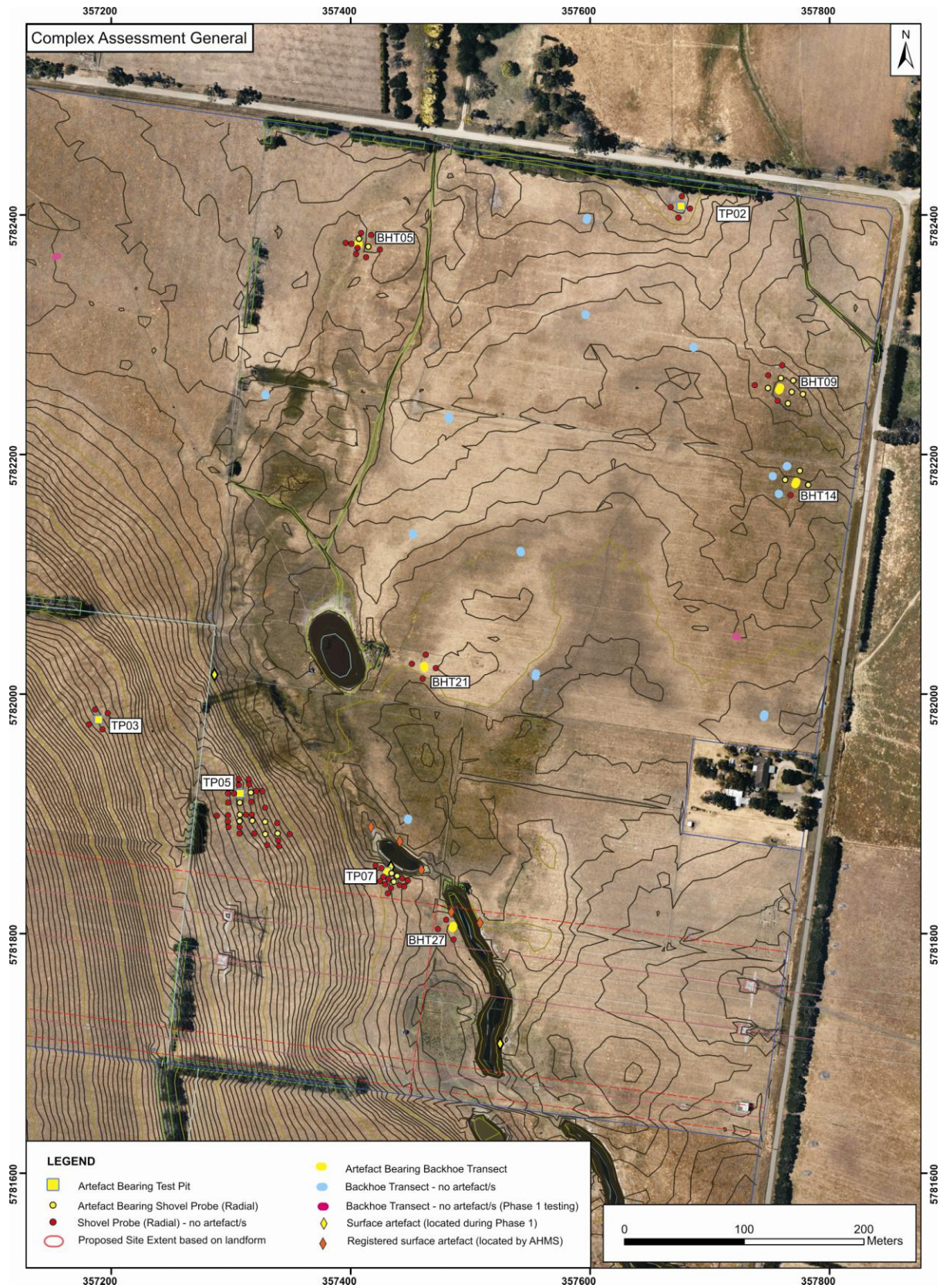
The complex assessment was undertaken in two Phases (Phase One and Phase Two) (Hislop *et al.* 2013). Phase One was undertaken during September 2011 and Phase Two was undertaken in January 2013 (Hislop *et al.* 2013). Phase One of the complex assessment involved the hand excavation of five 1x1m test pits, two 500x500mm test pits, thirteen 400x400mm shovel test probes (two transects and two radials probes) and the mechanical excavation of twelve 2x0.6m backhoe transects (Hislop *et al.* 2013). The location of the test pits, shovel test probes and backhoe transects are shown in Map 2.

Phase Two of the complex assessment involved the excavation of radial probes comprising Shovel Test Probes and Backhoe Test Probes. It was evident during the excavation of the shovel test pits during Phase Two that the soils were too dry and hard to be safely excavated by hand the remainder of the shovel test probe locations in hard or deep soils were tested with small backhoe probes. This was undertaken to comply with OH&S requirements regarding safe excavation in hard soils and excavation at depth (Hislop *et al.* 2013). The location of the radial probes are shown in Map 3.



Map 2: Location of Phase One subsurface testing undertaken during the complex assessment.





Map 3: Location of Phase Two subsurface testing undertaken during the complex assessment.

A total of 34 artefacts were excavated during Phase One from five test pits (TP02 ( $n=5$ ), TP03 ( $n=5$ ), TP04 ( $n=1$ ), TP05 ( $n=11$ ) and TP07 ( $n=12$ )) (Chart 1). Chart 1 shows the majority of the artefacts recorded at each excavation unit were flakes ( $n=17$ ). Only one core was recorded in TP05 ( $n=1$ ). The remaining form of artefact recorded was flaked pieces ( $n=16$ ). Two thirds of the artefact assemblage was excavated from TP05 and TP07. These test pits were located on two different landforms. TP05 was excavated on the terrace of the large rise overlooking the prior watercourse in the eastern half of the Activity Area, whereas TP07 was excavated on the bank of the prior watercourse (Map 3).

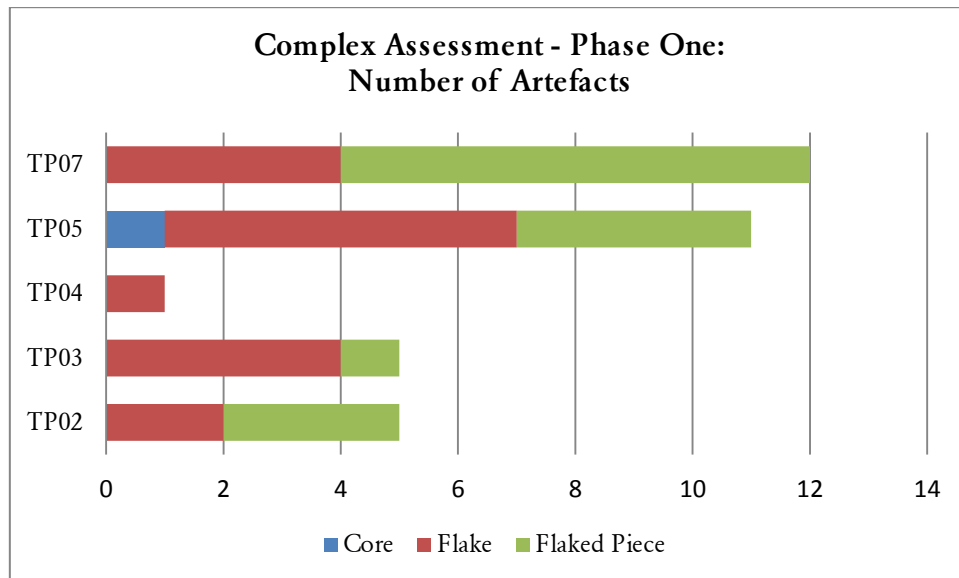
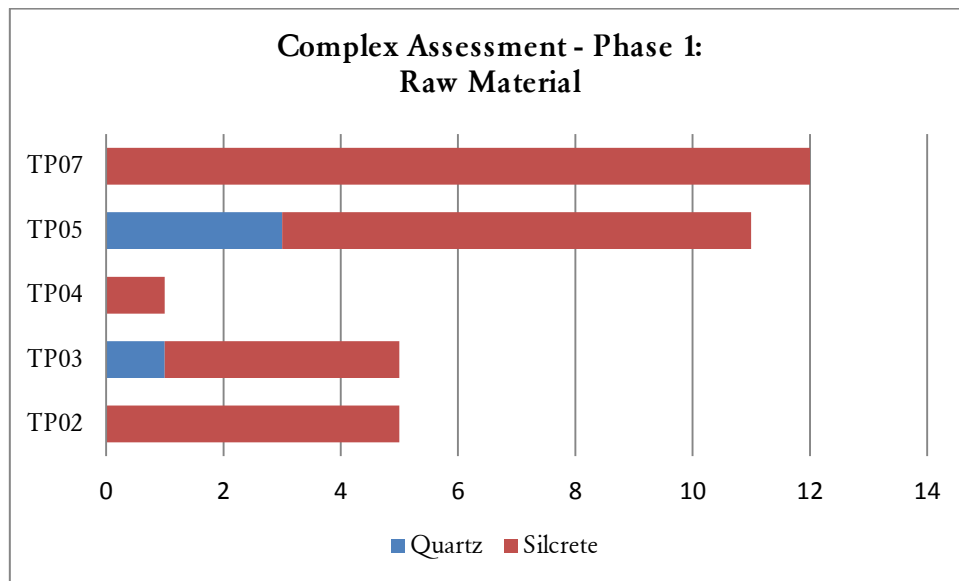


Chart 1: Number and location of artefacts recorded during Phase One of the complex assessment.

There was a difference in raw materials utilised at TP07 and TP05. Chart 2 shows that silcrete was the only raw material utilised at the location of TP07 (Map 3). Perhaps different activities were undertaken at each location.



**Chart 2: Number and location of raw materials recorded during Phase One of the complex assessment.**

There were a total of 123 artefacts excavated from 26 excavation units during Phase Two of the complex assessment. Chart 3 illustrates the location, number and artefact type excavated during Phase Two. It was immediately clear from Chart 3 that there were three distinct zones containing artefacts within the testing. These zones are located around TP05, TP07 as well as BHT09 from Phase Two. These zones have been registered as VAHR 7921-1464, VAHR 7921-1465 and VAHR 7921-1466 (Hislop *et al.* 2013, Appendix 7). The subsurface artefacts which were not in the three distinct zones, mentioned above, were incorporated into the low density artefact distribution VAHR 7921-1456. Chart 3 also displays the artefact types comprising the total numbers excavated from each excavation unit.

The utilised raw materials differ across the Activity area. Chart 4 illustrates the total number of artefacts at each excavation unit by raw material. The dominate raw material across the Activity area is silcrete. Around BHT09, BHT 14 and BHT05 there is a clear difference in raw material utilisation. Here, quartz and quartzite are utilised, whereas they are almost non-existent at the other testing locations.

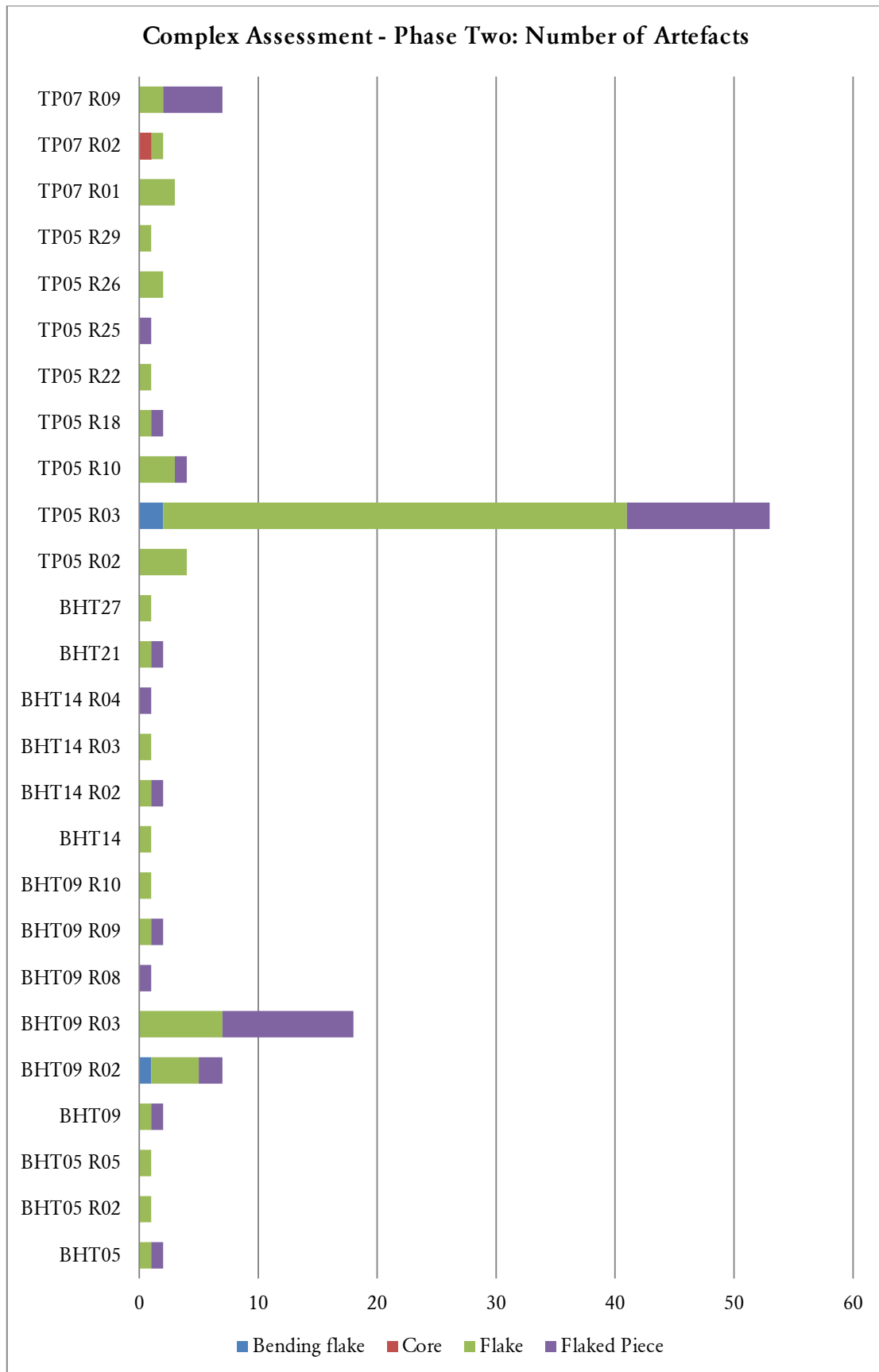


Chart 3: Number and location of artefacts recorded during Phase Two of the complex assessment.



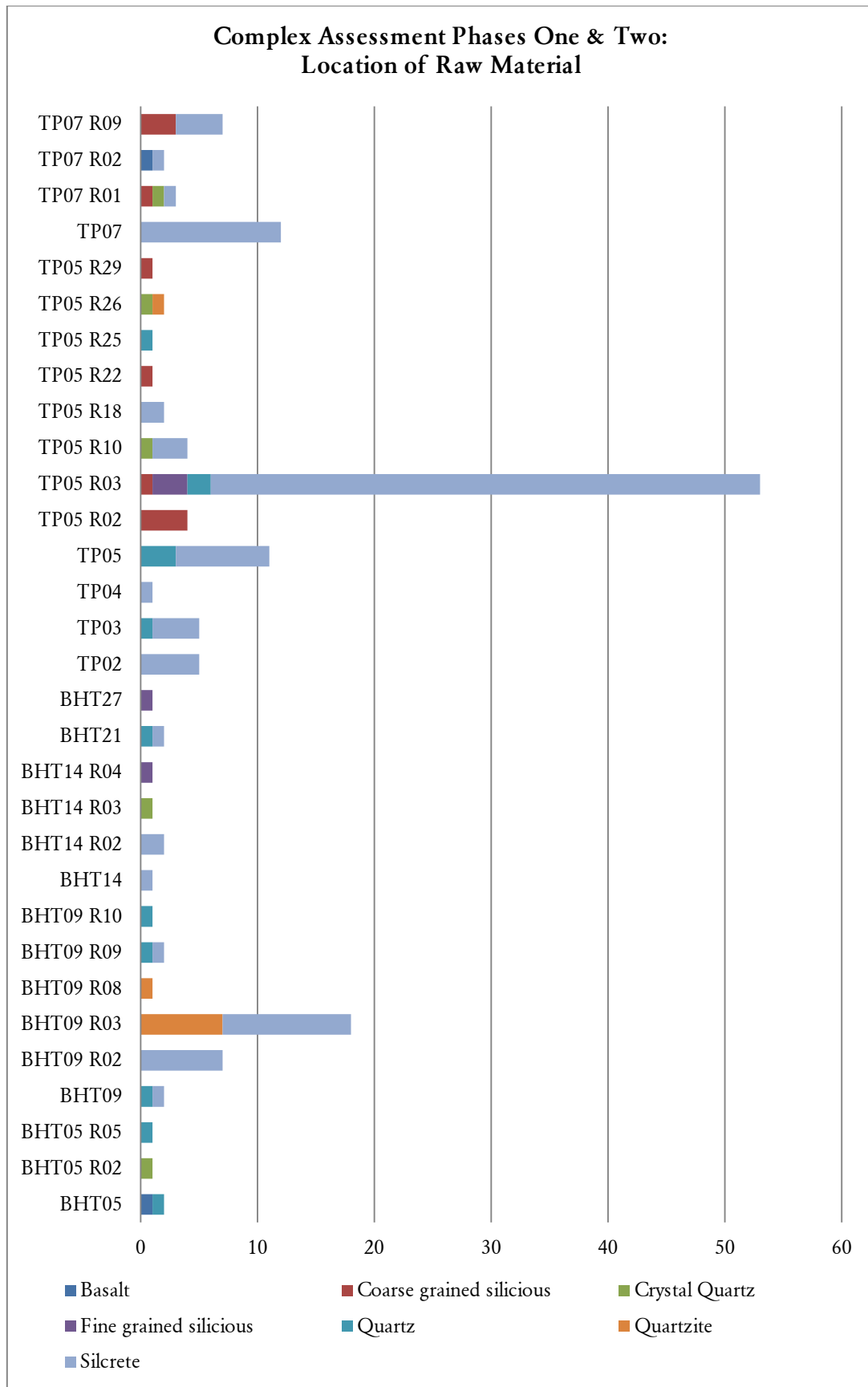


Chart 4: Location of raw materials recorded during both Phases of the complex assessment.

Table 2 illustrates the depth of artefact categories between Phase One and Two of the complex assessment. In Phase One, the highest numbers of artefacts were excavated from between 200-400mm in depth, where, the greatest numbers of artefacts from Phase Two were excavated from between 200-600mm in depth. A greater number of artefacts were excavated during Phase Two and were found to greater depths (see Table 2).

A greater variety of raw materials were excavated during Phase Two, however, there is generally little change in raw materials with depth. Quartzite is slightly more prevalent between 800-900mm in depth in comparison to all other raw materials present (see Table 2). Further, the artefact categories do not seem to change with depth.

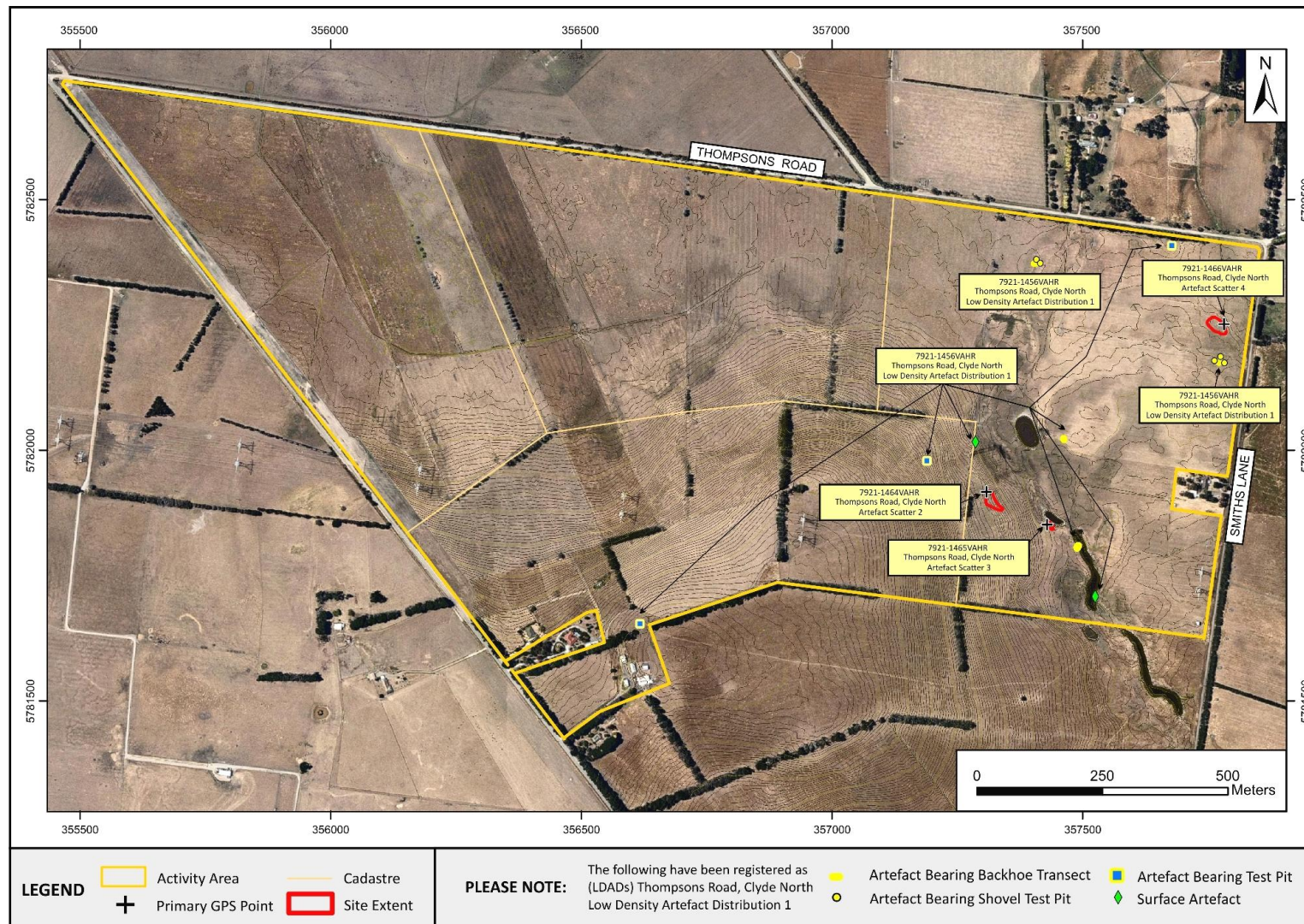
Table 2: Comparison of Phase One and 2 artefacts excavated during the Complex Assessment

Count of Raw Material Complex Assessment Phase 1				Artefact Category /Depth (mm)	Count of Raw Material Complex Assessment Phase 2								
% Grand Total	Grand Total	Quartz	Silcrete		Basalt	Coarse Grained Silicious	Crystal Quartz	Fine Grained Silicious	Quartz	Quartzite	Silcrete	Grand Total	% Grand total
0%	0			Bending Flake							3	3	2%
				200-300mm							1	1	1%
				300-400mm							1	1	1%
				400-500mm							1	1	1%
3%	1		1	Core							1	1	1%
3%	1		1	200-300mm									
				300-400mm							1	1	1%
50%	17	3	14	Flake	2	9	5	2	5	3	53	79	64%
3%	1		1	100-200mm		1	1		1	1	1	5	4%
24%	8	1	7	200-300mm		5	1				9	15	12%
21%	7	1	6	300-400mm	1	2	1	1	2		32	39	32%
3%	1	1		400-500mm		1		1			4	6	5%
				500-600mm							5	5	4%
				600-700mm			1				2	3	2%
				700-800mm			1		1	1		3	2%
				800-900mm	1					1		2	2%
				900-1000mm					1			1	1%
47%	16	1	15	Flaked Piece		2		3	4	6	25	40	33%
3%	1		1	100-200mm							1	1	1%
21%	7	1	6	200-300mm				1	1		5	7	6%
15%	5		5	300-400mm				1	1		10	12	10%
9%	3		3	400-500mm		2					2	4	3%
				500-600mm						1	5	6	5%
				600-700mm					1		1	2	2%
				700-800mm						1	1	2	2%
				800-900mm				1		4		5	4%
				900-1000mm					1			1	1%
100%	34	4	30	Grand Total	2	11	5	5	9	9	82	123	100%
	100%	12%	88%	% Grand Total	2%	9%	4%	4%	7%	7%	67%	100%	

### 3.2. Previously Unrecorded Sites

There were three distinct zones containing artefacts within the testing. These zones are located around TP05, TP07 as well as BHT09 from Phase Two. These zones have been registered as VAHR 7921-1464, VAHR 7921-1465 and VAHR 7921-1466 (Hislop *et al.* 2013, Appendix 7). The subsurface artefacts which were not in the three distinct zones, mentioned above, were incorporated into the low density artefact distribution VAHR 7921-1456. These locations are marked on Map 4.





Map 4: Location of sites identified during the standard and complex assessments.

Site density can only be discussed for those sites which have site extents allocated. VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1), does not have a site extent and no site density calculation was made. Table 3 shows the calculations of site extents for the registered sites. For the two larger site extents VAHR 7921-1464 and VAHR 7921-1465 there is a distinct difference in artefact density which may indicate a differing level of occupation intensity at each site or the sites may have served different functions. VAHR 7921-1464 was located on the terrace of the large rise overlooking the prior watercourse in the eastern half of the Activity Area, whereas VAHR 7921-1465 was located on the bank of the prior watercourse. Due to proximity of prior watercourse, most likely factors identified in the formation of the site are a result of slope wash from elevated ground to the southwest (VAHR 7921-1464) and inundation from the watercourse along with modern disturbance from cattle trampling when ground was water-logged.

Table 3: Artefact densities at sites recorded during the standard and complex assessment.

VAHR No.	VAHR Number	Site Area	Area of Excavation	No. Excavated Artefacts	Approximate Density (m <sup>2</sup> )	% of possible assemblage
7921-1456	Thompsons Rd, Clyde North LDAD 1	N/A	N/A	N/A	N/A	N/A
7921-1464	Thompsons Rd, Clyde North 2	613.8m <sup>2</sup>	6.12m <sup>2</sup>	79	12.91	1.00%
7921-1465	Thompsons Rd, Clyde North 3	100m <sup>2</sup>	3.4m <sup>2</sup>	24 (subsurface) 6 (surface)	7.06	3.40%
7921-1466	Thompsons Rd, Clyde North 4	794.6m <sup>2</sup>	6.9m <sup>2</sup>	31	4.49	0.87%

*All of the Charts and Tables referred to in the following sections can be found following the Section 3 text.*

### 3.2.1. VAHR 7921-1456 - Thompsons Rd, Clyde North Low Density Artefact Distribution (LDAD) 1

There were a total of seven surface artefacts recorded during the standard assessment which were registered as VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1) (Map 4). The surface artefacts comprised two silcrete flaked pieces, three quartz flaked pieces and two silcrete proximal flakes. These artefacts were not collected during the standard assessment.

There were a total of 23 artefacts excavated from VAHR 7921-1456. This assemblage comprised 15 flakes and eight flaked pieces (see Table 4 and Chart 5). This site is comprised of artefact concentrations spread across a large part of the Activity area including BHT05, BHT14, TP02 and TP04. The absence of cores within the assemblage may reflect a low level of core discard within the site. Flakes are most likely artefact types to be discarded and cores are less frequently found in artefact assemblages (Hiscock 2001, p.49). Further, backed artefacts and hammerstones are infrequently discarded. There were no hammerstones and only one silcrete retouched artefact (a point) excavated at VAHR 7921-1456. The retouched artefact will be discussed in more depth below.

The greatest number of artefacts within VAHR 7921-1456 was between 300 to 400mm. Artefacts were found as deep as 1000mm, but this is constrained by the soil type. Underlying 1000mm was firm clay which would have prevented any further downward movement of artefacts through the sediments. Two

larger (mass) artefacts were excavated from between 800-900mm. This may indicate a difference in reduction methods utilised at VAHR 7921-1456.

The raw materials spread across VAHR 7921-1456 include silcrete ( $n=14$ ), basalt ( $n=1$ ), crystal quartz ( $n=2$ ), fine grained siliceous ( $n=2$ ) and quartz ( $n=4$ ) (Table 5 and Chart 6). Raw material changed slightly with depth at this site, where crystal quartz was present only between 600-800mm. There was no difference in raw materials utilised at VAHR 7921-1456 and the other registered sites in the Activity area except 7921-1456 (Thompsons Rd, Clyde North 4). In comparison, Chart 6 shows that quartz and quartzite was generally the only raw material utilised at VAHR 7921-1456.

The majority of the artefacts from VAHR 7921-1456 had no cortex present (tertiary artefacts;  $n=16$ ) (Chart 7). These artefacts are part of the later stages of the reduction sequence (Chart 5). However, primary ( $n=3$ ) and secondary cortex ( $n=4$ ) were also present. The flakes with primary cortex provide evidence for primary reduction at VAHR 7921-1456. The absence of crushed and removed platforms within the assemblage supports the occurrence of primary knapping (working) of stone at VAHR 7921-1456. These platform types are related to surfaces that have been previously flaked or damaged (Holdaway & Stern 2004, p.120). All stages of the reduction sequence are present in the assemblage.

There were nine broken artefacts ( $n=39\%$ ) within the VAHR 7921-1456 assemblage (Chart 8). The fragmentation (using the MNF=0.82 and MNA=0.82) within this assemblage is the lowest in the Activity Area (Table 6). The artefacts at both VAHR 7921-1465 and VAHR 7921-1466 are more likely to have been exposed to modern disturbance such as cattle trampling.

There was a total of one retouched artefact at VAHR 7921-1456 (Table 7). Illustrations of the retouched artefacts from VAHR 7921-1456 can be found in Appendix 4. Khun's (1990) Geometric Index of Unifacial Reduction (GIUR) and the Index of Invasiveness (Clarkson 2002) were measured. The calculations of these indices are presented in Appendix 3. The closer the result is to 1, the steeper the reduction/retouch the artefact has undergone. The calculation of Kuhn's (1990) GIUR resulted in a value of 0.74 for the retouched artefact in this assemblage. This means the retouched artefact had undergone moderately steep retouch. The value calculated for the Index of invasiveness was 0.31. This indicates that the retouched artefact was not intensely retouched before it was discarded. This could indicate there was a reasonably local stone source in the general area and that stone was easily obtainable and there was no need for heavy retouch and long use lives of the artefacts.

### 3.2.2. VAHR 7921-1464 - Thompsons Rd, Clyde North 2

There were a total of 79 artefacts excavated from VAHR 7921-1464 (map 4). This assemblage comprised two bending flakes, one silcrete core, 57 flakes and 19 flaked pieces (Table 4 and Chart 5). The small number of cores ( $n=1$ ) within the assemblage may reflect a low level of core discard within the site. Flakes are most likely artefact types to be discarded and cores are less frequently found in artefact assemblages (P. Hiscock 2001, p.49). Further, backed artefacts and hammerstones are infrequently discarded. There were no hammerstones and only six retouched artefacts (three of which were backed blades) excavated at VAHR 7921-1464. The retouched artefacts will be discussed in more depth below.

The greatest number of artefacts at VAHR 7921-1464 was between 200 to 400mm. Artefacts were found as deep as 500mm, but this is constrained by the soil type. Underlying 500mm was firm clay which would have prevented any further downward movement of artefacts through the sediments.



The raw materials represented at VAHR 7921-1464 are silcrete ( $n=60$ ), coarse grained siliceous ( $n=7$ ), quartz ( $n=6$ ), fine grained siliceous ( $n=3$ ), crystal quartz ( $n=2$ ) and one quartzite artefact (Table 5 and Chart 6). There was no difference in raw material with depth at this site. There was a difference in raw materials utilised at VAHR 7921-1465 and VAHR 7921-1464. Chart 6 shows that silcrete was generally the only raw material utilised at the location of Thompsons Rd, Clyde North 3 and at 7921-1466 quartz and quartzite are present here.

The majority of the artefacts from VAHR 7921-1464 had no cortex present (tertiary artefacts;  $n=61$ ) (Chart 7). These artefacts are part of the later stages of the reduction sequence (see Chart 5). However, primary ( $n=3$ ) and secondary cortex ( $n=15$ ) were also present. The absence of crushed and removed platforms within the assemblage supports the occurrence of primary knapping (working) of stone at VAHR 7921-1464. These platform types are related to surfaces that have been previously flaked or damaged (Holdaway & Stern 2004, p.120). All stages of the reduction sequence are present in the assemblage.

There were 42 broken artefacts ( $n=53\%$ ) within the VAHR 7921-1464 assemblage (Chart 8). The fragmentation (Using the MNF=1.06 and MNA=1.04) within this assemblage is lower than VAHR 7921-1465 but higher than both VAHR 7921-1466 and VAHR 7921-1456 (Thompsons Road, Clyde North LDAD 1) (Table 6). The artefacts at both VAHR 7921-1465 and VAHR 7921-1466 are more likely to have been exposed to modern disturbance such as cattle trampling.

There were a total of six retouched artefacts at VAHR 7921-1464 (Table 7). Illustrations of the retouched artefacts from VAHR 7921-1464 can be found in Appendix 4. Three of the six retouched artefacts there were three backed blades (geometric microliths), two points and an unidentified retouched artefact. Khun's (1990) GIUR and the Index of Invasiveness (Clarkson 2002) were measured. The retouched artefacts gave values between 0.71 and 0.98 for the calculation of Kuhn's (1990) GIUR. This means the majority of the unifacially retouched artefacts had undergone very steep retouch. There are three backed blade present within the assemblage. The values calculated for the Index of Invasiveness fell between 0.03 and 0.31. This indicates that the majority of the retouched artefacts were not intensely retouched before they were discarded. This could indicate there was a reasonably local stone source in the general area and that stone was easily obtainable and there was no need for heavy retouch and long use lives of the artefacts.

### 3.2.3. VAHR 7921-1465 - Thompsons Rd, Clyde North 3

The site is located on the banks of a prior watercourse, now a dam in the southern region of the Activity Area (Map 4). Thirty artefacts were identified at this location within eroded surface and subsurface contexts. Subsurface artefacts were in grey silty topsoil (Context 1) and light grey fine silt/sand (Context 2) from 100-500mm. The site measures approximately 150m<sup>2</sup> with higher density of artefacts at the western and southern regions of the site. Due to proximity of prior watercourse, most likely factors identified in formation of the site are a result of slope wash from elevated ground to the southwest and inundation from the watercourse along with modern disturbance from cattle trampling when ground was water-logged (Hislop *et al.* 2013).

There were a total of 24 artefacts excavated from VAHR 7921-1465. This assemblage comprised one silcrete core, 10 flakes and 13 flaked pieces (see Table 4 and Chart 5). The small number of cores ( $n=1$ ) within the assemblage may reflect a low level of core discard within the site. Flakes are most likely artefact types to be discarded and cores are less frequently found in artefact assemblages (Hiscock 2001, p.49). Further, backed artefacts and hammerstones are infrequently discarded. There were no hammerstones and only five retouched artefacts (two of which were backed blades) excavated at VAHR 7921-1465. The retouched artefacts will be discussed in more depth below.



The greatest number of artefacts at VAHR 7921-1465 was between 200 to 500mm. Artefacts were found as deep as 500mm, but this is constrained by the soil type. Underlying 500mm was firm clay which would have prevented any further downward movement of artefacts through the sediments.

The raw materials represented at VAHR 7921-1465 are silcrete ( $n=18$ ), course grained siliceous ( $n=4$ ), crystal quartz ( $n=1$ ) and one basalt artefact (Table 5 and Chart 6). There was a slight difference in raw material with depth at this site. Course grained siliceous material was found between 400-500mm in depth and they have a larger mass (g). There was a difference in raw materials utilised at VAHR 7921-1466 and VAHR 7921-1465. Chart 6 shows that silcrete and course grained siliceous material were generally the only raw material utilised at the location of VAHR 7921-1465 and at 7921-1466 quartz and quartzite were present.

The majority of the artefacts from VAHR 7921-1465 had no cortex present, however there were three artefacts with primary cortex (primary artefacts  $n=3$ ; tertiary artefacts  $n=21$ ) (Chart 7). The flakes with primary cortex provide evidence for primary reduction at VAHR 7921-1465. Though the majority of these artefacts form part of the later stages of the reduction sequence, early stages of reduction are also represented (see Chart 5). The absence of crushed and removed platforms within the assemblage supports the occurrence of primary knapping (working) of stone at VAHR 7921-1465. These platform types are related to surfaces that have been previously flaked or damaged (Holdaway & Stern 2004, p.120).

There were 11 broken artefacts ( $n=46\%$ ) within the VAHR 7921-1465 assemblage (Chart 8). The fragmentation (Using the MNF=1.19 and MNA=1.12) within this assemblage is the highest of the four recorded sites in the Activity Area (Table 6). The artefacts here, VAHR 7921-1465, are more likely to have been exposed to modern disturbance such as cattle trampling.

There were a total of five retouched artefacts at VAHR 7921-1465 (Table 7). Illustrations of the retouched artefacts from VAHR 7921-1465 can be found in Appendix 4. Two of these retouched artefacts were backed blades (geometric microliths), one point-like artefact and two retouched artefacts. Khun's (1990) GIUR and the Index of Invasiveness (Clarkson 2002) were measured. The calculations of these indices are presented in Appendix 3. The retouched artefacts gave values between 0.39 and 0.96 for the calculation of Kuhn's (1990) GIUR. This means the majority of the unifacially retouched artefacts had undergone very steep retouch. The values calculated for the Index of Invasiveness fell between 0.03 and 0.44. This indicates that the majority of the retouched artefacts were not intensely retouched before they were discarded. This could indicate there was a reasonably local stone source in the general area and that stone was easily obtainable and there was no need for heavy retouch and long use lives of the artefacts.

### 3.2.4. VAHR 7921-1466- Thompsons Rd, Clyde North 4

There were a total of 31 artefacts excavated from VAHR 7921-1466 (Thompsons Rd, Clyde North 4). This assemblage comprised one bending flake, 14 flakes and 16 flaked pieces (see Table 4 and Chart 5). The absence of cores within the assemblage may reflect a low level of core discard within the site. Flakes are most likely artefact types to be discarded and cores are less frequently found in artefact assemblages (Hiscock 2001, p.49). Further, backed artefacts and hammerstones are infrequently discarded. There were no hammerstones and only two retouched artefacts (both were geometric microliths, specifically backed blades) excavated at VAHR 7921-1466. The retouched artefacts will be discussed in more depth below.

The greatest number of artefacts at VAHR 7921-1466 was between 500 to 600mm. Artefacts were found as deep as 900mm, in sand. Underlying 900mm was clay which would have prevented any further downward movement of artefacts through the sediments.

The raw materials represented at VAHR 7921-1466 are silcrete ( $n=20$ ), quartz ( $n=3$ ), and eight quartzite artefacts (Table 5 and Chart 6). Quartz and Quartzite artefacts were present between 500-900mm in depth. This is a very different pattern to the other sites within the Activity Area. Chart 6 shows a larger variety of raw materials were utilised at VAHR 7921-1466.

The artefacts excavated from BHT14, and the associated radial testing are quite close (within 50m) to VAHR 7921-1466 (Thompsons Rd, Clyde North 4) and are on sandy landforms. The artefacts are made on similar raw materials and were excavated from between 200-900mm, a similar depth range found at VAHR 7921-1466. BHT05 is also located on a sandy land form and contains a similar range of raw materials, but is approximately 1km to the north west of VAHR 7921-1466. Though they are registered within the Low Density Artefact Distribution (VAHR 7921-1456), they can still provide insights for VAHR 7921-1466. A wider variety of raw materials are present in BHT14, BHT05 and the associated radial testing. These included silcrete, crystal quartz, quartz, basalt, and fine grained siliceous material. The pattern in depth of raw material at VAHR 7921-1466 is mirrored in these BHTs and radials where quartz and crystal quartz are found below 500mm. These artefacts in VAHR 7921-1456 are closely related to VAHR 7921-1466 and the wider use of the Activity Area.

Every stage of the reduction sequence (primary ( $n=4$ ); secondary cortex ( $n=5$ ) and tertiary cortex; ( $n=22$ )) (Chart 7). The flakes with primary cortex provide evidence for primary reduction at VAHR 7921-1466. The absence of crushed and removed platforms within the assemblage supports the occurrence of primary knapping (working) of stone at VAHR 7921-1466. These platform types are related to surfaces that have been previously flaked or damaged (Holdaway & Stern 2004, p.120).

There were 11 broken artefacts ( $n=35\%$ ) within the VAHR 7921-1466 assemblage (Chart 8). The fragmentation (Using the MNF=0.96 and MNA=0.96) of this assemblage is second lowest recorded within the Activity Area (Table 6). This pattern could be due to the depth of the artefacts below the surface in the sandy deposits.

There were a total of two retouched artefacts at VAHR 7921-1466 (Table 7). Illustrations of the retouched artefacts from VAHR 7921-1466 can be found in Appendix 4. None of these retouched artefacts were backed blades (geometric microliths) or points. Khun's (1990) Geometric Index of Unifacial Reduction and the Index of Invasiveness (Clarkson 2002) were measured. The calculations of these indices are presented in Appendix 3. The retouched artefacts gave values between 0.84 and 0.97 for the calculation of Kuhn's (1990) GIUR. This means the majority of the unifacially retouched artefacts had undergone very steep retouch. The values calculated for the Index of invasiveness fell between 0.09 and 1.56. This indicates that, before they were discarded, one of the retouched artefacts was more intensely retouched than the other. This could indicate there was a reasonably local stone source in the general area and that stone was easily obtainable and there was no need for heavy retouch and long use lives of the artefacts.

Table 4: Numbers of excavated artefacts within the registered Aboriginal heritage places.

VAHR Site	Bending Flake		Core		Flake		Flaked Piece		Total	
	N	%	N	%	N	%	N	%	N	%
7921-1456 Thompsons Rd, Clyde North LDAD 1					15	16%	8	14%	23	15%
7921- 1464 Thompsons Rd, Clyde North 2	2	67%	1	50%	57	59%	19	34%	79	50%
7921-1465 Thompsons Rd, Clyde North 3			1	50%	10	10%	13	23%	24	15%
7921-1466 Thompsons Rd, Clyde North 4	1	33%			14	15%	16	29%	31	20%
<b>Total</b>	<b>3</b>	<b>2%</b>	<b>2</b>	<b>1%</b>	<b>96</b>	<b>61%</b>	<b>56</b>	<b>36%</b>	<b>157</b>	<b>100%</b>

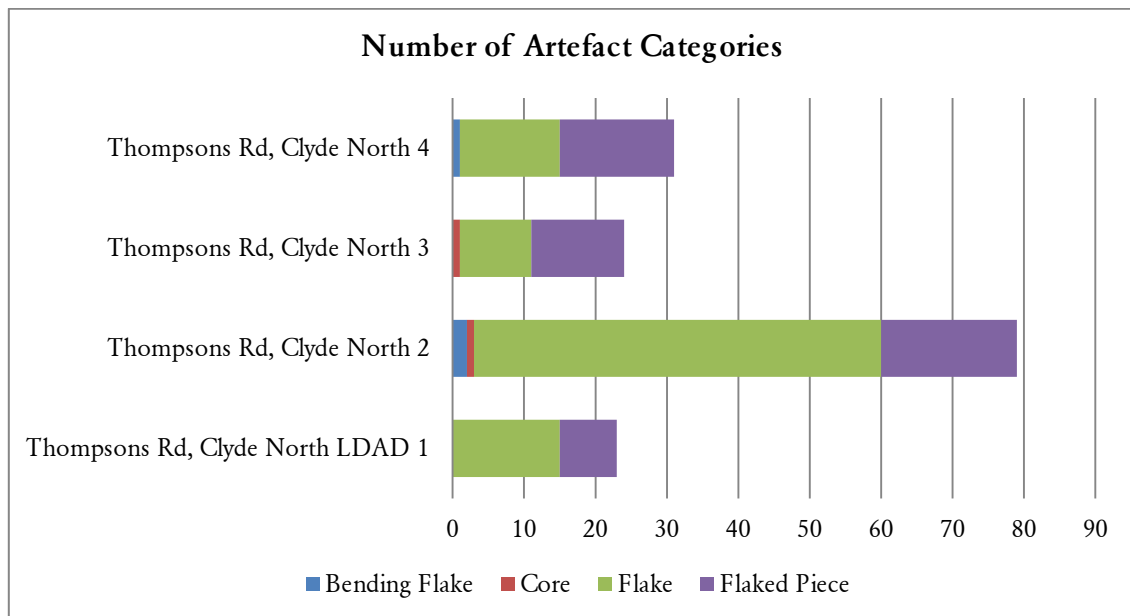


Chart 5: Numbers of excavated artefacts within the registered Aboriginal heritage places.

Table 5: Numbers of raw materials within the registered Aboriginal heritage places.

VAHR Site	Basalt		Coarse Grained Siliceous		Crystal Quartz		Fine Grained Siliceous		Quartz		Quartzite		Silcrete		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
7921-1456 Thompsons Rd, Clyde North LDAD 1	1	50			2	40	2	40	4	31			14	13	23	15
7921- 1464 Thompsons Rd, Clyde North 2			7	64	2	40	3	60	6	46	1	11	60	54	79	50
7921-1465 Thompsons Rd, Clyde North 3	1	50	4	36	1	20							18	16	24	15
7921- 1466 Thompsons Rd, Clyde North 4									3	23	8	89	20	18	31	20
<b>Grand Total</b>	<b>2</b>	<b>1</b>	<b>11</b>	<b>7</b>	<b>5</b>	<b>3</b>	<b>5</b>	<b>3</b>	<b>13</b>	<b>8</b>	<b>9</b>	<b>6</b>	<b>112</b>	<b>71</b>	<b>157</b>	

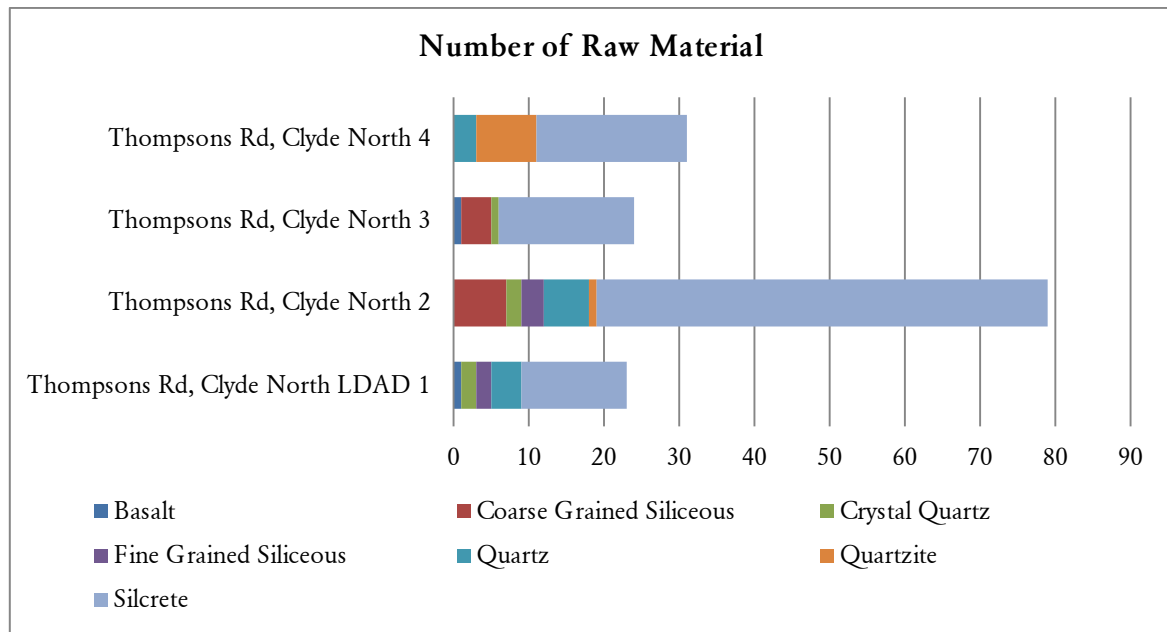


Chart 6: Numbers of excavated raw materials within the registered Aboriginal heritage places.



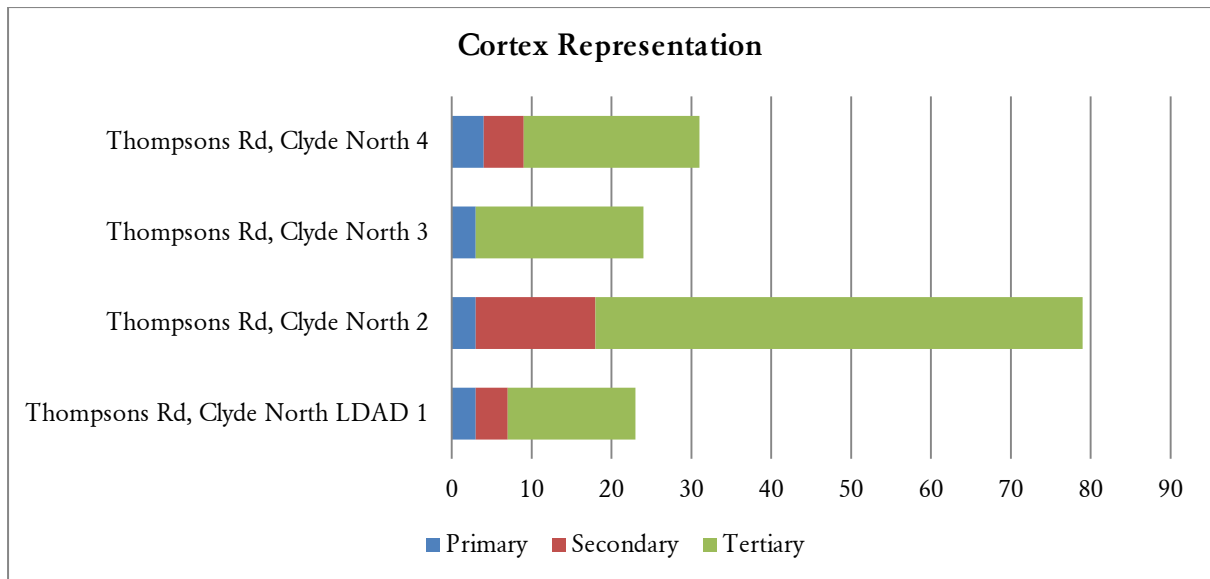


Chart 7: Representation of cortex present on excavated Artefacts

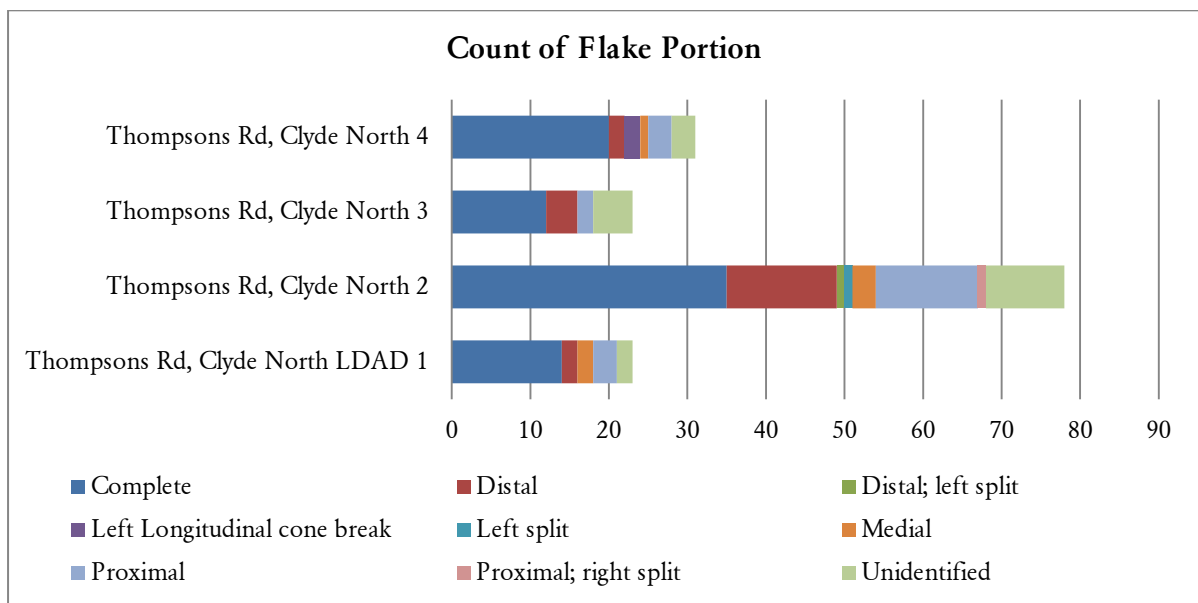


Chart 8: Count of Flake Portion per registered site (excavated artefacts only).

**Table 6: Measures of Minimum number of Flakes/Artefacts and Artefact Assemblage Fragmentation (excavated artefacts only).**

VAHR Site Name	MNF	MNA	Simple Fragmentation Ratio	Fragmentation (using MNF)	Fragmentation (using MNA)
Thompsons Rd, Clyde North LDAD 1	17	17	1.56	0.82	0.82
Thompsons Rd, Clyde North 2	51	52	2.16	1.06	1.04
Thompsons Rd, Clyde North 3	16	17	3.80	1.19	1.12
Thompsons Rd, Clyde North 4	25	25	3.43	0.96	0.96
<b>Grand Total</b>	<b>109</b>	<b>111</b>	<b>1.22</b>	<b>0.51</b>	<b>0.50</b>

**Table 7: Depth of Retouched Artefacts (excavated artefacts only).**

VAHR Name	Count of Edge Modification Type			
	Backing	Retouch/ Backing	Retouched	Total
<b>7921-1456 (Thompsons Rd, Clyde North LDAD 1)</b>			1	1
300-400mm			1	1
<b>7921-1464 (Thompsons Rd, Clyde North 2)</b>	3	1	2	6
200-300mm	2			2
300-400mm	1	1	2	4
<b>7921-1465 (Thompsons Rd, Clyde North 3)</b>	1	1	3	5
200-300mm	1	1	1	3
300-400mm			1	1
400-500mm			1	1
<b>7921-1466 (Thompsons Rd, Clyde North 4)</b>			2	2
300-400mm			1	1
400-500mm			1	1
<b>Total</b>	<b>4</b>	<b>2</b>	<b>8</b>	<b>14</b>

## 4.0 Conclusions

In summary the analysis of the stone artefact assemblage from the 2100 Thompsons Road, Clyde North Activity Area (VAHR 7921-1456, VAHR 7921-1464, VAHR 7921-1465 and VAHR 7921-1466) indicates that:

- Knapping (primary working of flaked stone to make tools for use) was undertaken within the Activity Area. All of stone was brought into the site to be worked;
- The presence of cortex in the assemblage indicates that artefacts were being manufactured and maintained within the Activity Area. This is because the presence of cortex on artefacts indicates the stone flakes are from early in the reduction sequence. However, the majority of the assemblage collected from all four sites had no cortex present (artefacts with cortex  $n=31$  of a total 157 artefacts across the four sites), which means that these artefacts are from further into the reduction sequence of working the stone (see Appendix 1 for a glossary of terms);
- The assemblage excavated from the activity area comprised: bending flakes ( $n=3$ ); flaked pieces ( $n=54$ ); cores ( $n=2$ ); and flakes ( $n=94$ ). It was dominated by silcrete ( $n=112$ ) followed by quartz ( $n=13$ ), coarse grained siliceous ( $n=11$ ), quartzite ( $n=9$ ), fine grained siliceous ( $n=5$ ), crystal quartz ( $n=5$ ), and basalt ( $n=2$ );
- A total of 14 retouched artefacts were present across the four registered sites. Of these, two points and five backed blades (geometric microliths) were identified between 200-500mm in depth. Ten of these retouched artefacts were steeply retouched as indicated by Kuhn's (1990) Geometric Index of Reduction (GIR). Clarkson's (2002) Index of Invasiveness showed that this retouch was marginal;
- The vertical distribution of the artefacts excavated from VAHR 7921-1456 (Thompsons Rd, Clyde North LDAD 1) shows the highest number of artefacts occurred between 300mm and 400mm in depth, however small numbers of artefacts were found between 900mm and 1000mm at this site. The artefacts comprised 15 flakes (complete  $n=9$ , distal  $n=2$ , medial  $n=1$ , proximal  $n=3$ ) and eight flaked pieces (complete  $n=5$ , medial  $n=1$  and unidentified  $n=2$ ). There was one retouched artefact present between 300-400mm in depth. This site is a Low Density Artefact Distribution within the Activity Area which includes surface artefacts as well ( $n=13$ ). This site is comprised of artefact concentrations spread across a large part of the Activity area including BHT05, BHT14, TP02 and TP04. This artefact distribution is most likely the result of slope wash from elevated artefact bearing ground (such as the location of BHT05 and BHT14) in the activity area and inundation from the prior watercourse along with modern disturbance from cattle trampling when ground was water-logged;
- VAHR 7921-1464 (Thompsons Rd, Clyde North 2) is located on the terrace of the large rise overlooking the prior watercourse in the eastern half of the Activity Area. The vertical distribution of the artefacts excavated from VAHR 7921-1464 shows the highest number of artefacts occurred between 200mm and 400mm in depth, however small numbers of artefacts were found down to 500mm at this site. The artefacts comprised two bending flakes (complete  $n=2$ ), one core, 57 flakes and 19 flaked pieces. There were six retouched artefacts present between 200-400mm in depth. Three of these retouched artefacts were backed blades and there were two points and one retouched artefact;
- Thirty artefacts were identified at VAHR 7921-1465, within eroded surface and subsurface contexts. The vertical distribution of the artefacts excavated from VAHR 7921-1465 shows the highest number of artefacts occurred between 200mm and 500mm in depth. The artefacts

comprised 10 flakes (complete  $n=4$ , distal  $n=3$ , unidentified  $n=2$ , proximal  $n=1$ ), one core and 13 flaked pieces (complete  $n=8$ , distal  $n=1$ , proximal  $n=1$  and unidentified  $n=3$ ). There were five retouched artefacts present between 200-500mm in depth. Two of these retouched artefacts were backed blades and three retouched artefacts. Due to proximity of prior watercourse, the most likely factors identified in formation of the site are a result of slope wash from elevated ground to the southwest (VAHR 7921-1464) and inundation from the watercourse along with modern disturbance from cattle trampling when ground was water-logged. This also explains the high artefact fragmentation rate at this site;

- VAHR 7921-1466 (Thompsons Rd, Clyde North 4) is located on a low sandy rise. The vertical distribution of the artefacts excavated from VAHR 7921- 1466 shows the highest number of artefacts occurred between 500mm and 600mm in depth, however small numbers of artefacts were found between 600mm and 900mm at this site. The artefacts comprised one proximal bending flake, 14 flakes (complete  $n=7$ , distal  $n=1$ , medial  $n=1$ , proximal  $n=2$ , left longitudinal split  $n=2$ , and unidentified  $n=1$ ) and 16 flaked pieces (complete  $n=13$ , distal  $n=1$ , and unidentified  $n=2$ ). There were two retouched artefact present between 300-500mm in depth. The raw materials represented at VAHR 7921-1466 are silcrete ( $n=20$ ), quartz ( $n=3$ ), and eight quartzite artefacts. Quartz and Quartzite artefacts were present between 500-900mm in depth. This is a very different pattern to the other sites within the Activity Area. A larger variety of raw materials were utilised at all the other sites within the Activity Area;
- The archaeological evidence from the standard and complex assessments of CHMP 11869 suggest that VAHR 7921-1464 was a campsite that the traditional *Bunwurrung* owners established to exploit the resources of the Koo Wee Rup Swamp or the prior watercourse on the east side of VAHR 7921- 1464. This site was most likely a temporary camp where resources from the area were processed and consumed;
- The difference in raw materials utilised at VAHR 7921-1466 compared to VAHR 7921-1464 and VAHR 7921-1456 may indicate different activities were occurring at these sites. These raw materials were quartz and quartzite. They were excavated from deeper contexts, (between 500-900mm), which indicates a change in raw material utilisation over time;
- Even though, the presence of backed blades in VAHR 7921-1465 (Thompsons Rd, Clyde North 3) may be due to slope wash from VAHR 7921-1464 and other sites in the activity area, the presence of backed blades in the assemblages may indicate this site could have initial occupation in the early Holocene. Hiscock and Attenbrow (1998) have demonstrated the presence of backed technology during the early Holocene in Australia; and
- VAHR 7921-1464 and VAHR 7921-1466 represents the remains of two Aboriginal short term campsites that were, most likely, occupied prior to the arrival of Europeans and within the last 2,000 years.



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## **Appendix 1: Terminology Used During the Artefact Analysis**

Table of Artefact Attributes recorded for Artefact Cataloguing.

BHT Artefact Attributes	Test Pit Artefact Attributes
Site	Site
Artefact #	Artefact #
Transect #	Test Pit #
Length along Transect (m)	Spit #
Z (depth) (cm)	X (mm)
Sieve Y/N	Y (mm)
Artefact Type	Z (mm)
Raw Material	Sieve Y/N
Colour	Artefact Type
Fine/Coarse Grain	Raw Material
Cortex (%)	Colour
Complete (Y/N)	Fine/Coarse Grain
L (mm)	Cortex (%)
W (mm)	Complete (Y/N)
T (mm)	L (mm)
MD (mm)	W (mm)
Weight (g)	T (mm)
No. Negative Flake Scars (Cores Only)	MD (mm)
Flake Portion (Broken Flake Only)	Weight (g)
Flake Form (Complete Only)	No. Negative Flake Scars (Cores Only)
Platform Type (Complete Only)	Flake Portion (Broken Flake Only)
Termination Type (Complete Only)	Flake Form (Complete Only)
Formal Tool Type	Platform Type (Complete Only)
Edge Modification Type	Termination Type (Complete Only)
Retouch Quadrant	Formal Tool Type
Core Type/Scar Direction	Edge Modification Type
Other	Retouch Quadrant
	Core Type/Scar Direction
	Other

## Terminology

**Assemblage:** An assemblage is a collection of stone artefacts, which have been discovered closely associated with each other either on the surface or subsurface or both (Holdaway & Stern 2004, p.17).

**Artefact:** Stone artefacts are human-modified pieces of rock, whether modified intentionally or not (Clarkson & O'Connor 2006, p.160).

**Backing:** A type or retouch where very steep scars are made on one side of the stone artefact to aid in hafting (Holdaway & Stern 2004, p.266).

**Backed Blade:** They and are characterised by unidirectional or bidirectional retouch found along a lateral margin, thought to be blunt for hafting and forms part of the Australian small tool tradition (Holdaway & Stern 2004: 260).

**Bending Flake:** Is the product of a bending fracture in the stone raw material. Bending flakes have a waist immediately below the platform, when viewed in plan and what appears to be a diffuse bulb of percussion adjacent to the platform. The platform of a bending flake is crescentic (Holdaway & Stern 2004, p.34; Andrefsky 1998, p.28).

**Bending Fracture:** This occurs when the 'force of impact' travels through a flaw in the rocks surface away from the point where force was applied. The flakes produced do not have a pronounced bulb of percussion nor a ring crack but have a few identifiable features (Andrefsky 1998, p.28). See Bending flake entry for the identifiable features of bending fracture.

**Conchoidal fracture:** This type of fracture occurs when isotropic rocks are broken by applied force to a very small area. The fracture is curved with concentrically ribbed surfaces that resemble shells of some bivalves. (conchoidal means shell like) (Holdaway & Stern 2004, p.26).

**Core:** A rock that has undergone a process of reduction through the removal of a number of flakes and as a result they have negative flake scars. Cores can contain single or multiple platforms, and may have had flakes removed in one or multiple directions.

**Cortex:** The original surface of a mineral or rock that has been subject to weathering by the elements.

**Distal:** The end of the flake where the fracture terminated. If a broken flake is described as distal, it means the platform is not present only the termination is present (Holdaway & Stern 2004).

**Dorsal Surface:** The surface that was originally part of the core surface (Holdaway & Stern 2004, p.7). This surface may have one or numerous negative flake scars.

**Flake:** An artefact that has ventral and dorsal surfaces resulting from a Hertzian (conchoidal) fracture.

**Flaked Piece:** An object that is artefactual but it cannot be determined if it is a flake or a core. The flaked piece may have both dorsal and ventral surfaces.

**Geometric Microlith:** Are usually small (<80mm) artefacts symmetrical in form, pointed at both ends, can be backed along a lateral margin and are part of the Australian small tool tradition (Holdaway & Stern 2004: 262). Attempts have been made to classify geometric microliths based on shape: segment, triangle and trapezoid (Holdaway & Stern 2004, p.262).

**Hammerstone:** A hard rock or mineral used to flake fragments of stone from a core (Holdaway & Stern 2004: 4).

**Hertzian Fracture:** See Conchoidal fracture.

**Longitudinally Split Flake:** A longitudinally split flake (left or right) retains a portion of the platform and the termination (Holdaway & Stern 2004, p.111; Clarkson & O'Connor 2006, p.193).

**Manuport:** A stone block that displays no attributes of being either a core or a flake and is not a locally sourced stone.

**Medial:** A medial flake is a flake where both the platform and the termination of the flake has been broken and no longer present (Holdaway & Stern 2004).

**Non-artefactual:** Not an artefact.



**Platform:** The surface from which the flake was struck off the core – natural, flaked or abraded (Holdaway & Stern 2004: 120).

**Proximal:** The platform is the proximal end of the flake. If a broken flake is describe as a proximal flake, it means the platform is present (Holdaway & Stern 2004).

**Retouched Flake:** A flake that has undergone further reduction. Retouch is comprised of a number of small scars that intrude onto the ventral surface of a flake (Clarkson & O'Connor 2006, p.161; Holdaway & Stern 2004, p.33; Andrefsky 2009, p.66). Scars can also be on the dorsal surface if they were initiated from the ventral surface. Retouch is responsible for altering the shape (angle) of the flake edge (Holdaway & Stern 2004, p.33). Artefacts that have received little retouching will have relatively straight retouched edges restricted to small sections of the margins, while heavily retouched edges will be more curved with larger scars on larger areas along the flake margin (P. Hiscock & V Attenbrow 2002, p.169). The life history of stone tools and cores is often associated with the retouch of these artefacts (Andrefsky 2009, p.67). For the purposes of this research retouch was four or more of these small scars in a row along the margin of the artefact.

**Ventral Surface:** This is the surface of the flake which was originally attached to the core. Also known as the fracture surface (Holdaway & Stern 2004, p.7).

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- Andrefsky, W., 1998. *Lithics - Macroscopic Approaches to Analysis*, Cambridge: Cambridge University Press.
- Andrefsky, W., 2009. The analysis of Stone Tool Production, and Maintenance. *Journal of Archaeological Research*, 17, pp.65–103.
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## **Appendix 2: Definitions of Measurements Taken**

It is important to define the methods used when measuring specific attributes. Definitions of important measurements taken on the artefacts are provided below.

**Artefact Fragmentation:** This is a quantitative assessment of artefact fragmentation (AF) within an assemblage (Clarkson & O'Connor 2006, p.195). The number of broken fragments and flaked pieces are divided by the number of complete fragments.

$$AF = \frac{\text{Number of broken fragments and flaked pieces}}{\text{Complete flakes}}$$

However, a more accurate measure is to divide the number of broken fragments and flaked pieces by Hiscock's (2002) MNF or the MNA.

$$AF = \frac{\text{Number of broken fragments and flaked pieces}}{MNF}$$

or

$$AF = \frac{\text{Number of broken fragments and flaked pieces}}{MNA}$$

**Elongation Index:** A ratio between length and width of an artefact, to be used for defining the elongation.

$$EI = \text{Percussion Length} / \text{Width}$$

**Faceting:** Identified by the presence of small scars that have been initiated from the dorsal surface onto the platform surface (Clarkson & O'Connor 2006, p.174). Like overhang removal, faceting can be found on both flakes and cores. Only the presence/absence was recorded for this CHMP.

**Flake Length:** A measure of the percussion length. This dimension is measured along the flaking axis, from the point of percussion to the termination. This was recorded if the artefact was a complete or broken flake (Holdaway & Stern 2004, pp.137-138).

**Flake thickness:** A measure of the thickness at the midpoint (where the length and width dimensions intersect) between the dorsal and ventral surfaces. This was recorded if the artefact was a complete or broken flake (Holdaway & Stern 2004, p.140).

**Flake width:** A measure taken at the midpoint along the length dimension, at right angles to this line. This was recorded if the artefact was a

complete or broken flake (Holdaway & Stern 2004, p.139).

**Index of Invasiveness:** Provides a measure of retouch covering the dorsal and ventral surfaces of an artefact, it is suited to measuring bifacial retouch (Clarkson 2002; Clarkson & O'Connor 2006, p.191; Clarkson 2007), unlike the GUIR (unifacial only). This was recorded on all artefacts upon which retouch was identified. This index is less suited to measuring retouch such as backing and other steep retouch (Clarkson 2002; Clarkson 2007). The index of invasiveness is a robust measure of retouch as there is minimal inter-observer error incurred (Clarkson 2007). This index breaks the flake into 16 segments (eight on the dorsal surface and eight on the ventral surface) and measures retouch intensity (on the margins of the flake or towards the centre of the flake). If the retouch is marginal only, then a value of 0.5 is assigned to the segment. If the retouch is more invasive, then a value of 1 is assigned (Clarkson 2002).

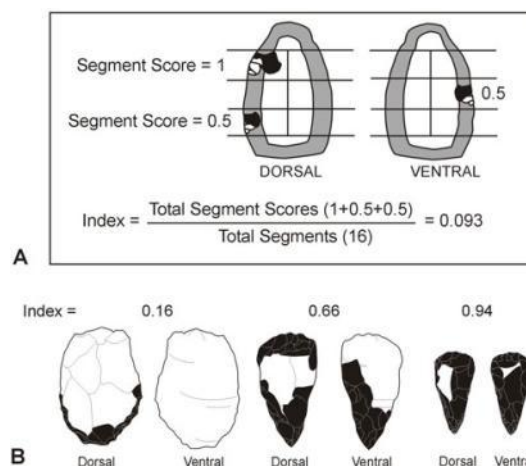


Image Source: (Clarkson 2002)

**Kuhn's (1990) Geometric Index of Reduction (GUIR):** This index measures edge attrition of an artefact.

$$GIUR = t/T$$

t=height of retouch scars; and

T=maximum thickness of flake at point of retouch.

The resulting values range between 0 and 1, where values close to 1 mean the flake has undergone

heavy (steep) reduction during retouching either over one constant event or in stages over time (Kuhn 1990). This was recorded on all artefacts upon which retouch was identified.

**Length/Thickness:** A ratio between length and thickness of an artefact.

**Minimum Number of Artefacts (MNA):** This is a more accurate measure than the MNF as it includes cores in the calculation. For this CHMP the MNA has been calculated by adding the minimum number of cores to the MNF.

**Minimum Number of Flakes (MNF):** This is calculated by dividing the assemblage into raw material types and then adding the number of complete flakes of each raw material to whichever is the greater number of proximal or distal fragments, the greater number of left or right fragments, and the greater number of left or right proximal or distal fragments (P. Hiscock 2002; Clarkson & O'Connor 2006, p.195).

$$MNF=C+T+L$$

C= Number of complete flakes;

T= Largest category of transverse fragments, excluding medial (i.e. the greater of the number of proximal fragments or distal fragments);

L= Count of longitudinal fragments given by:

$$L=CL+BL$$

CL= Greater of left or right longitudinal fragments without transverse breakage (i.e. with both fracture initiation and termination); and

BL= Largest of the four relevant categories of transversely broken longitudinal fragments (i.e., right/proximal, left/ proximal, right/distal and left/distal), excluding medial portions of longitudinal fragments (P. Hiscock 2002, p.254).

**Maximum Dimension:** The longest distance between two points on an artefact. This measure was not associated with the length of percussion in any form. This was recorded on complete or broken flakes and angular fragments.

**Overhang removal:** Identified by the presence of small scars that have been initiated from the platform surface onto the dorsal surface of flakes or cores (Clarkson & O'Connor 2006, pp.173–174). This is usually done by rubbing or very gently tapping the platform top to remove the lip remaining after a previous flake has been struck off (Clarkson & O'Connor 2006, p.174). Only the presence/absence was recorded for this CHMP.

**Percentage Perimeter of Retouch:** Calculated by dividing length of the retouch by the perimeter of the flake (Clarkson & O'Connor 2006, p.191).

**Width/Thickness:** A ratio between width and thickness of an artefact.

#### References:

- Clarkson, C., 2002. An Index of Invasiveness for the Measurement of Unifacial and Bifacial Retouch: A Theoretical, Experimental and Archaeological Verification. *Journal of Archaeological Science*, 29, pp.65–75.
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- Kuhn, S., 1990. A Geometric index of reduction for unifacial stone tools. *Journal of Archaeological Science*, 17, pp.585–593.



### **Appendix 3: Calculation of Indices and other measures**

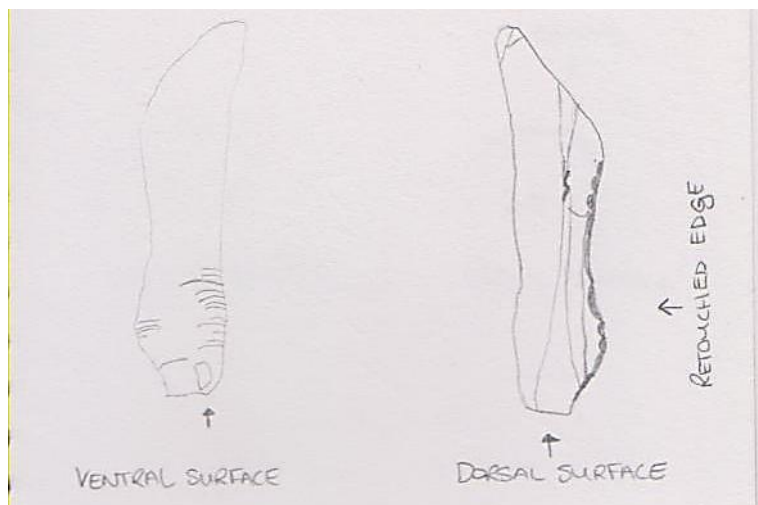
Artefact#	Excavation Phase	TP/R No.	Category/ Artefact Type	Raw Material	Edge Modification Type	Mass (g)	L (mm) of Percussion	W (mm)	T (mm)	MD (mm)	Elongation (Length/ width)	Length/ Thickness ratio	Width/ Thickness ratio	Thickness of flake at point of retouch	Thickn ess of retouch	Length of retouch (mm)	total lateral perimeter length (mm)	% retouched perimeter	LPLxMass	Index of Invasiveness	GUIR Calculatio n
9	Phase One	TP03	flake	Silcrete	retouched	1.70	38.03	11.90	4.73	39.98	3.20	8.04	2.52	4.87	3.61	56.65	93.72	60.45	159.32	0.31	0.74
66	Phase Two	BHT09 R02	Flaked Piece	Silcrete	retouched	0.80				8.66				3.27	3.16	4.68	27.73	16.89	22.19	0.09	0.97
72	Phase Two	BHT09 R02	Flake	Silcrete	retouched	0.90	1 1.50	13.02	3.44	13.67	0.88	3.34	3.78	3.52	2.97	28.00	40.50	69.14	36.45	1.5 6	0.84
20	Phase One	TP05	flake	Quartz	Backing	0.30	12.11	7.94	3.36	12.11	1.53	3.60	2.36	3.35	2.99	20.57	37.97	54.17	11.39	0.16	0.89
21	Phase One	TP05	flake	Silcrete	retouch/backi ng	0.10	27.26	6.74	5.86	27.26	4.04	4.65	1.15	5.02	4.66	32.38	60.94	53.13	6.09	0.31	0.93
138	Phase Two	TP05 R03	flake	coarse grained siliceous	Backing	0.10	8.91	5.99	2.27	9.04	1.49	3.93	2.64	2.27	2.23	17.56	26.60	66.02	2.66	0.16	0.98
127	Phase Two	TP05 R03	Flaked Piece	Silcrete	Backing	0.30				10.82				2.60	2.01	17.36	29.55	58.75	8.87	0.16	0.77
147	Phase Two	TP05 R03	flake	Silcrete	retouched	0.30	22.24	13.13	2.86	24.19	1.69	7.78	4.59	2.82	2.09	10.93	62.92	17.37	18.88	0.03	0.74
152	Phase Two	TP05 R03	flake	Silcrete	retouched	0.50	17.64	10.56	3.02	17.64	1.67	5.84	3.50	2.82	1.99	11.70	42.38	27.61	21.19	0.06	0.71
24	Phase One	TP07	flake	Silcrete	Backing	0.40	13.66	10.74	3.43	13.66	1.27	3.98	3.13	3.42	3.29	24.07	37.73	63.80	15.09	0.25	0.96
26	Phase One	TP07	Flake	Silcrete	retouched	0.10	16.56	10.36	2.35	16.90	1.60	7.05	4.41	6.48	2.52	10.95	48.44	22.61	4.84	0.03	0.39
30	Phase One	TP07	flake	Silcrete	retouch/backi ng	0.10	14.64	10.14	3.23	14.64	1.44	4.53	3.14	3.03	2.90	29.26	43.90	66.65	4.39	0.31	0.96
80	Phase Two	TP07 R01	Flake	Silcrete	retouched	0.80	20.26	7.78	2.94	20.26	2.60	6.89	2.65	2.94	2.61	11.30	47.33	23.87	37.86	0.13	0.89
87	Phase Two	TP07 R09	flake	Silcrete	retouched	1.50	18.67	8.69	3.77	18.67	2.15	4.95	2.31	3.68	3.05	25.82	44.05	58.62	66.08	0.44	0.83

Key		
	Thompsons Rd, Clyde North LDAD 1	VAHR 7921- 1456
	Thompsons Rd, Clyde North 2	VAHR 7921- 1464
	Thompsons Rd, Clyde North 3	VAHR 7921- 1465
	Thompsons Rd, Clyde North 4	VAHR 7921- 1466

VAHR Site Name	Count of Flake Portion (Broken Flake Only)										No. of Cores	No. Flaked Pieces	No. Complete Artefacts (not inc. Flaked Pieces)	No. Broken Flakes	MNF	MNA	Simple Fragmentation Ratio	Fragmentation (using MNF)	Fragmentation (using MNA)
	Complete	Distal	Distal; left split	Left Longitudinal cone break	Left split	Medial	Proximal	Proximal; right split	Unid	Grand Total									
Thompsons Rd, Clyde North LDAD 1	14	2				2	3		2	23	0	8	9	6	17	17	1.56	0.82	0.82
Thompsons Rd, Clyde North 2	35	14	1		1	3	13	1	10	78	Unid	19	25	35	51	52	2.16	1.06	1.04
Thompsons Rd, Clyde North 3	12	4					2		5	23	Complete	13	5	6	16	17	3.80	1.19	1.12
Thompsons Rd, Clyde North 4	20	2		2		1	3		3	31	0	16	7	8	25	25	3.43	0.96	0.96
Grand Total	81	22	1	2	1	6	21	1	20	155	2	56	46		109	111	1.22	0.51	0.50

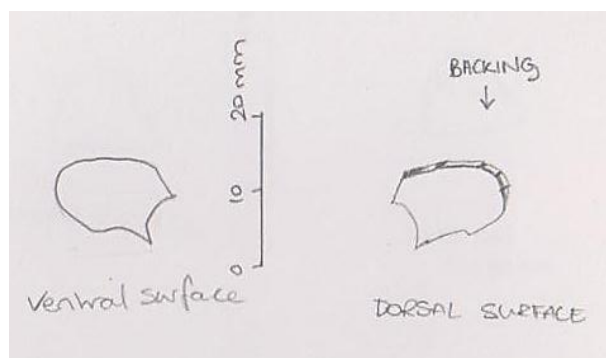
## **Appendix 4: Retouched Artefact Illustrations**

Thompsons Rd, Clyde North LDAD 1

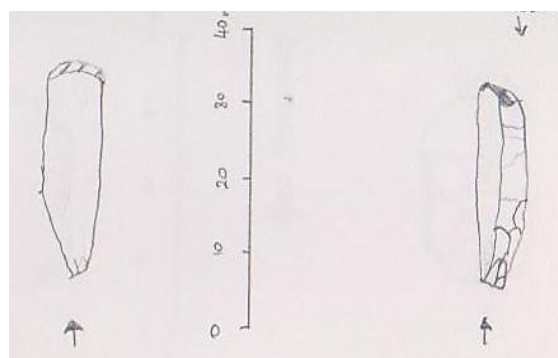


Artefact #9

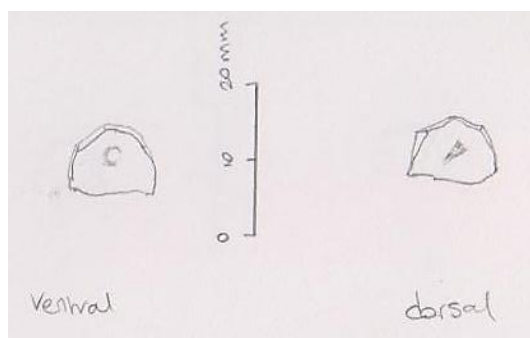
Thompsons Rd, Clyde North 2 (continued over page)



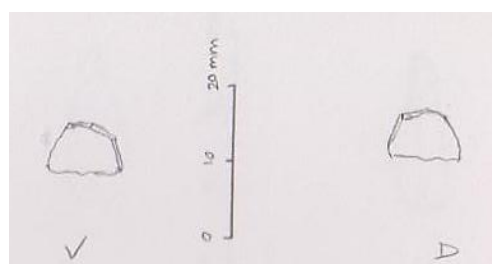
Artefact #20



Artefact #21



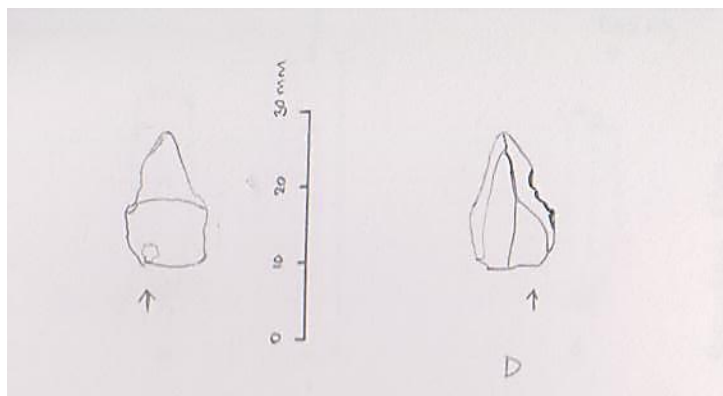
Artefact #127



Artefact #138

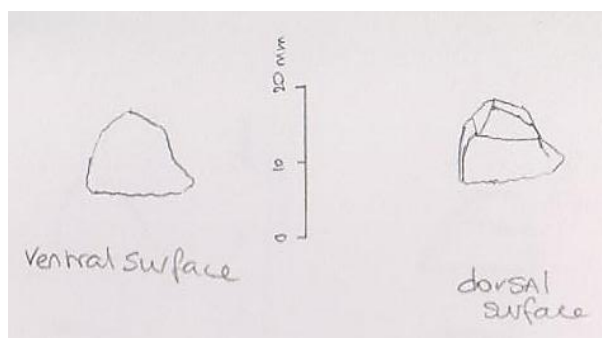


Thompsons Rd, Clyde North 2

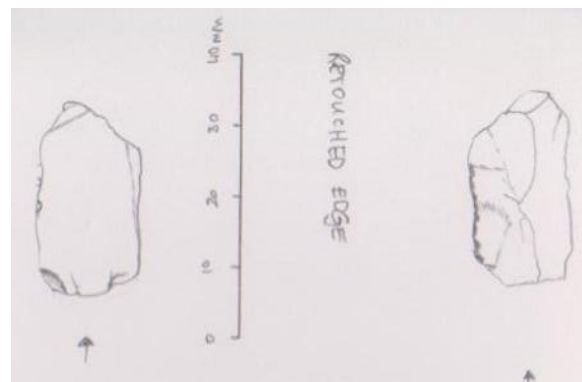


Artefact #152

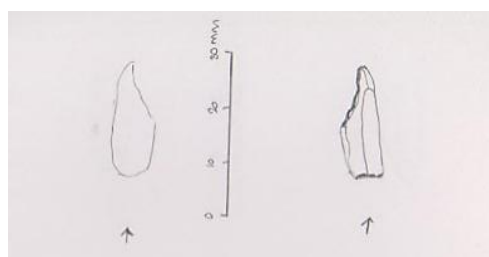
Thompsons Rd, Clyde North 3



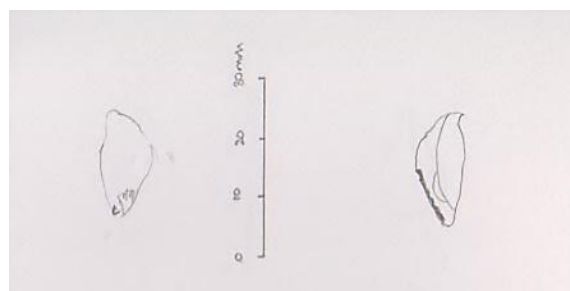
Artefact # 24



Artefact # 26

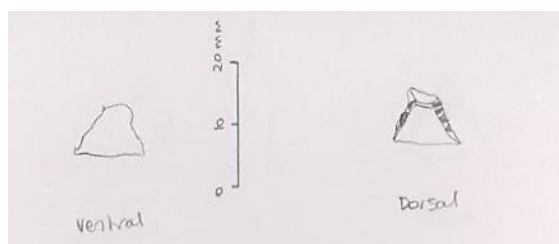


Artefact # 80

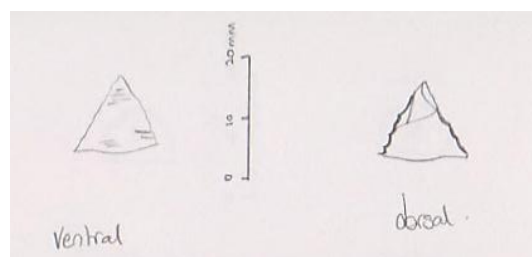


Artefact# 87

Thompsons Rd, Clyde North 4



Artefact# 66



Artefact# 72

## Appendix 5: Artefact Catalogue

Site Name	Excavation Phase	TP/R No.	Depth Range for Analysis	Artefact #	Category/ Artefact Type	Raw Material	Cortex	Flake Portion (Broken Flake Only)	Platform Surface/Type (Complete Only)	Termination Type (Complete Only)	Overhang Removal	Faceting	Formal Tool Type	Edge Modification Type	Retouch Quadrant	Mass (g)	L (mm) of Percussion	W (mm)	T (mm)	MD (mm)	Core Type	No. Neg Flake Scars (Cores Only)	Number of Rotations	MLD
Thompsons Rd, Clyde North LDAD 1	Phase One	TP02	300-400mm	1	Flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		1.6	23	16	1	24.19				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP02	300-400mm	2	Flaked Piece	Silcrete	Tertiary	unidentified								0.1				11.41				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP02	300-400mm	3	flake	Silcrete	Tertiary	medial	N/A	N/A	0	0		none		0.1	7.95	6.44	1.69	10.56				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP02	300-400mm	4	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.1	4.55	9.19	1.45	10.42				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP02	300-400mm	5	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.1				10.91				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP02		175	Non-Artefactual	Quartz																		
Thompsons Rd, Clyde North LDAD 1	Phase One	TP02		176	Non-Artefactual	Quartz																		
Thompsons Rd, Clyde North LDAD 1	Phase One	TP03	300-400mm	9	flake	Silcrete	Tertiary	complete	removed	feather	0	0		retouched	1,2,3	1.7	38.03	11.9	4.73	39.98				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP03	300-400mm	10	Flake	Silcrete	Tertiary	complete	Flaked	hinge	0	0		none		0.1	14.23	11.7	2.34	16.87				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP03	300-400mm	6	Flake	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		1	11.32	17.17	2.17	17.17				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP03	300-400mm	7	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.5				19.51				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP03	300-400mm	8	Flake	Quartz	Tertiary	complete	abraded	feather	0	0		none		0.6	25	16	6	25.1				
Thompsons Rd, Clyde North LDAD 1	Phase One	TP04	100-200mm	11	flake	Silcrete	Tertiary	proximal	Flat	N/A	0	0		none		0.4	14.42	13.84	4.22	14.42				
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	12	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		2.2				30.75				
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	13	Flaked Piece	Silcrete	Secondary	complete	flat	feather	0	0		none		0.3	9.98	9.22	5.05	12.88				
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	14	flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.1	6.92	5.93	1.2	9.87				
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	15	Core	Silcrete	Primary	unidentified			0	0		none		5.2					multidirectional	5	1	30.16

Site Name	Excavation Phase	TP/R No.	Depth Range for Analysis	Artefact #	Category/ Artefact Type	Raw Material	Cortex	Flake Portion (Broken Flake Only)	Platform Surface/Type (Complete Only)	Termination Type (Complete Only)	Overhang Removal	Faceting	Formal Tool Type	Edge Modification Type	Retouch Quadrant	Mass (g)	L (mm) of Percussion	W (mm)	T (mm)	MD (mm)	Core Type	No. Neg Flake Scars (Cores Only)	Number of Rotations	MLD
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	16	Flake	Silcrete	Secondary	proximal	flat	N/A	1	0				1.1	13.38	17.26	3.4	19.33				
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	17	Flake	Silcrete	Tertiary	Left split	flat	feather	0	0		none		0.1	13.95	9.94	1.76	14.14				
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	18	Flaked Piece	Silcrete	Secondary	unidentified			0	0		none		0.1				10.18				
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	19	Flaked Piece	Quartz	Tertiary	complete			0	0		none		0.1				9.31				
Thompsons Rd, Clyde North 2	Phase One	TP05	200-300mm	20	flake	Quartz	Tertiary	unidentified	removed	feather	0	0	backed blade	Backing	1,3,4	0.3	12.11	7.94	3.36	12.11				
Thompsons Rd, Clyde North 2	Phase One	TP05	300-400mm	21	flake	Silcrete	Tertiary	complete	flat	removed	0	0	point/backed blade	retouch/Backing	3	0.1	27.26	6.74	5.86	27.26				
Thompsons Rd, Clyde North 2	Phase One	TP05	400-500mm	22	flake	Quartz	Secondary	complete	flaked	feather	0	1		none		1.9	20.24	15.64	5.45	21.11				
Thompsons Rd, Clyde North 2	Phase One	TP05		177	Non-Artefactual	Quartz																		
Thompsons Rd, Clyde North 2	Phase One	TP05		178	Non-Artefactual	Quartz																		
Thompsons Rd, Clyde North 3	Phase One	TP07	100-200mm	23	Flaked Piece	Silcrete	Tertiary	unidentified			0	0		none		0.1				8.57				
Thompsons Rd, Clyde North 3	Phase One	TP07	200-300mm	24	flake	Silcrete	Tertiary	unidentified	removed	feather	0	0	backed blade	Backing		0.4	13.66	10.74	3.43	13.66				
Thompsons Rd, Clyde North 3	Phase One	TP07	200-300mm	25	Flaked Piece	Silcrete	Tertiary	unidentified			0	0		none		0.1				7.15				
Thompsons Rd, Clyde North 3	Phase One	TP07	200-300mm	26	Flake	Silcrete	Tertiary	proximal	flat	removed	0	0		retouched	3	0.1	16.56	10.36	2.35	16.9				
Thompsons Rd, Clyde North 3	Phase One	TP07	200-300mm	27	Flaked Piece	Silcrete	Primary	complete			0	0		none		3.9				35.05				
Thompsons Rd, Clyde North 3	Phase One	TP07	200-300mm	28	flake	Silcrete	Tertiary	complete	flaked	feather	0	0		none		2	28.18	13.27	6.15	28.18				
Thompsons Rd, Clyde North 3	Phase One	TP07	200-300mm	29	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.1				6.73				
Thompsons Rd, Clyde North 3	Phase One	TP07	200-300mm	30	flake	Silcrete	Tertiary	unidentified	removed	removed	0	0	backed blade	retouch/Backing		0.1	14.64	10.14	3.23	14.64				
Thompsons Rd, Clyde North 3	Phase One	TP07	300-400mm	31	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.3				20.18				
Thompsons Rd, Clyde North 3	Phase One	TP07	400-500mm	32	Flaked Piece	Silcrete	Tertiary	distal	N/A	feather	0	0		none		1.8	33.09	12.57	2.85	33.09				
Thompsons Rd, Clyde North 3	Phase One	TP07	400-500mm	33	Flaked Piece	Silcrete	Primary	unidentified			0	0		none		0.4				18.67				
Thompsons Rd, Clyde North 3	Phase One	TP07	400-500mm	34	Flaked Piece	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		0.1	8.65	6.67	2	8.65				
Thompsons Rd, Clyde	Phase Two	BHT 11		50	Non-Artefactual	crystal quartz																		



Site Name	Excavation Phase	TP/R No.	Depth Range for Analysis	Artefact #	Category/Artefact Type	Raw Material	Cortex	Flake Portion (Broken Flake Only)	Platform Surface/Type (Complete Only)	Termination Type (Complete Only)	Overhang Removal	Faceting	Formal Tool Type	Edge Modification Type	Retouch Quadrant	Mass (g)	L (mm) of Percussion	W (mm)	T (mm)	MD (mm)	Core Type	No. Neg Flake Scars (Cores Only)	Number of Rotations	MLD
North LDAD 1																								
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT05	900-1000mm	43	Flaked Piece	Quartz	Primary	complete			0	0		none		3				24				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT05	800-900mm	35	Flake	basalt	Secondary	complete	flat	feather	0	0		none		12	33.72	41.22	13.87	49.32				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT05 R02	600-700mm	81	flake	crystal quartz	Tertiary	complete	flat	feather	0	0		none		2.3	18.08	12.37	4.49	18.08				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT05 R05	900-1000mm	38	Flake	Quartz	Tertiary	complete	Bending	feather	0	0		none		0.6	10	6	4	10				
Thompsons Rd, Clyde North 4	Phase Two	BHT09	200-300mm	48	Flake	Silcrete	Tertiary	distal		feather	0	0		none		0.3	5	11	1	11				
Thompsons Rd, Clyde North 4	Phase Two	BHT09		42	Non-Artefactual	Quartz					0	0		none										
Thompsons Rd, Clyde North 4	Phase Two	BHT09	600-700mm	36	Flaked Piece	Quartz	Primary	complete			0	0		none		0.8								
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R01		68	Non-Artefactual	quartz																		
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R02	400-500mm	65	bending flake	Silcrete	Secondary	proximal	Bending	N/A	0	0		none		0.8	13.46	16.07	4.07	13.46				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R02	400-500mm	66	Flaked Piece	Silcrete	Tertiary	unidentified	N/A	N/A	0	0		retouched	N/A	0.8				8.66				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R02	400-500mm	67	Flake	Silcrete	Secondary	complete	flat	step	0	0		none		3.9	32.47	19.23	5.97	32.47				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R02	300-400mm	71	Flake	Silcrete	Secondary	Left Longitudinal cone break	flat	feather	0	0		none		0.5	12.02	8.98	2.51	12.02				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R02	300-400mm	72	Flake	Silcrete	Tertiary	unidentified	N/A	N/A	0	0		retouched	N/A	0.9	11.5	13.02	3.44	13.67				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R02		73	Non-Artefactual	Silcrete										0.1								
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R02	100-200mm	104	Flaked Piece	Silcrete	Tertiary	unidentified			0	0		none		0.1				5.58				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R02	100-200mm	105	flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.7	6.72	9.65	2.35	6.72				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	70	Flake	Silcrete	Secondary	complete	flat	feather	0	0		none		1.8	35.35	13.73	4.26	35.35				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	600-700mm	75	flake	Silcrete	Secondary	complete	flat	feather	0	0		none		0.3	12.04	5.96	1.56	12.04				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	600-700mm	76	Flaked Piece	Silcrete	Tertiary	distal	N/A	feather	0	0		none		0.1				4.5				
Thompsons Rd, Clyde	Phase Two	BHT09 R03	800-900mm	82	Flaked Piece	quartzite	Primary	complete	natural	feather	0	0		none		3.1				34.94				

Site Name	Excavation Phase	TP/R No.	Depth Range for Analysis	Artefact #	Category/Artefact Type	Raw Material	Cortex	Flake Portion (Broken Flake Only)	Platform Surface/Type (Complete Only)	Termination Type (Complete Only)	Overhang Removal	Faceting	Formal Tool Type	Edge Modification Type	Retouch Quadrant	Mass (g)	L (mm) of Percussion	W (mm)	T (mm)	MD (mm)	Core Type	No. Neg Flake Scars (Cores Only)	Number of Rotations	MLD
North 4																								
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	800-900mm	83	Flaked Piece	quartzite	Tertiary	complete	flat	feather	0	0		none		0.2				8.77				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	700-800mm	91	Flaked Piece	quartzite	Tertiary	complete	flat	feather	0	0		none		0.7				17.21				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	700-800mm	92	flake	quartzite	Tertiary	complete	flat	feather	0	0		none		0.6	12.37	11.9	5.58	12.37				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	800-900mm	106	flake	quartzite	Tertiary	complete	flat	feather	0	0		none		0.6	13.89	18.49	3.02	17.86				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	800-900mm	107	Flaked Piece	quartzite	Tertiary	complete			0	0		none		0.7				8.16				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	800-900mm	108	Flaked Piece	quartzite	Tertiary	complete			0	0		none		0.4				9.57				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	109	flake	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		0.5	11.23	6.87	1.92	11.23				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	110	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.5				11.31				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	111	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.5				8.49				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	112	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.5				10.27				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	171	flake	Silcrete	Tertiary	proximal	Cortical	N/A	0	0		none		0.1	10.87	6.62	1.68	10.87				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	172	flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.1	7.01	6.01	1.75	7.01				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	173	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.1				9.44				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R03	500-600mm	174	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.1				8.89				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R08	500-600mm	51	Flaked Piece	quartzite	Primary	complete			0	0		none		1.6				17				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R09	100-200mm	39	Flake	Quartz	Tertiary	medial			0	0		none		0.5	7	8	2	9				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R09	700-800mm	44	Flaked Piece	Silcrete	Primary	complete			0	0		none		0.5				13				
Thompsons Rd, Clyde North 4	Phase Two	BHT09 R10	700-800mm	37	Flake	Quartz	Tertiary	Left Longitudinal cone break	flat	feather	0	0		none		1.6	16.38	12.95	5	20				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14	600-700mm	45	Flake	Silcrete	Secondary	proximal	cortical		0	0		none		1.7	25	16	4	25				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14		46	Non-Artefactual	fine grained siliceous								none										

Site Name	Excavation Phase	TP/R No.	Depth Range for Analysis	Artefact #	Category/ Artefact Type	Raw Material	Cortex	Flake Portion (Broken Flake Only)	Platform Surface/Type (Complete Only)	Termination Type (Complete Only)	Overhang Removal	Faceting	Formal Tool Type	Edge Modification Type	Retouch Quadrant	Mass (g)	L (mm) of Percussion	W (mm)	T (mm)	MD (mm)	Core Type	No. Neg Flake Scars (Cores Only)	Number of Rotations	MLD
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14 R02	500-600mm	98	flake	Silcrete	Secondary	complete	flaked	feather	0	1		none		1.6	10.11	12.67	4.7	10.11				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14 R02	200-300mm	103	Flaked Piece	Silcrete	Tertiary	unidentified			0	0		none		1				6.49				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14 R03		99	Non-Artefactual	crystal quartz																		
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14 R03	700-800mm	102	flake	crystal quartz	Tertiary	complete	Flat	feather	0	0		none		0.6	7.93	4.5	1.55	7.93				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14 R04	800-900mm	49	Flaked Piece	fine grained siliceous	Primary	complete			0	0		none		18.8				47				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14 R04		100	Non-Artefactual	crystal quartz																		
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT14 R04		101	Non-Artefactual	crystal quartz																		
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT21	300-400mm	40	Flake	Silcrete	Secondary	distal		feather	0	0		none		0.5	16	6	2	16				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT21	300-400mm	41	Flaked Piece	Quartz	Tertiary	medial			0	0		none		0.7				11				
Thompsons Rd, Clyde North LDAD 1	Phase Two	BHT27	400-500mm	47	Flake	fine grained siliceous	Primary	distal		feather	0	0		none		0.5	11	6	1	11				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R02	300-400mm	52	flake	coarse grained siliceous	Tertiary	complete	flat	step	0	0		none		1.7	26	16	2	26				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R02	200-300mm	53	flake	coarse grained siliceous	Tertiary	complete	flat	step	0	0		none		1.9	25	13	3	25				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R02	200-300mm	54	flake	coarse grained siliceous	Tertiary	complete	flat	feather	0	0		none		1.3	13	21.32	7	13				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R02	200-300mm	55	Flake	coarse grained siliceous	Tertiary	distal	N/A	feather	0	0		none		0.5	1.2	1.1	0.3	1.2				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	113	bending flake	Silcrete	Tertiary	complete	Bending	feather	0	0		none		0.3	7.84	10.28	4.45	20.34				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	115	flake	Silcrete	Secondary	complete	flat	feather	0	0		none		3.3	21.42	12.59	6.32	21.42				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	118	flake	Silcrete	Secondary	distal	N/A	feather	0	0				1.1	26.8	16.31	2.76	26.8				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	120	Flaked Piece	fine grained siliceous	Tertiary	unidentified			0	0		none		2.2				26.53				

Site Name	Excavation Phase	TP/R No.	Depth Range for Analysis	Artefact #	Category/Artefact Type	Raw Material	Cortex	Flake Portion (Broken Flake Only)	Platform Surface/Type (Complete Only)	Termination Type (Complete Only)	Overhang Removal	Faceting	Formal Tool Type	Edge Modification Type	Retouch Quadrant	Mass (g)	L (mm) of Percussion	W (mm)	T (mm)	MD (mm)	Core Type	No. Neg Flake Scars (Cores Only)	Number of Rotations	MLD
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	114	bending flake	Silcrete	Secondary	complete	Bending	feather	0	0		none		0.6	24.19	7.27	2.71	24.19				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	119	flake	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		3.2	19.74	10.52	4.37	26.25				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	135	flake	Silcrete	Secondary	complete	flat	step	0	0		none		0.3	12.27	12.69	2.92	16.32				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	117	flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.6	10.81	13.87	3.07	26.8				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	136	flake	Silcrete	Secondary	complete	flat	feather	0	0		none		0.6	11.65	9.73	1.92	11.65				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	133	flake	fine grained siliceous	Tertiary	medial	N/A	N/A	0	0		none		0.6	10.66	9.79	1.3	13.53				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	116	flake	Silcrete	Secondary	distal	N/A	feather	0	0		none		0.9	10.71	15.73	3.75	10.71				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	134	flake	Silcrete	Tertiary	distal	N/A	feather	0	0		none		0.2	14.54	12.94	2.92	16.94				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	128	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.6				13.9				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	129	flake	Silcrete	Tertiary	proximal	Flat	N/A	0	0		none		0.3	8.57	6.43	2.49	8.57				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	127	Flaked Piece	Silcrete	Secondary	complete			0	0	?backed blade	Backing		0.3				10.82				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	126	Flaked Piece	Silcrete	Tertiary	complete	Flat	feather	0	0		none		1.1				16.86				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	125	Flaked Piece	fine grained siliceous	Tertiary	proximal	Flat	feather	0	0		none		0.1				9.43				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	124	flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.4	6.1	11.38	2.66	14.99				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	122	flake	Silcrete	Tertiary	distal	N/A	feather	0	0		none		0.1	4.4	7.53	1.63	4.4				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	123	flake	Silcrete	Tertiary	distal	N/A	step	0	0		none		0.6	16.62	4.01	2.41	16.62				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	200-300mm	121	flake	Silcrete	Tertiary	proximal	Flat	N/A	0	0		none		0.4	9.11	8.93	3.92	12.95				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	138	flake	coarse grained siliceous	Secondary	unidentified	N/A	N/A	0	0	backed blade	Backing		0.1	8.91	5.99	2.27	9.04				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	137	flake	Silcrete	Tertiary	medial	N/A	N/A	0	0		none		0.1	4.81	7.11	1.41	7.11				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03		139	Non-Artefactual	crystal quartz																		
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	140	flake	Silcrete	Tertiary	distal	N/A	feather	0	0		none		0.1	7.4	7.89	1.03	9.35				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03		131	Non-Artefactual	quartz																		



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Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	130	flake	Silcrete	Tertiary	distal	N/A	feather	0	0		none		0.2	17.72	10.05	2.12	17.72				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	145	flake	Silcrete	Tertiary	distal	N/A	feather	0	0		none		0.2	17.75	8.68	3.78	17.75				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	146	flake	Silcrete	Secondary	proximal	flat	N/A	0	0		none		0.6	24.27	9.59	2.8	24.27				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	147	flake	Silcrete	Tertiary	distal	removed	feather	0	0		retouched	3	0.3	22.24	13.13	2.86	24.19				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	148	flake	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		0.2	16.45	9.71	2.29	16.45				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	149	flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.1	16.5	6.86	2.14	16.5				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	150	flake	quartz	Tertiary	complete	Flat	feather	0	0		none		0.4	19.8	10.17	4.17	19.8				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	151	flake	Silcrete	Tertiary	distal	N/A	feather	0	0		none		0.2	12.45	8.78	2.69	12.45				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	152	flake	Silcrete	Tertiary	complete	Flat	feather	0	0		retouched	2	0.5	17.64	10.56	3.02	17.64				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	153	flake	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		0.7	15.96	8.03	3.33	15.96				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	154	Flaked Piece	Silcrete	Tertiary	unidentified			0	0		none		0.1				12.6				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	155	Flaked Piece	Silcrete	Tertiary	unidentified			0	0		none		0.3				20.05				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	156	flake	Silcrete	Tertiary	unidentified	N/A	N/A	0	0		none		0.1	9.43	9.85	1.6	9.85				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	157	flake	Silcrete	Tertiary	medial	N/A	N/A	0	0		none		0.1	11.65	4.68	1.2	11.65				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	158	Flaked Piece	Silcrete	Primary	unidentified			0	0		none		0.1				13.67				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	159	flake	Silcrete	Secondary	complete	flat	feather	0	0		none		0.7	11.12	11.53	3.3	11.12				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	160	flake	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		0.1	10.33	6.77	3.06	10.33				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	161	flake	Silcrete	Tertiary	distal	N/A	feather	0	0		none		0.1	8.01	6.46	1.6	8.01				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	162	flake	Silcrete	Tertiary	proximal	flat	feather	0	0		none		0.3	9.15	13.97	3.87	13.97				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	163	flake	Silcrete	Tertiary	complete	flat	step	0	0		none		0.5	11.77	10.29	3.92	11.77				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	164	flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		1.6	22.06	14.41	6.55	22.06				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	165	flake	Silcrete	Tertiary	complete	flat	feather	0	0		none		2	16.26	9.36	4.54	16.26				

Site Name	Excavation Phase	TP/R No.	Depth Range for Analysis	Artefact #	Category/Artefact Type	Raw Material	Cortex	Flake Portion (Broken Flake Only)	Platform Surface/Type (Complete Only)	Termination Type (Complete Only)	Overhang Removal	Faceting	Formal Tool Type	Edge Modification Type	Retouch Quadrant	Mass (g)	L (mm) of Percussion	W (mm)	T (mm)	MD (mm)	Core Type	No. Neg Flake Scars (Cores Only)	Number of Rotations	MLD
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	166	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.1				7.9				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	167	Flaked Piece	Silcrete	Tertiary	unidentified			0	0		none		0.1				6.56				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	168	Flaked Piece	Silcrete	Tertiary	complete			0	0		none		0.1				8.33				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03		169	Non-Artefactual	quartz					0	0		none										
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	400-500mm	132	flake	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		0.7	13.26	5.93	3.41	13.26				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	300-400mm	170	flake	quartz	Tertiary	complete	natural	feather	0	0		none		0.7	10.69	9.93	3.03	10.69				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	400-500mm	141	flake	Silcrete	Tertiary	complete	flat	hinge	0	0		none		0.2	8.22	12.05	2.18	13.43				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03	400-500mm	142	Flaked Piece	Silcrete	Secondary	complete			0	0		none		7.4				18.29				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03		143	Non-Artefactual	Silcrete																		
Thompsons Rd, Clyde North 2	Phase Two	TP05 R03		144	Non-Artefactual	Silcrete																		
Thompsons Rd, Clyde North 2	Phase Two	TP05 R10		57	Non-Artefactual	quartz																		
Thompsons Rd, Clyde North 2	Phase Two	TP05 R10	100-200mm	58	Flake	crystal quartz	Tertiary	distal	N/A	feather	0	0		none		0.3	10	5	1	10				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R10	200-300mm	59	Flake	Silcrete	Tertiary	distal; left split	N/A	feather	0	0		none		1	17	17	3	17				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R10	200-300mm	60	Flake	Silcrete	Tertiary	proximal	flat	N/A	0	0		none		0.8	11	10	1.5	11				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R10	200-300mm	61	Flaked Piece	Silcrete	Tertiary	unidentified	N/A	N/A	0	0		none		0.3				10.05				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R15		56	Non-Artefactual	crystal quartz																		
Thompsons Rd, Clyde North 2	Phase Two	TP05 R18	300-400mm	77	Flaked Piece	Silcrete	Tertiary	complete								5				34.27				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R18	300-400mm	78	Flake	Silcrete	Tertiary	proximal	flaked	N/A	0	0		none		1.2	18.31	13.82	4.49	18.31				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R22	200-300mm	69	Flake	coarse grained siliceous	Tertiary	proximal; right split	flat	N/A	0	0		none		1.1	17.24	16.41	6.5.97	20.87				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R25	200-300mm	84	Flaked Piece	quartz	Primary	distal	N/A	feather	0	0		none		1				7.85				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R26	100-200mm	74	flake	quartzite	Tertiary	complete	flat	feather	0	0		none		5.8	44.75	27.15	8.44	44.75				
Thompsons Rd, Clyde North 2	Phase Two	TP05 R26	300-400mm	96	flake	crystal quartz	Tertiary	complete	natural	feather	0	0		none		0.9	17.28	11.35	4.39	17.8				

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Thompsons Rd, Clyde North 2	Phase Two	TP05 R29	100-200mm	86	flake	coarse grained siliceous	Tertiary	complete	flat	feather	0	0		none		0.7	12.96	16.54	3.4	21.41				
Thompsons Rd, Clyde North 4	Phase Two	TP07 R01		94	Non-Artefactual	crystal quartz																		
Thompsons Rd, Clyde North 4	Phase Two	TP07 R01		95	Non-Artefactual	crystal quartz																		
Thompsons Rd, Clyde North 3	Phase Two	TP07 R01	200-300mm	79	flake	coarse grained siliceous	Tertiary	complete	flat	feather	0	0		none		2.8	38.84	10.9	3.65	38.84				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R01	300-400mm	80	Flake	Silcrete	Tertiary	distal	N/A	N/A	0	0		retouched	1,4	0.8	20.26	7.78	2.94	20.26				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R01	200-300mm	97	flake	crystal quartz	Tertiary	distal	N/A	feather	0	0		none		0.2	7.76	6.03	2.72	7.76				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R02	300-400mm	85	Core	Silcrete	Primary	complete			0	0		none		6					multidirectional	3	1	27.57
Thompsons Rd, Clyde North 3	Phase Two	TP07 R02	300-400mm	93	flake	basalt	Tertiary	complete	flat	feather	0	0		none		0.6	8.98	8.8	4.92	10.14				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R09	300-400mm	62	Flaked Piece	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.7				18.21				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R09	300-400mm	63	Flaked Piece	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.1				6.16				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R09	300-400mm	64	Flaked Piece	Silcrete	Tertiary	complete	flat	feather	0	0		none		0.1				7.15				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R09	400-500mm	87	flake	Silcrete	Tertiary	distal	N/A	feather	0	0		retouched	1,2,3	1.5	18.67	8.69	3.77	18.67				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R09	400-500mm	88	flake	coarse grained siliceous	Tertiary	complete	flat	plunge	0	0		none		1.2	18.3	10.81	5.8	23.56				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R09	400-500mm	89	Flaked Piece	coarse grained siliceous	Tertiary	complete	flat	feather	0	0		none		0.5				10.75				
Thompsons Rd, Clyde North 3	Phase Two	TP07 R09	400-500mm	90	Flaked Piece	coarse grained siliceous	Tertiary	complete	flat	feather	0	0		none		0.7				20.3				