

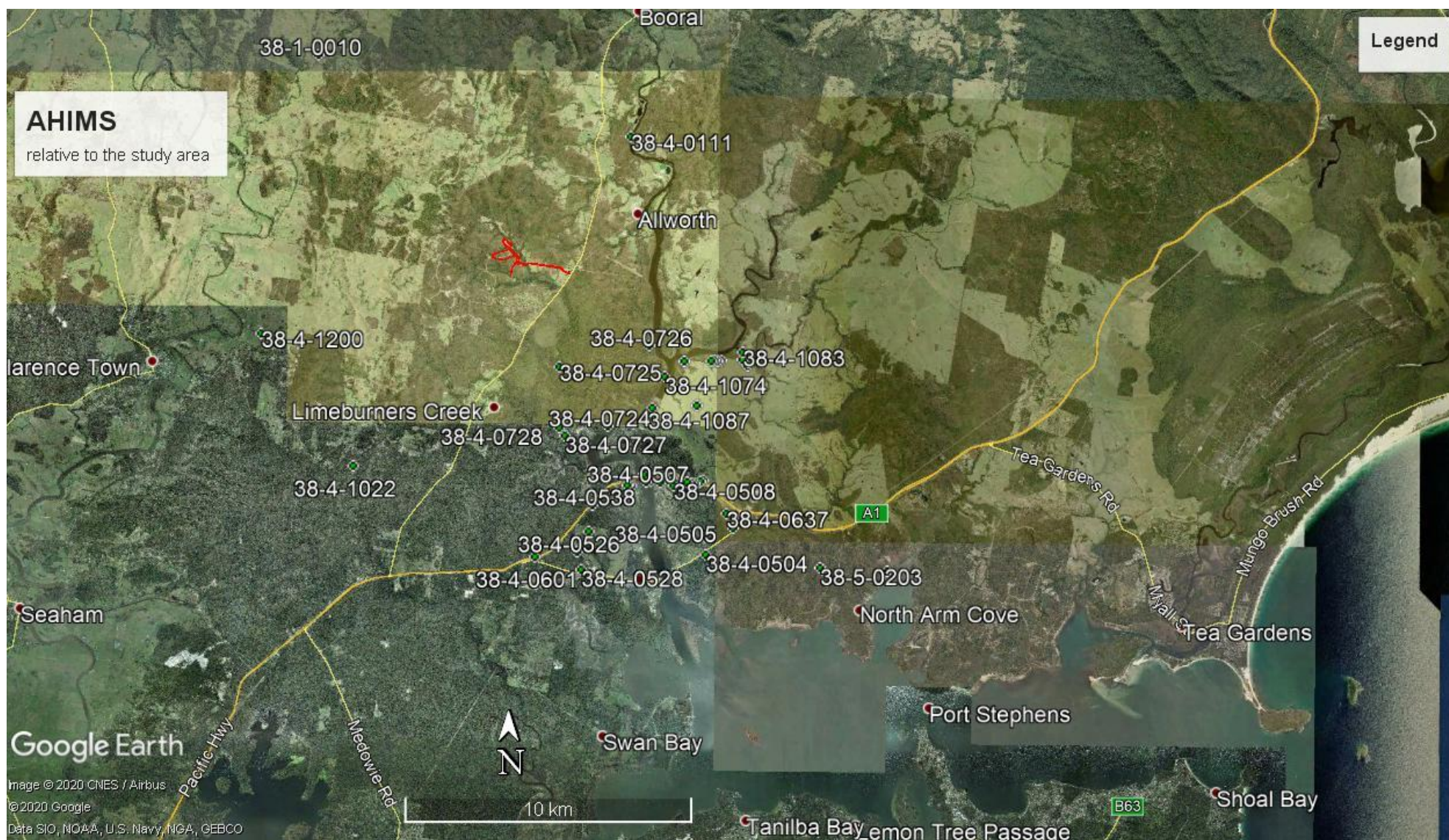


Figure 7 AHIMS distribution in the 366.25 sq km around the study area (in red)

The site in the closest proximity to the study area is 38-4-0725, a modified tree, 3.9 km south east of the study area. As shown in Table 2 the predominate site type is open camp sites which contain more than 1 stone artefact.

The AHIMS search located two reports associated with the search area.

Ozark 2012 – Testra Fibre Optic Cable, Karuah NSW - This assessment covered a 4.1 km corridor with a 20m width. No Aboriginal sites or potential archaeological deposits were recorded by that survey.

McCardle 2012 ` QR Hexham Train Support Facility -The assessment addressed an area of 255 ha bound by the Pacific Highway and the New England Highway to the north and east and by rural and environmental land to the south and west. The survey did not locate any Aboriginal sites or potential archaeological deposit. The consultation did find that the Hexham Swamp area is of high cultural significance to the Awabakal people.

Archaeological Models

In general, the density of distribution of sites and the diversity of the assemblage forming the sites is linked to the purpose of the site. A quarry site or stone reduction area will result in high densities of debitage and small flakes. A central or main camp site will result in dense artefact distribution potential of a large variety of raw materials. Peripheral gathering and hunting areas will have smaller lenses of artefacts associated with the processing of plant and animal resource. The travel routes between will result in a distribution of isolated finds resulting from casual discarding of tools or one off events.

As Foley's 1981 model demonstrates a home base area will be associated to access to resources (reliable water, raw materials, food). The reliability of water influences the frequency of occupation, with one episode of occupation overlying the next, thus creating a more complex of archaeological evidence over time (Figure 7).

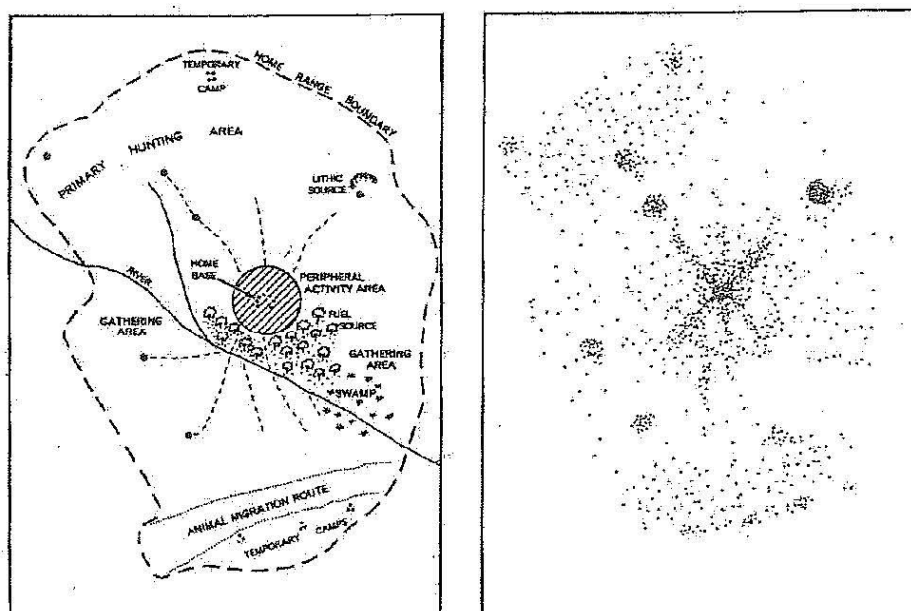


Figure 8 Foley's 1981 model of site distribution within a home range and the resulting distribution of objects

Model of occupation

Based on the Iron Mountain soil landscape there is negligible potential for rock shelters or overhangs in which closed sites may occur. The steep slopes of the quarry area are unlikely to be conducive to camp sites, although an isolated find associated with hunting - gathering may occur. As the quarry will not impact on the ridge line where transient occupation may have occurred, sites associated with

that activity are not of concern. The spur from the ridge down to the valley within the quarry area, which may have been a travel route, has been disturbed with the construction of a steep well used track approximately 5m wide. Modified trees may occur in the area, however given the slope and accessibility this of the quarry area this is somewhat unlikely.

The greatest potential for evidence of Aboriginal is likely to be on the toe slopes and margins of Deep Creek. In this area, stone artefacts as isolated finds or open camp sites may be found on the surface or in sub-surface contexts.

The narrow nature of the Deep Creek valley and the ephemeral character of this section of Deep Creek indicates that a main camp site is unlikely to be found in the study area, however peripheral camp sites and casual discard associated with travel routes and hunting gathering processing or minor camp sites are likely to be found in the study area.

The study area is not associated with any known Aboriginal Place and consultation aims to identify any cultural values that are not identified on AHIMS.

9. Field Assessment

The study area was surveyed on foot by a team of three people spaced at ten meters. The study area was divided into landform units which in this case coincide with the soil landscapes.

The study area was divided Preliminary review showed that the landforms that will be impacted are;

1. Undulating plain, on the Ten Mile Rd soil landscape – This unit includes the route of the access road from Bucketts Way and the stockpile and infrastructure areas.
2. Creek margins within The Branch soil landscape where the access road crosses over Deep Creek;
3. The slopes of the Iron Mountain soil landscape where the quarrying will take place.

A field survey of the proposed quarry was undertaken on foot with the aim of maximising survey coverage. The footprint of proposed disturbance was particularly targeted. The development footprint avoids landforms such as ridges that act to reduce visual and acoustic impact of the project. The field inspection data can be seen in Appendix B.

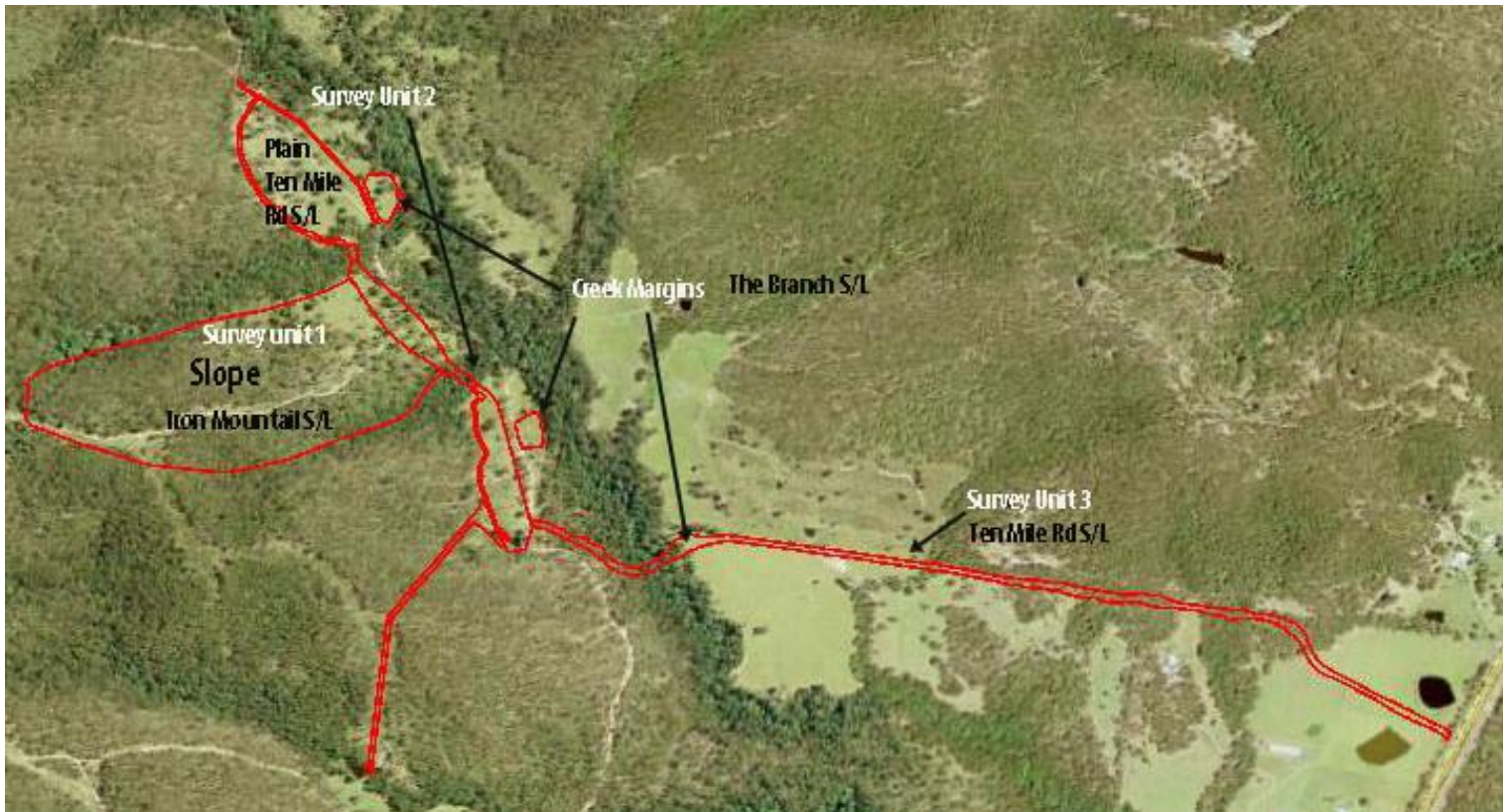


Figure 9 Survey Units based on topography and soil landscape unit

The field survey achieved 30% cover of survey unit 1, 50% cover of survey unit 2 and 90% cover of survey unit 3, with relatively low surface visibility at 2%. No objects were located. The majority of the field survey area was the steep to very steep slopes of the quarry area.

Survey unit 1

Survey unit 1 included the proposed quarry and includes the pipeline to an existing dam. That pipeline will be laid on the ground surface and will not require excavation. The quarry pit intends to cut into the slope from the existing lower ground level where crushing and processing will take place. The survey unit was steep to very steep slopes which will be cut into and the ridgeline retained.

Access was difficult and the vegetation dense. As per the soil landscape description no rock outcrops or shelters were found. Individual large trees remain however the bulk of trees in this unit are regrowth.



Plate 1 Quarry pit eastern slope



Figure 10 Quarry survey unit



Plate 2 Quarry pit slope east



Plate 3 Quarry pit western end



Plate 4 Western margin of the quarry - existing track



Plate 5 Quarry pit lower slope - primary stockpile and processing area

Survey Unit 2

Survey unit 2 comprised the undulating plain on the Ten Mile Road soil landscape. The eastern end of this unit is the location of the site office, facilities and workshop. The western end of this landform unit contains a secondary stockpile area. This area is well vegetated with grasses and has been generally cleared for grazing. Surface visibility was low with patches of bare earth and an unformed road providing access to the property on the western boundary.



Plate 6 View north from the quarry and primary stockpile to the margins of Deep Creek

Survey Unit 3

Survey unit 3 was based on the access road route of which two options were surveyed. The first leaves The Bucketts Way along the property boundary. At the request of the adjacent property owner a second option to the south of the first for the eastern end of the route was included in the survey.

The access road traverses the Ten Mile Road soil landscape with a mid-section intersecting the Ironstone Mountains soil landscape. The mid-section is an existing road that will require upgrading. That section contains numerous loose boulders, typical of that landform.



Plate 7 View east access route



Plate 8 View east from the foot of the Ironstone Mountain section

The Ten Mile Rd soil landscape sections at the eastern and western portions of the route traverses open paddock with a dense ground cover of grasses. At the western end of the route the paddock has been ploughed which was evident by the uneven surface of the paddock.



Plate 9 View east over the eastern end of the access road



Plate 10 Access road western portion of the route toward Deep Creek view west

The field survey was undertaken by a three-person team walking transects, spaced at 10m apart. No artefacts or other cultural material was found on the surface by field survey.

Subsurface testing

The run-off control basins between Deep Creek and the main stockpile area and the workshop and office (Figure 4) are located on the margins of the Ten Mile Road and The Branch soil landscapes. These areas and the eastern side of the Deep Creek crossing were selected for subsurface testing on the basis of the excavation required for construction, proximity to water (ephemeral) and in the case of the creek crossing, access and avoidance of the ploughed ground area.

Test pits were placed in the area of the Deep Creek access road crossing, and in the areas earmarked for water runoff control (detention basins). An additional transect was placed in the confluence of two tributaries on the eastern side of the stockpile area. The test pits were excavated in accordance with the Code of Practice 2010.

The first test pit in each transect was excavated in quadrants, in 50mm spits. The remaining test pits were excavated according to stratigraphy or 100mm spits as relevant. All spoil was sieved in 5mm aperture sieves. Any artefacts that were found were recorded, photographed and then triple bagged, ending in a UV stabilised tough bag, labelled and reburied in the test pit. Excavation data can be seen in Appendix C.

A total of 11 sqm were excavated in four locations. The western test pits below the stockpile did not contain any objects. A total of four artefacts were located, one at the creek crossing (1 per 2sqm), two in detention basin 1 (2 per 3sqm) and one in detention basin 2 (1 per 3 sqm) (Figure 11).



Figure 11 Distribution of test pits.



Plate 11 Excavation area below the primary stockpile



Plate 12 Excavation detention basin 2



Figure 12 Test pits detention basin 1



Figure 13 Detention basin 2 test pit location

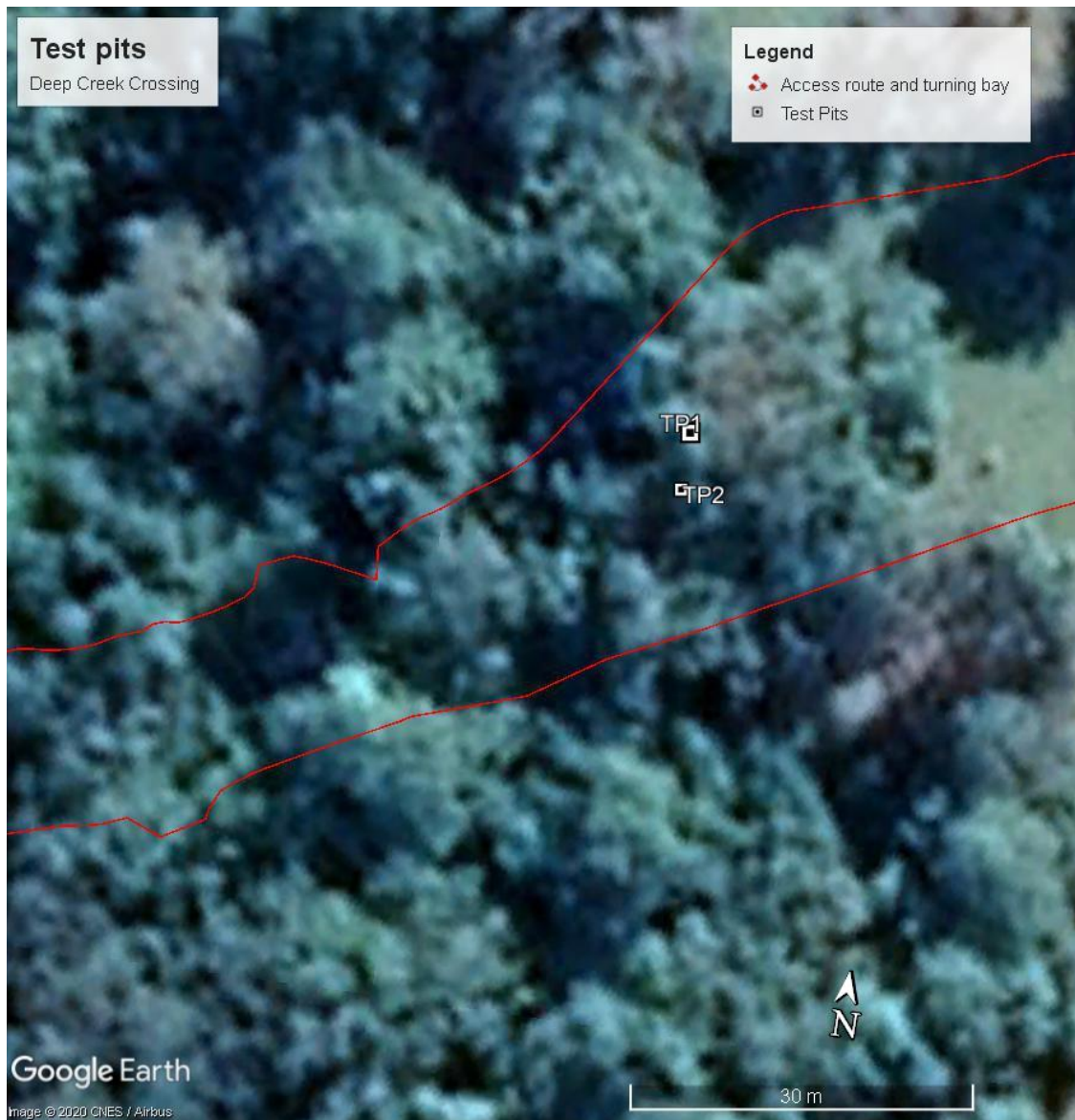


Figure 14 Access track test pits.

Artefact details:

Creek crossing TP2 – broken flake, distal, dark grey with more recent termination tip damage. Cortex developed over the break, 38x31x11 mm. GDA 56H - 398332E 6397548N

Detention basin 1 – located below the main stockpile **TP2**. Broken flake distal, tip snap, 120x80x30. Left margin usewear. Located at 180mm below the surface in the wall of quad B. Pink silcrete with fine cortex developed on flake surface GDA 56H 397793E 6398223N

TP3 grey fine grained IMT brown, usewear on the mid right margin, inclusion on the left margin. 24x22x3 mm. GDA 56H 397793E 6398211N

Detention basin 2 TP1 – flake, 55x45x13mm, quartzite (sugary appearance), distal point damage, cortex on the platform 20x10mm, pale grey. GDA 56H 398065E 6397782N.

The artefacts have been placed on AHIMS and the site cards attached in Appendix C.



Plate 13 Distal flake Access Pit 2 QA Sp2



Plate 14 Access QA Sp2 usewear left margin



Plate 15 DB1 TP 2 pink silcrete



Plate 16 DB 1 flake ventral surface



Plate 17 DB1 TP3 IMT redirecting flake dorsal surface



Plate 18 DB1 TP3 flake ventral surface



Plate 19 DB 2 TP 1 quartzite flake dorsal surface



Plate 20 DB2 TP1 flake ventral surface

10. Discussion

The low density of artefacts (maximum of 1.5 per sqm) indicates a transient use of this landscape and could be described as standard 'background' artefact distribution.

The larger size of the artefacts and the absence of debitage and small flakes suggests that the area was not a site of primary reduction or retouch / re-purposing of large flakes, tools or blanks. No cores were found by the test excavations. The absence of debitage indicates that any local stone sources were not used in tool making.

The AHIMS search has shown the increasing density of sites toward the Karuah River and east toward Port Stephens. Whilst this pattern of distribution could well be a result of the location of field surveys, this study area is reflective of Foley's 1981 model of occupation of a specific home range.

11. Recommendations

The results of the sub-surface testing and field survey did not indicate a requirement for further archaeological work. The following recommendations are made to allow the project to proceed with caution:

1. The Aboriginal community should be offered the opportunity to collect the artefacts from the test pits.
2. Discussions in the field indicated that the community wish to monitor the excavation of the upper 300mm of topsoil in the water retention basins in order to collect any artefacts unearthed. This can be achieved by using a grader to do shallow scrapes in the footprint of the basins, and allowing the RAPs to collect any artefacts revealed.
3. Artefacts to be reburied on site in a location that will not be impacted by the proposed works.
4. If any evidence of human remains are unearthed, works must cease and the NSW police and the Biodiversity and Conservation Division notified.

Bibliography

Foley, R. 1981 A Model of Regional Archaeological Structure. *Proceedings of the Prehistoric Society*. 47: 1-17

Matthei L.E. 1995 Soil Landscapes of the Newcastle 1:100,000 Sheet. Dept Land Water Conservation Sydney

McCardle Cultural Heritage Pty Ltd 2012 QR Hexham Train Support Facility Aboriginal Heritage Impact Assessment. Report to ADW Johnson Pty Ltd

OzArk Pty Ltd 2012 Telstra Fibre Optic Cable, Karuah NSW. Ecological and Aboriginal Heritage Impact Assessment. Report to Telstra

Appendix A – AHIMS search

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
38-5-0202	MT KARUAH/CARRINGTON 1	AGD	56	408750	6387050	Open site	Valid	Artefact :-		
	<u>Contact</u>	<u>Recorders</u>		Brad Welsh				<u>Permits</u>		
38-5-0203	MT KARUAH/CARRINGTON 2	AGD	56	408650	6387100	Open site	Valid	Modified Tree (Carved or Scarred) :-		
	<u>Contact</u>	<u>Recorders</u>		Brad Welsh,Carol Ridgeway-Bisset				<u>Permits</u>		
38-5-0204	MT KARUAH/CARRINGTON 3	AGD	56	408730	6387050	Open site	Valid	Modified Tree (Carved or Scarred) :-		
	<u>Contact</u>	<u>Recorders</u>		Brad Welsh				<u>Permits</u>		
38-4-0637	KA28	AGD	56	405370	6388950	Open site	Valid	Modified Tree (Carved or Scarred) :-		102741
	<u>Contact</u>	<u>Recorders</u>		Navin Officer Heritage Consultants Pty Ltd				<u>Permits</u>		
38-4-0724	Little Mountain One	AGD	56	401200	6391950	Open site	Valid	Artefact :-		
	<u>Contact</u>	<u>Recorders</u>		Miss,Juanita McCarthy,Mr.Stephen Mark Free				<u>Permits</u>		
38-4-0725	Hobart Road 1	AGD	56	399490	6393995	Open site	Valid	Modified Tree (Carved or Scarred) :-		
	<u>Contact</u>	<u>Recorders</u>		Miss,Juanita McCarthy,Mr.Stephen Mark Free				<u>Permits</u>		
38-4-0726	Double Wharf One	AGD	56	402620	6394760	Open site	Valid	Artefact :-		
	<u>Contact</u>	<u>Recorders</u>		Miss,Juanita McCarthy,Mr.Stephen Mark Free				<u>Permits</u>		
38-4-0727	Clay Bank One	AGD	56	399700	6391500	Open site	Valid	Modified Tree (Carved or Scarred) :- Artefact :-		
	<u>Contact</u>	<u>Recorders</u>		Miss,Juanita McCarthy,Mr.Stephen Mark Free				<u>Permits</u>		
38-4-0728	Clay Bank 2	AGD	56	399500	6391880	Open site	Valid	Artefact :-		
	<u>Contact</u>	<u>Recorders</u>		Miss,Juanita McCarthy,Mr.Stephen Mark Free				<u>Permits</u>		
38-4-1022	Wollaroo Kurrajong Tree	AGD	56	392338	6390481	Open site	Valid	Modified Tree (Carved or Scarred) :-		
	<u>Contact</u>	<u>Recorders</u>		Mr.Steve Brereton				<u>Permits</u>		
38-4-0535	KA20	AGD	56	401900	6389900	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Kerry Navin,Mr.Kelvin Officer				<u>Permits</u>		
38-1-0029	KA21	AGD	56	402700	6390050	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Kerry Navin,Mr.Kelvin Officer				<u>Permits</u>		
38-1-0030	KA22	AGD	56	403050	6390010	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Kerry Navin,Mr.Kelvin Officer				<u>Permits</u>		

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : deep creek quarry

Client Service ID : 526830

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
38-4-0536	KA23	AGD	56	403210	6390150	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Kerry Navin,Mr.Kelvin Officer					<u>Permits</u>		
38-4-0537	KA24	AGD	56	403520	6390100	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Kerry Navin,Mr.Kelvin Officer					<u>Permits</u>		
38-4-0538	KA25	AGD	56	400690	6389200	Open site	Valid	Modified Tree (Carved or Scarred) :	Scarred Tree	102568
	<u>Contact</u>	<u>Recorders</u>	Kerry Navin,Mr.Kelvin Officer					<u>Permits</u>		
38-4-0539	KA26	AGD	56	403440	6390160	Open site	Valid	Modified Tree (Carved or Scarred) :	Scarred Tree	
	<u>Contact</u>	<u>Recorders</u>	Kerry Navin,Mr.Kelvin Officer					<u>Permits</u>		
38-4-0799	KCF1	AGD	56	404300	6392690	Open site	Valid	Artefact :-		
	<u>Contact</u> Searle	<u>Recorders</u>	Mrs.Angela Besant					<u>Permits</u>	2089	
38-4-1085	The Branch Artefact 4	AGD	56	405029	6394241	Open site	Valid	Artefact : 1		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1086	The Branch Midden 2	AGD	56	405138	6394265	Open site	Valid	Aboriginal Resource and Gathering : 60		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1087	Karuah River open campsite 1	AGD	56	402590	6392348	Open site	Valid	Aboriginal Resource and Gathering : 200		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1088	The Branch Midden 1	AGD	56	404993	6394251	Open site	Valid	Aboriginal Resource and Gathering : 500		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1069	Horse Island Artefacts	AGD	56	402042	6389875	Open site	Valid	Artefact : 20		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-0111	Cromarty Creek Allworth	AGD	56	401902	6402008	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Doctor.Susan McIntyre-Tamway					<u>Permits</u>		
38-4-1043	Flat Rock Midden	GDA	56	402747	6392590	Open site	Valid	Earth Mound : -		
	<u>Contact</u>	<u>Recorders</u>	Steve Brereton					<u>Permits</u>		
38-4-1074	Coorinook Burial	AGD	56	403169	6393690	Open site	Valid	Burial : 1		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1075	Worimi North South crossing/The Branch River	AGD	56	405016	6394238	Open site	Valid	Aboriginal Ceremony and Dreaming : 1		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1076	Karuah River Midden	AGD	56	403848	6394231	Open site	Valid	Aboriginal Resource and Gathering : 30		

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u> Mr.Peter Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1077	Karuah River murder site	AGD	56	403829	6394218	Open site	Valid	Conflict : 1		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1078	The Branch Artefact	AGD	56	404791	6394251	Open site	Valid	Artefact : 1		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1079	The Branch artefact 3	AGD	56	404892	6394267	Open site	Valid	Artefact : 10		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1080	The Little Branch Midden	AGD	56	405873	6394309	Open site	Valid	Aboriginal Resource and Gathering : 20		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1081	The little Branch midden1	AGD	56	406091	6394201	Open site	Valid	Aboriginal Resource and Gathering : 30		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1082	The Little Branch midden 3	AGD	56	406061	6394094	Open site	Valid	Aboriginal Resource and Gathering : 15		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-1083	The Little Branch Ceremonial site	AGD	56	405884	6394561	Open site	Valid	Aboriginal Ceremony and Dreaming : 1		
	<u>Contact</u> Mr.Leonard (Lennie) Anderson	<u>Recorders</u>	Mr.Leonard (Lennie) Anderson					<u>Permits</u>		
38-4-0526	Site 1	AGD	56	400170	6387570	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Ms.Jacqueline Collins					<u>Permits</u>	1016	
38-4-0527	Site 2	AGD	56	400150	6387600	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Ms.Jacqueline Collins					<u>Permits</u>		
38-4-0528	Site 3	AGD	56	400320	6386950	Open site	Valid	Artefact :-	Isolated Find	
	<u>Contact</u>	<u>Recorders</u>	Ms.Jacqueline Collins					<u>Permits</u>	1016	
38-4-0529	Site 4	AGD	56	400570	6388280	Open site	Valid	Artefact :-	Isolated Find	
	<u>Contact</u>	<u>Recorders</u>	Ms.Jacqueline Collins					<u>Permits</u>	1016	
38-4-0524	Karuah River, KR2	AGD	56	402470	6390282	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	ERM Australia Pty Ltd- Sydney CBD					<u>Permits</u>		
38-4-0523	Karuah River, KR1	AGD	56	402446	6390244	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	ERM Australia Pty Ltd- Sydney CBD					<u>Permits</u>		
38-4-0504	KA 7	AGD	56	404650	6387510	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Kerry Navin,Mr.Kelvin Officer					<u>Permits</u>		
38-4-0505	KA 8	AGD	56	405610	6388450	Open site	Valid	Artefact :-	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Kerry Navin,Mr.Kelvin Officer					<u>Permits</u>		
38-4-0507	KA 10	AGD	56	407550	6390020	Open site	Valid	Artefact :-	Open Camp Site	

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	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0508	KA 11	AGD	56	403510	6389900	Open site	Valid	Artefact :-	Open Camp Site	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0509	KA 12	AGD	56	403990	6390030	Open site	Valid	Artefact :-	Open Camp Site	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0510	KA 13	AGD	56	404140	6389990	Open site	Valid	Artefact :-	Open Camp Site	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0511	KA 14	AGD	56	404250	6389980	Open site	Valid	Artefact :-	Open Camp Site	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0512	KA 15	AGD	56	404400	6390020	Open site	Valid	Artefact :-	Open Camp Site	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0513	KA 16	AGD	56	404450	6390060	Open site	Valid	Artefact :-	Isolated Find	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0514	KA 17	AGD	56	404550	6390100	Open site	Valid	Artefact :-	Isolated Find	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0515	KA 18	AGD	56	402030	6389920	Open site	Valid	Artefact :-	Isolated Find	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-4-0516	KA 19	AGD	56	401950	6389920	Open site	Valid	Artefact :-	Isolated Find	
	Contact	Recorders	Kerry Navin,Mr.Kelvin Officer					Permits		
38-1-0010	Little Black Camp Creek	AGD	56	390980	6404750	Open site	Partially Destroyed	Artefact :-	Open Camp Site	1333
	Contact	Recorders	Warren Bluff					Permits		
38-5-0008	Northam Cove Bulga Creek	AGD	56	411000	6387000	Open site	Valid	Ceremonial Ring (Stone or Earth) :- Modified Tree (Carved or Scarred) :-	Bora/Ceremonial, Carved Tree	
	Contact	Recorders	David Bell					Permits		
38-4-0601	KA 27	AGD	56	398700	6387380	Open site	Valid	Modified Tree (Carved or Scarred) :-		
	Contact	Recorders	Navin Officer Heritage Consultants Pty Ltd					Permits		
38-4-1200	PAD11 (Clarence Town)	GDA	56	389067	6395054	Open site	Valid	Potential Archaeological Deposit (PAD) : 1		
	Contact	Recorders	Mr.Rick Bullers					Permits		

Report generated by AHIMS Web Service on 11/08/2020 for Angela Besant for the following area at Datum :GDA, Zone : 56, Eastings : 389589 - 412376, Northings : 6388080 - 6404153 with a Buffer of 1000 meters. Additional Info : prepare an ACHAR for proposed quarry. Number of Aboriginal sites and Aboriginal objects found is 57

This information is not guaranteed to be free from error omission. Office of Environment and Heritage (NSW) and its employees disclaim liability for any act done or omission made on the information and consequences of such acts or omission.

Appendix B – Field survey data



Figure 1 Survey unit 1 – transects

Table 1 Survey data survey unit 1. (Figure 1)

Landform	Survey unit area	Area inspected	Visibility	Exposure	Effective coverage sqm	Sites	Comments
Slope	16 ha	6.5ha (4 transects x 30m wide)	5%	20- 5%	1 ha	Nil	Steep to very steep slope – rock outcrops but no rock overhangs. Rock not suitable for engravings. Will be impacted by quarry pit.
Ridge pipeline	50sqm	50sqm	10%	10%	0.5 sqm	Nil	Small section of ridge crest mid pipeline. Note pipeline to be poly laid on surface
Slope pipeline	1.5 ha	1.5 ha	2%	10%	30sqm	Nil	Steep slope to the north and then to the south. No excavation required in this landform unit.

Table 2 Survey data Survey unity 2 and Creek margins (Figure 2)

Landform	Survey unit area	Area inspected	Visibility	Exposure	Effective coverage sqm	Sites	Comments
Lower toe slope	5.5 ha	4.5ha (6 transects x 30m wide x 250 m long)	10%	50%	0.225 ha	Nil	Lower toe slope gradient < 10% exposures along unformed vehicle track, ants nests, bare earth patches. Elsewhere grass ground cover ex grazing land.
Creek terrace margins	1 ha	9600 sqm	10%	10%	96 sqm	Nil	Ant nest, patches of bare earth, small disturbances and unformed vehicle track.
Creek crossing	220 m x 10 m	2200 sqm	2%	10%	4.4 sqm	Nil	Creek crossing generally uncleared native vegetation. Bare earth on creek margins and in bare earth patches under trees.



Figure 2 Survey unit 2 - lower slope and survey unit 3 - creek margins

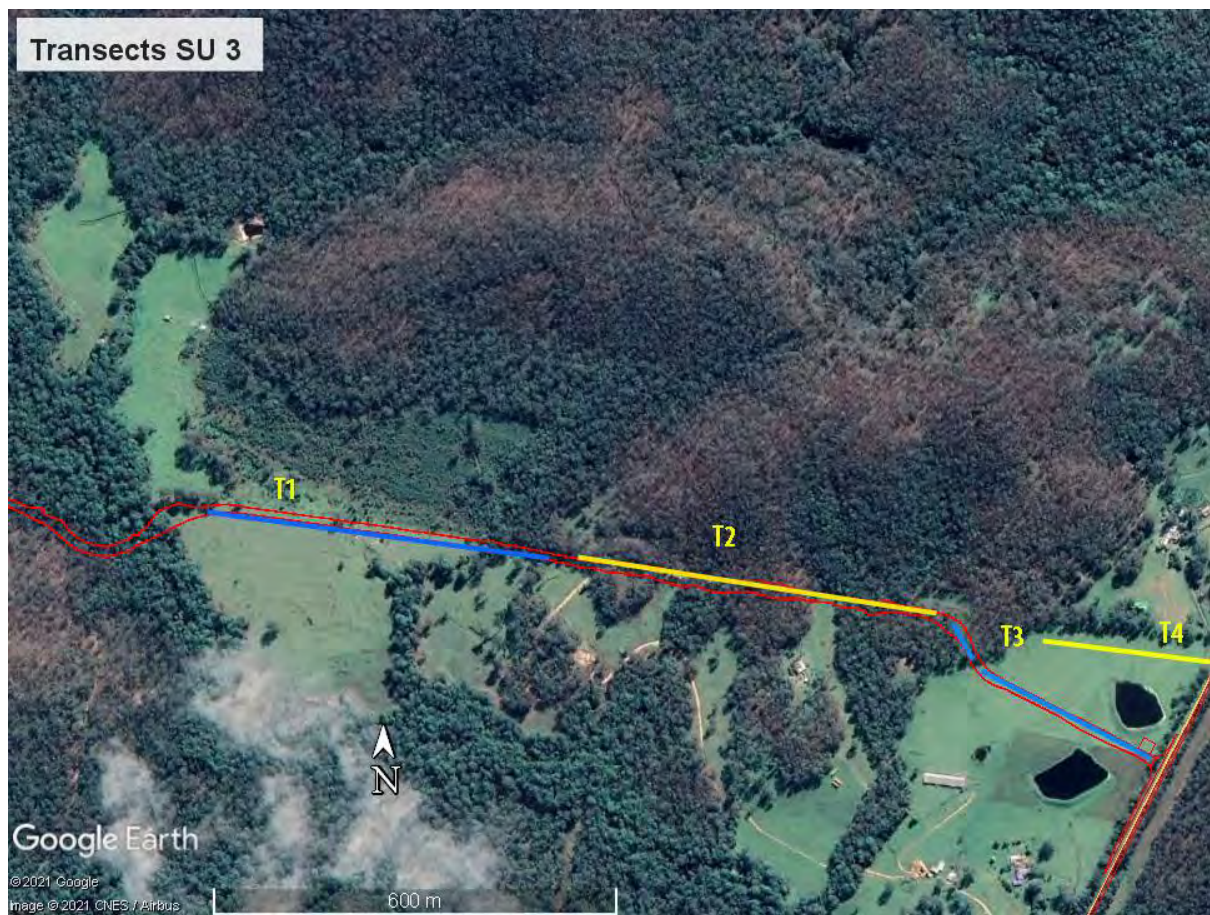


Figure 3 Survey unit 3 transects – access route

Landform	Survey unit area	Area inspected	Visibility	Exposure	Effective coverage sqm	Sites	Comments
Lower toe slope T1, T3 and T 4	3000 sqm	4.5ha (3 transects x 30m wide x 1000 m long)	10%	50%	0.225 ha	Nil	Lower toe slope gradient < 10% exposures along unformed vehicle track, ants nests, bare earth patches. Elsewhere grass ground cover ex grazing land. T4 was the planned access later amended to T 3 at request of adjacent landholder – both were surveyed.
Slope	6500 sqm	6500 sqm	10%	10%	65 sqm	Nil	This section of access road has been cut by the current landholder through a rocky low ridge – effective visibility low due to the existing disturbance. Visibility on the margins of the disturbance

Appendix C – Excavation data

Excavation Data

Location recorded by handheld GPS Zone 56 GDA 94

Location	Easting	Northing	Spit	Depth-mm	Notes	Artefacts
Creek Crossing						
Test Pit 1	398332	6397553	1	50mm spit 50cm Quads to 1sqm	Light brown / grey charcoal fleck, fine and dry – rootlets	 Plate 1 Section west wall
			2	50mm	Light brown fine dry loam charcoal fleck	
			3	50mm	Light brown fine compact loam	

			4	50mm	Light brown compact fine loam	
			5	50mm	Compact light brown with clay fleck	
			6	35mm	Clay flecked brown loam over hard compact orange clay	
Test Pit 2	398332	6397548	1	100mm	Brown/grey fine loam, little organic material, some charcoal fleck & few worms	
			2	100mm	Fine buff charcoal flecked. Charcoal flecks denser in Quad A	IF broken flake distal volcanic brown/grey with recent tip break, cortex developed over flaked surface 38x31x11 found in quad A. Artefact reburied in quad A.
			3		Quad A taken down 20mm into fine gravelly clay.	

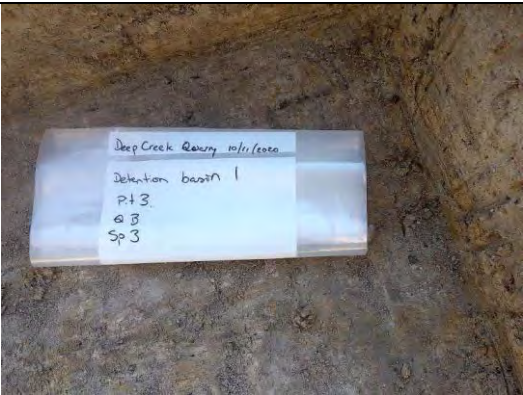
Below stock pile						
Test Pit 1	397725	6398327	1	50	Grass roots, damp brown silty loam	Same over all quads – cicada hole into clay Quad A
			2	50	Grading to light grey brown charcoal flecked lenses of clay coming through into spit 2.	
			3	50	Light grey brown charcoal flecked lenses of orange clay	
			4	50	Light grey brown charcoal flecked lenses of orange clay	 <i>Plate 2 Section south wall</i>

			5	50	Orange clay / mixed with brown loam disturbed? Ploughed ?	 <i>Plate 3 End level pit 1 with cicada burrow bottom north cnr quad A View north</i>
Test Pit 2	397748	6398331	1	100	Brown silty topsoil damp rootlets grading to grey charcoal fleck clayey	

			2	80-100	Grey charcoal flecked over orange sticky clay	 <i>Plate 4 south wall end level</i>
Test Pit 3	397747	6398346	1	60mm	Sandy loam 50-60mm deep fine rootlets friable earthworm some gravel	
			2	50	Sandy loose loam low organic material, few smaller burrows	
			3	50	Cream drying to buff Hard packed fine charcoal fleck	

			4	50	Hard cream drying to buff charcoal flecked poor pedal structure	 <i>Plate 5 Section north wall</i>
Detention basin 1						
Test Pit 1	397799	6398220	1	50	Brown damp loam cicada holes to 10mm wide x 3, clay nodules, sandstone/bedrock nodules	
			2	50	Brown loam clay, sandstone nodules	

			3	50	Brown loam clay, sandstone nodules	 Plate 6 End level east wall with artefact replaced in pit
			4	50	Brown fine gravel loamy soil with larger bedrock and clay nodules	
Test Pit 2	397793	6398223	1	100	Brown silty loam roots and cicada holes	
			2	100	Grading to paler light brown loam with fine gravel Artefact at 180mm fell out of wall boundary of Quad A & B Reburied in pit IF IMT Broken flake distal 120x80x30 left margin usewear	

Test Pit 3	397794	6398211	1	100	Brown grading to light brown silty loam with charcoal flecks	1 x grey fine grained brown IMT flake 24x22x3 usewear mid right margin, inclusion on left margin.
			2	100	Pale brown grey silty soil grading to white grey hard set charcoal flecked grey clay	 <i>Plate 7 Section north wall end level</i>
			3	100	Pale brown grading to clay orange loam	

Detention Basin 2						Transect SE / NW
Test Pit 1	397788	6398229	1	50	Brown silty soil charcoal fleck	
			2	50	Paler brown charcoal flecked silty soil	
			3	50	Grading to grey silty soil, charcoal flecked over clay	
			4	50	Pale gravel 10% 4 larger pieces of red sandstone bedrock	1 x quartzite flake 55x45x13 platform 20x10 cortex on platform distal point break

Test Pit 2	398074	6397781	1	100	Dark silty soil with fine gravel grading to paler brown charcoal fleck sandy silty clay. 10-15% gravel	
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Test Pit 3	398063	6397789	1	100	Brown silty loam, rootlets	 Plate 8 Section north wall
			2	100	Grading to gravelly lighter brown silty loam	
			3	50	Lighter brown clay inclusions	