

*Survey Unit 7/Locale 1*

685287e 6154897n Trimble GPS (GDA)

One stone artefact was on a saddle of a ridge crest in Survey Unit 7 (Plate 32). The artefact was found on the edge of a large erosion scour. In the area, ground exposure was estimated to be c. 95% with 70% archaeological visibility. The effective survey coverage is high.

The recorded artefact is a weathered, fine grained silcrete flake measuring 15 x 24 x 7 mm.

The locale may contain additional artefacts but these would be present in very low density. Because of the eroded nature of the soil, the site has no subsurface potential. The geomorphological context is erosional.



Plate 32 Location of SU7/L1 looking 75°.

*Survey Unit 8/Locale 1*

683916e 6153919n Trimble GPS (GDA)

One stone artefact was recorded in a sheep track in Survey Unit 8 (Plate 33). The landform is a broad ridge crest with a northerly aspect and very gentle gradient. The area is well grassed and effective survey coverage is low.

The recorded artefact is a fine grained volcanic broken flake (medial) measuring 36 x 22 x 10 mm.

The site has subsurface potential given some depth to the soils, but artefact density is predicted to be very low. The geomorphological context is erosional.



Plate 33 Location of SU8/L1 looking south.



Two stone artefacts were recorded in a bare earth exposure (10 x 3 m) in Survey Unit 15 adjacent to a minor drainage line (Plate 34). The landform is a simple slope with a north-westerly aspect and very gentle gradient. The area of erosion measures 30 sq m, of which 50% was ground exposure, possessing 90% archaeological visibility. The effective survey coverage is relatively high, and given that two artefacts only were recorded, artefact density is assessed to be very low.

The recorded artefacts are probably a part of a single knapping event:

- Fine grained, grey silcrete broken flake (proximal portion) measuring 22 x 14 x 4 mm;
- Fine grained, grey silcrete core (3 rotations and 9 scars) measuring 33 x 24 x 19 mm.

The site has subsurface potential given some depth to the soils in the lower valley context, but artefact density is predicted to be low. The geomorphological context is nevertheless erosional.



Plate 34 Location of SU15/L1 looking 245°.

*Survey Unit 17/Locale 1*

681143e 6172183n Trimble GPS (GDA)

A quartz outcrop in Survey Unit 17 possesses evidence of having been struck by means of *hard hammer percussion* (Plates 35 & 36). This locale, SU17/L1, is defined for the purposes of this assessment as a possible Aboriginal stone procurement area (SPA); the status of this site cannot be determined by a visual assessment alone. While it appears unambiguous that the quartz outcrop has been struck by human agency, the actual identity of that agent is uncertain; there is some possibility that the features have resulted from animals (with hard Hooves), machinery (bikes, tractors, dozers) or prospectors. To attempt to resolve this question, archaeological excavation would be required.

The quartz seam is exposed as discontinuous small bedrock outcrops (which are up to 40cm x 1.5 m in size) and numerous cobbles that cover an area measuring approximately 30 – 30 square metres. The seam is oriented north-south. It measures c. 70m long, by 10 wide and c. 40 cm high above the ground. The quartz is reasonable quality (from the view point of a stone knapper) milky quartz.

The outcrop possesses crushed and battered areas and bifacially flakes edges with negative flake scars. A small amount of blocky quartz shatter is visible in the immediate vicinity of the seam. Ground exposure at the site is low, and it is possible that flaked debris is present in a subsurface context.



Plate 35 Location of SU17/L1 looking south.





Plate 36 SU17/L1 Close up of cobble with bifacial flake scar along edge.

A second, albeit minor quartz outcrop in Survey Unit 17 also possesses evidence of having been struck by means of *hard hammer percussion* (Plates 37). This locale is a possible SPA.

The quartz seam is exposed as discontinuous small bedrock outcrops (which are up to 40cm x 40 cm in size) and numerous cobbles that cover an area measuring approximately 30 – 30 square metres. The seam is oriented north-south. It measures c. 100m long, by 10 wide and c. 30 cm high above the ground. The quartz is reasonable quality milky quartz.

The outcrop possesses sparse crushed and battered areas and bifacially flakes edges with negative flake scars. A small amount of blocky quartz shatter is visible in the immediate vicinity of the seam. Ground exposure at the site is low, and it is possible that flaked debris is present in a subsurface context.



Plate 37 Location of SU17/L2



*Survey Unit 18/Locale 1*

680701e 6170806n Trimble GPS (GDA)

One stone artefact was on a moderate gradient simple slope in Survey Unit 18 (Plate 38). The artefact was found in a bare earth exposure. In the area, ground exposure was estimated to be c. 15% with 90% archaeological visibility. The effective survey coverage is high.

The recorded artefact is a grey tuff flake measuring 28 x 29 x 9 mm.

The locale may contain additional artefacts but these would be present in very low density. Because of the skeletal nature of the soil, the site has no subsurface potential.



Plate 38 Location of SU18/L1 looking 245°.

*Survey Unit 21/Locale 1*

680799e 6175957n Trimble GPS (GDA)

One stone artefact was recorded on a ridge crest Survey Unit 21 (Plate 39). The landform is a narrow ridge crest with an open aspect and very gentle gradient. The area is covered in Sifton bush and effective survey coverage is low. Given the nature of the landform, it is assumed that the artefact is out of context, and likely to have eroded from the ridge crest above.

The recorded artefact is a milky quartz blade flake measuring 32 x 10 x 6 mm.

The locale may contain additional artefacts but these would be present in very low density. Because of the skeletal nature of the soil, the site has no subsurface potential. The geomorphological context is erosional.



Plate 39 Location of SU21/L1 looking south.



*Survey Unit 23/Locale 1*

678390e 6182077n Trimble GPS (GDA)

One stone artefact was recorded on a track on a ridge crest in Survey Unit 23 (Plate 40). The landform is a broad ridge crest with a northerly aspect and very gentle gradient. The area is grassed with recently slashed Sifton bush; effective survey coverage is high.

The recorded artefact is a milky quartz broken flake (proximal portion) measuring 14 x 11 x 6 mm.

The locale may contain additional artefacts but these would be present in very low density. Because of the skeletal nature of the soil, the site has no subsurface potential. The geomorphological context is erosional and the ground surface is highly disturbed.



Plate 40 Location of SU23/L1 looking 135°.

Two stone artefacts were recorded in a bare earth exposure (5 x 2 m) in Survey Unit 23 adjacent to a minor, highly eroded drainage line (Plate 41). The area of erosion measures 10 sq m, of which 80% was ground exposure, possessing 90% archaeological visibility. The effective survey coverage is relatively high, and given that two artefacts only were recorded, artefact density is assessed to be very low.

The recorded artefacts are:

- Milky quartz flake measuring 20 x 11 x 5 mm;
- Milky quartz flake measuring 26 x 14 x 6 mm.

The site has subsurface potential given some depth to the soils in the lower valley context, but artefact density is predicted to be low. The geomorphological context is erosional.



Plate 41 Location of SU23/L2 looking south-west.



*Survey Unit 23/Locale 3*

679052e 6179394n Trimble GPS (GDA)

One stone artefact was recorded on a track in Survey Unit 23 (Plate 42). The landform is a ridge crest with a easterly aspect and gentle gradient. The area is covered in regrowth scrub and Sifton bush; effective survey coverage is relatively high.

The recorded artefact is a grey tuff flake measuring 29 x 40 x 12 mm.

The locale may contain additional artefacts but these would be present in very low density. Because of the skeletal nature of the soil, the site has no subsurface potential. The geomorphological context is erosional. The ground surface is highly disturbed.



Plate 42 Location of SU23/L3 looking south-west.

Five stone artefacts were recorded in a vehicle track on a crest in Survey Unit 24 (Plate 43). The area measures > 50 m x c. 2m of which 40% was ground exposure, possessing 90% archaeological visibility. The effective survey coverage is relatively high, and given that five artefacts only were recorded, artefact density is assessed to be very low.

The recorded artefacts are:

- Fine grained grey silcrete broken flake (distal) measuring 19 x 19 x 9 mm;
- Fine grained brown silcrete flake measuring 24 x 16 x 6 mm;
- Fine grained brown silcrete flake piece measuring 14 x 13 x 5 mm;
- Fine grained brown silcrete flake measuring 12 x 22 x 6 mm;
- Fine grained brown silcrete flake piece measuring 15 x 21 x 8 mm.

The locale may contain additional artefacts but these would be present in very low density. Because of the skeletal nature of the soil, the site has no subsurface potential. The geomorphological context is erosional. The ground surface is highly disturbed.



Plate 43 Location of SU24/L1 looking south.



A large quartz outcrop in Survey Unit 27 possesses evidence of having been struck by means of *hard hammer percussion* (Plate 44). This locale is a possible SPA; the status of this site cannot be determined by a visual assessment alone. As with the previously described spas, while it appears unambiguous that the quartz outcrop has been struck by human agency, the actual identity of that agent is uncertain.

The quartz seam is exposed as relatively large bedrock outcrop and cobbles. The seam is oriented north-south. It measures c. 30m long, by 10 wide and c. 50 cm high above the ground. The quartz is reasonable quality milky quartz. At the south end, the outcrop is massive exposed shale.

The outcrop possesses crushed and battered areas and bifacially flakes edges with negative flake scars and cobbles with negative scars. A small amount of blocky quartz shatter is visible in the immediate vicinity of the seam. Ground exposure at the site is low, and it is possible that flaked debris is present in a subsurface context.



Plate 44 Location of SU27/L1 looking south.

### 3. CONSULTATION PROCESS

A process of Aboriginal community consultation has been undertaken as a component of this assessment, and has been conducted in accordance with the guidelines as set out in the *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (NSW DEC July 2005) and OEH's *Aboriginal cultural heritage consultation requirements for proponents 2010* (NSW DECCW 2010b).

It is noted that there were two late registrations of interest, being Onerwal Local Aboriginal Land Council and Gunjee Wong Cultural Heritage Aboriginal Corporation, and that these two groups have been accommodated within the process of consultation. The Onerwal Local Aboriginal Land Council is the relevant LALC for the proposal area, and although consulted the Land Council was unable to supply a representative to participate in the field survey.

#### 3.1 Consultation

In order to identify, notify and register Aboriginal people who may hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects and/or places in the area of the proposed project, the following procedure was implemented (Copies of all documentation relating to this process have been submitted to OEH [Queanbeyan] in separate correspondence dated 8 August 2012).

Correspondence dated 10 April 2012 was sent to:

- OEH Queanbeyan office
- Onerwal Local Aboriginal Land Council
- the Registrar, Aboriginal Land Rights Act 1983
- the National Native Title Tribunal, requesting a list of registered native title claimants, native title holders and registered Indigenous Land Use Agreements
- Native Title Services Corporation Limited (NTSCORP Limited)
- Yass Valley Shire Council
- Upper Lachlan Shire Council
- Boorowa Shire Council
- the Lachlan Catchment Management Authority, requesting contact details for any established Aboriginal reference group

In addition an advertisement was placed in the 11 April 2012 edition of the Yass Tribune newspaper (closing date for registration of interest was noted as 25 April 2012).

Following advice received from NSW OEH (16 April 2012) and the National Native Title Tribunal (19 July 2012), further correspondence was sent to:

- Yukkumbruk
- Peter Falk Consultancy
- Pejar Local Aboriginal Land Council
- Gundungurra Aboriginal Heritage Association Inc
- Yass Valley Indigenous Consultative Committee Community Development
- Ngunnawal Heritage Aboriginal Corporation
- Arnold Williams - Ngunnawal Elders Corporation
- Yurwang Gundana Consultancy Cultural Heritage Services
- Buru Ngunawal Aboriginal Corporation
- Carl and Tina Brown
- Gunjee Wong Cultural Heritage Aboriginal Corporation



- Gundungurra Tribal Council Aboriginal Corporation

The registered Aboriginal parties for this project are:

- Buru Ngunawal Aboriginal Corporation
- Gundungurra Aboriginal Heritage Association Inc
- Carl and Tina Brown
- Gunjeewong Cultural Heritage Aboriginal Corporation
- Onerwal Local Aboriginal Land Council

An outline of the scope of the project, the proposed cultural heritage assessment process and the heritage assessment methodology was forwarded to the registered parties on varying dates, immediately following receipt of their registration of interest. No responses were received from registered parties in regard to the consultation process and methodology. However, Wally Bell, Buru Ngunawal Aboriginal Corporation provided valuable information in regard to the archaeological sensitivity and potential of the study area. Sharyn Halls, Gundungurra Aboriginal Heritage Association discussed her ancestors connections to Blakney Creek, located in the local area.

For review and comment, a copy of this report has been forwarded to the registered parties; no responses have been received.

#### 4. SUMMARY AND ANALYSIS OF BACKGROUND INFORMATION

In the previous section of this report, the results of the background research and the field survey have been outlined. The purpose of this section of the Aboriginal cultural heritage assessment report is to explain the results. In summary, the turbine ridges are predicted to be of low archaeological potential. No previously recorded Aboriginal places, areas or objects are known to be present in the proposal area, however, 13 object locales (most of which are single artefacts) and three possible SPAs were recorded during fieldwork.

Given the extensive survey coverage (see Table 1) and adequate Effective Survey Coverage (see Table 1), the paucity of stone artefacts is believed to be an accurate reflection of the artefactual status of the proposal area. That is, the proposed impact areas are assessed to contain very low density artefact distribution. Accordingly, undetected or subsurface stone artefacts are predicted to be present in extremely low density.

The archaeological results are also in keeping with the information kindly provided to us by the Buru Ngunawal Aboriginal Corporation people. Given the location of the wind turbine ridges well away from water, Wally Bell indicates that the area would have been used ‘... for travel through country, *if that*’.

From an archaeological perspective, the results can be compared and contrasted to previous studies. Packard and Hughes (1983) also found that sites were rarely present on the elevated topographies of the region. The predominance of quartz in assemblages found by many other researchers (for example, Clark 1977; Witter 1981; Packard & Hughes 1983; Silcox & Koettig 1985; JMcCHM Pty Ltd 2003) is however, not entirely comparable to the results at Rye Park where a much greater range of other materials were recorded.

It is concluded that there are no information gaps which are of a significant magnitude to warrant any further consideration at this time.



## 5. CULTURAL HERITAGE VALUES AND STATEMENT OF SIGNIFICANCE

The following significance assessment criteria is derived from the relevant aspects of ICOMOS Burra Charter (Australian ICOMOS 1999).

Aboriginal cultural heritage sites are assessed under the following categories of significance:

- Social or cultural value to contemporary Aboriginal people;
- Historical value;
- Scientific/archaeological value;
- Aesthetic value.

### *Aboriginal cultural significance*

The Aboriginal community will value a place in accordance with a variety of factors including contemporary associations and beliefs and historical relationships. Most heritage evidence is highly valued by Aboriginal people given its symbolic embodiment and physical relationship with their ancestral past.

### *Archaeological value*

The assessment of archaeological value involves determining the potential of a place to provide information which is of value in scientific analysis and the resolution of potential archaeological research questions. Relevant research topics may be defined and addressed within the academy, the context of cultural heritage management or Aboriginal communities. Increasingly, research issues are being constructed with reference to the broader landscape rather than focusing specifically on individual site locales. In order to assess scientific value sites are evaluated in terms of nature of the evidence, whether or not they contain undisturbed artefactual material, occur within a context which enables the testing of certain propositions, are very old or contain significant time depth, contain large artefactual assemblages or material diversity, have unusual characteristics, are of good preservation, or are a part of a larger site complex. Increasingly, a range of site types, including low density artefact distributions, are regarded to be just as important as high density sites for providing research opportunities.

### *Aesthetic value*

Aesthetic value relates to aspects of sensory perception. This value is culturally contingent.

### 5.1 Statement of Significance

The 13 Aboriginal sites identified in the subject area are assessed to be representative of extremely low density artefact distribution. Their cultural and archaeological heritage value is low. The AHIMS site #51-4-0058 is likewise assessed to be of low archaeological heritage significance. The archaeological status of the three SPAs is uncertain, and accordingly, their cultural and archaeological values are unknown.

## 6. THE PROPOSED ACTIVITY

In this section the nature and extent of the proposed activity and any potential harm to Aboriginal areas, objects and/or places is identified.

A full description of the proposal and its potential impact on the landscape and heritage resource is described. A summary of the impact history of the study area has been described in Section 2 and is not repeated here. However, it is emphasised that prior and existing land uses have caused significant changes to geomorphological processes in the area with an associated effect on the archaeological resource.

Potential impacts to archaeology and heritage during the construction phase of the wind farm proposal relate to site preparation, operation of vehicles and machinery and the installation of infrastructure. This may involve earthworks and excavations and vegetation clearing.

### 6.1 Proposed Impacts

The proposal would involve the construction, operation, and decommissioning of the wind farm. The proposed impact areas are shown in Figures 2, 3, 4 and 5. Up to 128 wind turbine generators are proposed. Each turbine would have three blades likely to be up to 112m diameter mounted on a tubular steel tower up to 100 metres high, with capacity between 1.5 and 3.6 MW.

The proposal would involve the following construction:

- Electrical connections between wind turbines and on-site substations, which would be a combination of underground cable and overhead power lines;
- Onsite control buildings and equipment storage facilities for each precinct;
- A temporary concrete batching plant at each precinct;
- Access roads within the precincts in addition to minor upgrades to access on local roads, as required, for the installation and maintenance of wind turbines;
- A number of freestanding permanent monitoring masts for wind speed verification and monitoring.

A description of the individual components and their related impacts are outlined as follows:

#### *Turbines*

The ground disturbance associated with each turbine will include the construction of reinforced concrete footings excavated to a maximum size of 15 x 15 metres. A hardstand area adjacent to the turbine footings which could measure up to 40 x 20 metres is required for a crane. A delivery area for the various components is also necessary. In most cases it is anticipated that the turbine access track could be used as a delivery area. Each tower will have a transformer which will be housed either within the base of the tower, in the nacelle (located on the tower), or adjacent to the tower as a small pod mount transformer.

#### *Electrical Connections*

The onsite electrical works will include on-site power reticulation cabling (underground and overhead) linking the turbines to a Substation. Underground cabling is proposed between the turbines, with overhead cabling proposed in some locations to connect the turbines to the substation and/or the existing transmission system. Underground cabling would be laid out in trenches measuring 1 - 1.5 metres deep and 0.5 - 1 metres wide and where possible the trench routes will follow access tracks, with short spur connections to each turbine. Overhead cabling would require an easement of c. 40 - 60 metres wide and would be erected on 30 - 40 metres high single steel or concrete poles spaced 150 - 300 metres apart, with spans avoiding all wet areas. Postholes would be 3 - 5 metres deep and c. 3 - 5 metres in diameter.

#### *Substation*

A substation is required to convert power from onsite reticulation voltage to a transmission voltage of 132kV suitable to connect to the existing 330 kV transmission system. The substation would occupy an area measuring c. 250 x 250 metres. The substation would be fenced and the ground covered with crushed rock and partly by concrete pads for equipment, walkways and cable covers.

#### *On-site Control and Facilities Building*

An on-site Control and Facilities Building which will house instrumentation, control and communications equipment is proposed. The building would measure up to 25 x 15 metres and would be built on a concrete slab. Control and communications cabling is also required to extend

from the Control and Facilities Building to each turbine and to the site Substation. The control cabling will be installed using the same method and route as the power cabling.

## 6.2 Type of Harm

The proposed works would entail ground disturbance and, accordingly, the construction of the wind farm has the potential to cause impacts to any Aboriginal areas, places or objects which may be present within the zones of direct impact.

Impacts will be located on land currently utilised for sheep grazing. Previous land use has resulted in relatively significant environmental impacts and a generally degraded landscape. European activated geomorphological processes and other natural processes associated with land degradation, will have caused significant prior impacts to Aboriginal objects within the proposal area.

However, irrespective of prior impacts the proposed works entail ground disturbance and accordingly the project has the potential to cause additional impacts to any Aboriginal objects which may be present within the individual components of the proposal. The nature of impacts relating to each Aboriginal object locale is set out below in Table 4. At this time it is uncertain whether or not impacts would occur to AHIMS site 51-4-0058 on Flakeney Creek Road. If they were however, to upgrade the road for access, impacts would be direct and partial in nature; there would be partial loss of value only.

Table 4 Impact Assessment.

Survey Unit and Aboriginal object locale	Type of harm	Degree of harm	Consequence of harm
SU1	Nil	n/a	n/a
SU2	Nil	n/a	n/a
SU3 including: SU3/L1 SU3/L2	Direct	Partial	Partial loss of value
SU4 including: SU4/L1	Direct	Partial	Partial loss of value
SU5	Nil	n/a	n/a
SU6 including: SU6/L1	Direct	Partial	Partial loss of value
SU7 including: SU7/L1	Direct	Partial	Partial loss of value
SU8 including: SU8/L1	Direct	Partial	Partial loss of value
SU9	Nil	n/a	n/a
SU10	Nil	n/a	n/a
SU11	Nil	n/a	n/a
SU12	Nil	n/a	n/a
SU13	Nil	n/a	n/a
SU14	Nil	n/a	n/a
SU15 including: SU15/L1	Direct	Partial	Partial loss of value
SU16	Nil	n/a	n/a
SU17 See section 7 re. SPAs	Nil	n/a	n/a
SU18 including: SU18/L1	Direct	Partial	Partial loss of value
SU19	Nil	n/a	n/a
SU20	Nil	n/a	n/a
SU21 including: SU21/L1	Direct	Partial	Partial loss of value
SU22	Nil	n/a	n/a
SU23 including:	Direct	Partial	Partial loss of value



Survey Unit and Aboriginal object locale	Type of harm	Degree of harm	Consequence of harm
SU23/L1 SU23/L2 SU23/L3			
SU24 including: SU24/L1	Direct	Partial	Partial loss of value
SU25	Nil	n/a	n/a
SU26	Nil	n/a	n/a
SU27 See Section 7 re. SPA	Nil	n/a	n/a

## 7. AVOIDING AND/OR MINIMISING HARM

The principles of ecologically sustainable development and the matter of cumulative harm have been considered for this project. The area is in a vast rural region and hence existing and future impacts are low, despite the construction of numerous wind farms in the region. The majority of cultural values, including archaeological, which attach to the landform and the broader landscape remain intact across the region.

Avoidance or the mitigation of harm has been considered as an option in relation to the proposed activities. However, the cultural and archaeological heritage significance of the proposal area has not been assessed to be of sufficient significance to warrant the implementation of avoidance or impact mitigation strategies (the exception to this is in regard to the 3 SPAs – see below). However, a number of management strategies are possible and these are each given consideration below.

### 7.1 Management and Mitigation Strategies

#### *Further Investigation*

The field survey has been focused on recording artefactual material present on visible ground surfaces. Further archaeological investigation would entail subsurface excavation undertaken as test pits for the purposes of identifying the presence of artefact bearing soil deposits and their nature, extent, integrity and significance.

Further archaeological investigation in the form of subsurface test excavation can be appropriate in certain situations. These generally arise when a proposed development is expected to involve ground disturbance in areas which are assessed to have potential to contain high density artefactual material and when the Effective Survey Coverage achieved during a survey of a project area is low due to ground cover, vegetation etc.

No areas of the proposal area have been identified which warrant further archaeological investigation in order to formulate appropriate management and mitigation strategies. Based on a consideration of the predictive model of site type applicable to the environmental context in which impacts are proposed, the archaeological potential of the proposed impact areas is assessed not to warrant further investigation. It has not been demonstrated that Aboriginal objects with potential conservation value have a high probability of being present in the subject area. Accordingly, test excavation conducted under OEHL's *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010: 24) is not necessary.

Furthermore, the environmental context in which impacts are proposed contain highly eroded landforms, most of which are weathered to bedrock. Accordingly, subsurface excavation is impractical.

#### *Conservation*

Conservation is a suitable management option in any situation, however, it is not always feasible to achieve. Such a strategy is generally adopted in relation to sites which are assessed to be of high cultural and scientific significance, but can be adopted in relation to any site type.

In the case at hand, avoidance of impacts (or minimisation of impacts) in regard to the recorded artefacts locales is not considered to be warranted. Such a strategy, would in any case, likely result in impacts to other Aboriginal objects (as predicted) which may not have been recorded because of subsurface incidence or lack of obtrusiveness.

However, in respect of the three possible SPAs, it is recommended, that given the possibility that they are stone procurement areas which would have elevated archaeological and cultural significance, these should be avoided during construction. An active strategy of impact avoidance

would need to be implemented in order to ensure their conservation, and this is considered to be warranted. The alternative would be to conduct further investigation which would entail excavation and specialised analysis to determine their actual artefactual status or otherwise.

*Mitigated Impacts*

Mitigated impact usually takes the form of partial impacts only (i.e. conservation of part of an Aboriginal artefact locale or Survey Unit) and/or salvage in the form of further research and archaeological analysis prior to impacts. Such a management strategy is generally appropriate when Aboriginal objects are assessed to be of moderate or high significance to the scientific and/or Aboriginal community and when avoidance of impacts and hence full conservation is not feasible. Salvage can include the surface collection or subsurface excavation of Aboriginal objects and subsequent research and analysis.

It is assessed that the archaeological resource in the proposal area does not surpass significance thresholds which warrant any form of impact mitigation in this regard. However, note recommendations above under heading *Conservation* in regard to the three SPAs.

*Unmitigated Impacts*

Unmitigated impact to Aboriginal objects can be given consideration when they are assessed to be of low archaeological and cultural significance and otherwise in situations where conservation is simply not feasible.

The Aboriginal object locales identified have been assessed to be of low cultural and archaeological heritage significance. The AHIMS site #51-4-0058 is likewise assessed to be of low archaeological heritage significance. In addition, any undetected or subsurface artefacts are likewise assessed to be of low archaeological sensitivity. Given the nature and artefact density in the proposal area, and the low scientific significance rating they been accorded, unmitigated impacts are appropriate.



## 8. STATUTORY INFORMATION

The NPW Act provides statutory protection for all Aboriginal objects and Aboriginal Places.

An 'Aboriginal object' is defined as

'any deposit, object or material evidence (not being a handicraft for sale) relating to Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains'.

An Aboriginal place is an area declared by the Minister to be an Aboriginal place for the purposes of the Act (s84), being a place that in the opinion of the Minister *is or was of special significance with respect to Aboriginal culture*.

Under s90 of the NPW Act a person must not destroy, damage or deface or knowingly cause or permit the destruction, damage or defacement of an Aboriginal object or Aboriginal Place without first obtaining the s90 consent Aboriginal Heritage Impact Permit (AHIP). Consents which enable a person to impact an Aboriginal object are issued by the OEH upon review of a s90 Aboriginal Heritage Impact Permit application.

Under Section 89J of the Environmental Planning and Assessment Act 1979, the following authorisations are not required for State significant development that is authorised by a development consent granted after the commencement of this Division (and accordingly the provisions of any Act that prohibit an activity without such an authority do not apply):

- an Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974.

## 9. RECOMMENDATIONS

The following recommendations are made on the basis of:

- A consideration of the relevant section of the Environmental Planning and Assessment Act (see Section 8 Statutory Information).
- The results of the investigation as documented in this report.
- Consideration of the type of development proposed and the nature of proposed impacts.
- The discussion in Section 7 regarding impact mitigation and management.

The following recommendations are provided:

- The proposal area does not warrant further archaeological investigation such as subsurface test excavation.
- The 13 recorded Aboriginal object locales and the predicted very low density subsurface artefact distribution in the proposal area does not surpass archaeological significance thresholds which would act to preclude the proposed impacts.
- The 13 recorded Aboriginal object locales are assessed to be representative of a very low density distribution of stone artefacts. The cultural and archaeological heritage significance of these locales is assessed to be low. Accordingly, unmitigated impact is considered to be appropriate. A management strategy of impact avoidance is not warranted, except in respect of the three quartz outcrops. It is recommended also, that the three European heritage items are avoided during construction.
- There are no identified Aboriginal archaeological and cultural constraints relating to the proposal.
- It is recommended that additional archaeological assessment is conducted in any areas which are proposed for impacts that have not been surveyed during the current assessment. It is predicted that significant Aboriginal objects can occur anywhere in the landscape and, accordingly, they need to be identified and impact mitigation strategies implemented prior to impacts.
- The proponent should, in consultation with an archaeologist, develop a Cultural Heritage Management Plan. The development of an appropriate Cultural Heritage Management Plan should be undertaken in consultation with an archaeologist, the registered Aboriginal parties and the NSW Office of Environment and Heritage.

The Cultural Heritage Management Plan would set out procedures relating to the conduct of additional archaeological assessment, if required, and the management of any Aboriginal cultural heritage values which may be identified.

- Personnel involved in the construction and management phases of the project should be trained in procedures to implement recommendations relating to cultural heritage, as necessary.
- Cultural heritage should be included within any environmental audit of impacts proposed to be undertaken during the construction phase of the development.

## 10. REFERENCES

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## GLOSSARY

**Aboriginal object** - A statutory term, meaning: ‘... any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains’ (s.5 NPW Act).

**Declared Aboriginal place** - A statutory term, meaning any place declared to be an Aboriginal place (under s.84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal objects.

**Development area** - Area proposed to be impacted as part of a specified activity or development proposal.

**Harm** - A statutory term meaning ‘... any act or omission that destroys, defaces, damages an object or place or, in relation to an object – moves the object from the land on which it had been situated’ (s.5 NPW Act).

**Place** - An area of cultural value to Aboriginal people in the area (whether or not it is an Aboriginal place declared under s.84 of the Act).

**Proponent** - A person proposing an activity that may harm Aboriginal objects or declared Aboriginal places and who may apply for an AHIP under the NPW Act.

**Proposed activity** - The activity or works being proposed.

**Subject area** - The area that is the subject of archaeological investigation. Ordinarily this would include the area that is being considered for development approval, inclusive of the proposed development footprint and all associated land parcels. To avoid doubt, the subject area should be determined and presented on a project-by-project basis.

APPENDIX 1 OEH AHIMS RESULTS

Your Ref Number : Rye Park WF  
Client Service ID : 67566

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	Site Features	Site Types	Reports
51-6-0099	Rye Park Pioneer Cemetery <b>Contact</b>	AGD	55	676900	6178000	Open site	Valid	Burial :-	Burial/s	
51-4-0058	Flakemey Creek <b>Contact</b>	AGD	55	680880	6168786	Open site	Valid	Artefact :-		Permits
51-4-0053	Flakemey Creek 1 <b>Contact</b>	AGD	55	677180	6171760	Open site	Valid	Modified Tree (Carved or Scarred) :-		Permits
	<b>Contact</b>			Petra Schell						Permits

Report generated by AHIMS Web Service on 11/04/2012 for Julie Dibden for the following area at Datum :GDA, Zone : 55, Eastings : 672000 - 690000, Northings : 6147000 - 6189000 with a Buffer of 50 meters. Additional Info : Archaeological assessment. Number of Aboriginal sites and Aboriginal objects found is 3  
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 2 EUROPEAN HERITAGE

### Local Historical Context

#### *European Exploration and Settlement*

A party led by Hamilton Hume is attributed as being the first Europeans to arrive in the Yass district. From the early age of 17, Hume had taken to exploring and over the course of several expeditions, setting out from his home at Appin, he had travelled to the regions of Bong Bong, Moss Vale, the Shoalhaven River, and the western side of the Blue Mountains. In 1821, at the age of 24, Hume and his accompanying party ventured to areas north-west of Lake George. Travelling across the Cullerin Range they headed towards the headwaters of the Lachlan River, camping overnight near present day Gunning, before then heading south-west and encountering the Yass plains which, near the junction of the Yass River and Murrumbateman Creek, had been 'freshly burnt by blacks'. Hamilton Hume, along with his brother John Kennedy Hume, his brother-in-law George Barber, and William Henry Broughton, subsequently staked out substantial land claims in the region. Hume established his first station 'Wollawardella' on good land at Lerida Creek in the Gunning district and it was from here, just three years later in 1824, that Hume set out with Captain William Hovell on their celebrated expedition to explore an overland route from Sydney to Port Philip (Jackson-Nakano 2002). Meanwhile, William Henry Broughton took up one of the first landholdings on the Boorowa River which by 1849 had been expanded to encompass squattings totalling some 5,400 hectares in area.

Following Hume's first expedition, Henry O'Brien made one of the first applications to graze cattle in the Yass area. This was soon followed by his brother Cornelius. Henry was also one of the first settlers in the region, settling at Douro. Early stations in the district were "Henry O'Brien's, Barber's, Belle Vale, Terry's Kenilworth, Dr Harris at Underaligo, Hume's at Gunning and Broughton's at Burrowa (Boorowa)" (Bayley 1973: 17). During these early years the area around Yass and beyond also began to be squatted, with crude huts of these first European settlers beginning to dot the landscape, erected by landowners to house their workers and 'Government servants' (convicts) (Jackson-Nakano 2002). By 1830, Ned Ryan had settled at Galong, James Roberts at Currawong and Dr John Harris at Callangan (HMDHA n.d.). Hume received various land grants for his efforts in exploration and in 1829 he selected land on the Yass River at Borroo Springs (Bayley 1973; Irving 1982; Mission Australia 2000). He later bought Cooma Cottage and 100 acres of Cornelius Brown's original 960 acre grant. Hume and his descendants lived at Cooma Cottage until at least the late 1870s.

The nineteen counties, which corresponded to the areas of permissible settlement in New South Wales, were defined by Governor Sir Ralph Darling in 1829. In the south-west, the limits were marked by a plough line across the Port Philip track at Bowning Hill, just to the west of Yass; this point was known as the Limits of Location. Yass was located just inside these limits. However, there was nothing to physically stop settlement expanding beyond Yass. The lands beyond were squatted on for grazing cattle and were effectively outside the jurisdiction of the Empire. This situation was changed in 1837, however, when squatting licences were introduced (Maher 2003). On an expedition outside the 19 counties in 1836, Major Mitchell noted:

1836, Oct. 27 ... we had arrived on the Murrumbidgee River, 75 miles below where the river quitted the settled districts ... I found the upper portion of this fine stream fully occupied as cattle stations ...

Between 1836 and 1840, a small number of European settlers started occupying land in the region of present day Rye Park. John James Howell is said to have been one of the first people to arrive in the Boorowa district at some time between 1825 and 1827. Thereafter, heading south-east following the course of Pudman Creek, he occupied a portion of land, described as a huge property, which he named 'Arkstone Forest' (at a later date the name was changed to 'Springfield'). John James Howell

married Lucy Hassall following the death of her first husband, and together they resided at the Arkstone house, described as a two-storey brick building with numerous associated sheds and outbuildings. John James Howell died in 1847 but his wife Lucy continued to running the property for a further six years with the aid of her son James Mileham Hassall. Later, the minister Robert Cartwright resided at 'Arkstone Forest' for a period of some 18 years before relocating to Collector (Alcorn 1976; Stewart and Hassall 1998, Lloyd 1990).

When John James Howell's nephew, William P. Howell, arrived in the colony from England in 1837, he took up residence with his uncle at 'Arkstone Forest'. Not long after, William Howell married Elizabeth Hassall, the daughter of Lucy and stepdaughter of his uncle John James Howell. In 1840 William also took up additional land at Pudman Creek, which he called 'Llangrove'. William, an ambitious young man, thereafter controlled the squatting rights of both the Hassall and Howell families in the Rye Park area and proceeded to develop the property. In 1843 he and Elizabeth built the substantial 'Llangrove' house, which still stands. They obtained freehold over the property in 1851, at which time it was comprised of 1,200 acres, and lived out their retirement together on the estate, both passing away in 1860 (Alcorn 1976; Stewart and Hassall 1998).

In 1861, Sir John Robertson, the Minister of Lands, introduced legislation (Crown Lands Occupation Act 1861 and Crown Lands Alienation Act 1861) to allow selection of land by any person under certain conditions, at a set price of one pound per acre. One quarter of the purchase price was required with the balance deferred as long as certain conditions were met. This legislation set minimum and maximum sizes for portions as well as orientation and boundary proportions. Selection could also take place prior to survey. The intention of this legislation was to allow access to land on fair and easy terms and promote closer settlement throughout the colony (Carter 1994: 21). Prior to 1860, apart from the notable Howell and Hassall families, only another two or so Europeans had settled in the Rye Park district. However, with the passing of the Robertson Land Act in 1861 allowing settlers to select land at reasonable prices, combined with an influx of dissoluted goldminers, particularly from the Young goldfields, vacant land was suddenly being taken up with fervour. By 1867, most of the better land throughout the district had been selected (Alcorn 1976).

After the death of William and Elizabeth, 'Llangrove' was subsequently purchased by the Hume family and run by Andrew Hamilton Hume, the nephew of Hamilton Hume, who changed the name of the property to 'Everton'.

#### *Mining and other developments*

The search for minerals in Australia began soon after the arrival of the First Fleet. Initial reports of gold were, however, suppressed due to fears of effects the news might have on the convicts (Kearns 1980). The first official report of gold in New South Wales was at Fish River between Rydal and Bathurst in 1823 by James McBrien, a Land Department Surveyor. At that time mining was still not a priority for the colony, however, following the emigration of settlers to the gold rush in California in 1849 the government realised the need to identify substantial gold deposits at home to reverse the migration. A reward was offered for the discovery of payable gold and in April 1851, John Lister and William Tom made the first report of payable gold at the junction of Lewis Ponds and Summer Hill Creeks, Ophir near Bathurst. Thus began the Australian gold rush which provided the first impetus for substantial growth in the country. Within the next ten years, population grew in New South Wales from 197,265 to 350,860. The gold rush also affected demography, with a substantial increase in non-Anglo immigrants such as those from Germany, France, America, and China. Initial finds were alluvial deposits, although with time reef gold was also identified and mined. From 1851 to 1948, New South Wales contributed 8.5% of Australia's gold production (Department of Mineral Resources 1994: 3-4).

With the onset of the gold rush and attention suddenly focused on that pursuit, reports of discoveries of gold from all over the countryside became frequent. In response, a large proportion of the population took to the road, making their way from one reported goldfield to another. The Goulburn Herald of 1 May 1851 noted that '... everybody in Yass has left for the diggings, only five



adults are left, and three of them are going prospecting next week'. As a result of this frenzy, in 1852 the roads through Boorowa were described as being abuzz with a myriad of miners moving from one field to another. In that same year a few specks of gold were reportedly found near Anns Vale, east of Boorowa, and a small nugget in Pudman Creek (Lloyd 1990: 247).

It nevertheless soon became apparent, however, that despite numerous finds in other regions, there were no rich goldfields to be exploited in the Boorowa and Rye Park district. Instead, copper and the accompanying minerals, lead and silver, formed the basis of the local mining industry in the area. The Walla Walla Copper Mines, located six kilometres north-west of Rye Park, is indicated to have actually begun operation prior to the 1951 gold rushes, some seven months earlier in 1850. As such, it is one of the oldest mining sites in New South Wales. The initial owners purchased the land and commenced mining the copper ore with significant success, but when gold fever took hold in the colony it rendered the cost of labour so prohibitive that the owners had no choice but to cease working the mine (Register of the National Estate database records). This mine appears to have reopened by 1872, during a period of what Lloyd (1990) calls 'copper mania' which apparently struck the Rye Park region at this time. Lloyd (1990) indicates that it was a Mr. H Wilson who was the first person to discover copper at the Walla Walla mine, and that soon after the Walla Walla Copper Joint Stock Company was formed over 60 acres of purchased land comprised of 200 mineral leases situated at 'Bidgemuninga' on Pudman Creek. This mining area showed good returns before eventually drying up and the company becoming insolvent in 1903.

The similarly named Wallah Wallah Silver and Lead Mine and Smelter is located about 4.5 kilometres to the east of the Rye Park township. To date it is the only example of a lead and silver smelter found in the region. Today the Wallah Wallah Silver and Lead Mine consists of several deep shafts, and an extensive body of mullock, slag and ore waste, and the smelter site (Register of the National Estate database records).

Lloyd (1990) describes other mines in the district, including one located on the 'Everton' property, which is indicated from 1881 to have produced silver as well as a small amount of gold. Given its location there is some possibility that this refers to the Wallah Wallah Silver and Lead Mine. Later, in 1926, deposits of tungsten, wolfram, molybdenum and bismuth were also discovered in the Rye Park area. These rare metals were mined extensively in the district up until 1957, at which time this mining activity ceased (Lloyd 1990).

#### *Agricultural Industry*

Agriculture, and particularly the wool industry, has had a central role in the European history of the Rye Park district. Since the early 1800s, superfine merinos have been produced in the broader district, including Goulburn, Gunning and Yass (DPWS HDS 2001). Hume himself bred merinos, and others such as George Merriman at the Ravensworth Stud were instrumental in the development of the wool industry. With the introduction of the Robertson Land Acts in the 1860s, there was fierce competition for land between the original squatters and the new selectors trying to establish themselves in the region. By the late 1870s, most of the big runs had been replaced to some extent by smaller freehold properties, although many of the squatter families continued to be very influential in the agricultural industry. At 'Everton', the nephew of Hamilton Hume, Andrew Hamilton Hume, had set about expanding the property through a series of land purchases and over time he had increased the size of the property to 12,000 acres. Andrew Hamilton Hume established at 'Everton', a stud herd of merino sheep bred from 2,500 ewes he obtained from Hamilton Hume's 'Humewood' property in 1865. Under the stewardship of Andrew Hamilton Hume and his eldest son Hamilton Rawdon Hume, the 'Everton' stud amassed more than 218 national and international awards (Thistleton 2012). Even today, the descendants of the early pioneers are still producing much of the wool that continues to gain international awards (DPWS HDS 2001).

Historical Register Searches

Searches have been conducted for previous heritage listings in and around the study area; these searches have included all of the relevant heritage registers for items of local through to world significance. Details of these searches are provided below.

*Australian Heritage Database*

This database contains information about more than 20 000 natural, historic and Indigenous places.

A search of this database (13 June 2012) revealed that there is 2 items listed on the Register of the National Estate (RNE) as being in or near the proposed Rye Park area; a summary of the search results is provided below in Table 1. Neither of these items are in the Rye Park Wind Farm study area, although the Wallah Wallah Silver and Lead Mine and Smelter is in reasonably close proximity.

Table 1 Australian Heritage Database Search Results.

Heritage Item	Location	Register and Status
Walla Walla Copper Mines	Rye Park, NSW, Australia	Register of the National Estate (Non statutory archive)
Wallah Wallah Silver and Lead Mine and Smelter	Rye Park, NSW, Australia	Register of the National Estate (Non statutory archive)

Of itself listing on the Register of the National Estate does not afford legal protection for a heritage item. None of the abovementioned identified items listed on the Register of the National Estate are included in another Commonwealth statutory heritage list and as such are not afforded protection under the EPBC Act.

*State Heritage Inventory*

The NSW heritage database contain over 20,000 statutorily-listed heritage items in New South Wales. This includes items protected by heritage schedules to local environmental plans (LEPs), regional environmental plans (REPs) or by the State Heritage Register.

The information is supplied by local councils and State agencies and includes basic identification details and listing information. Consequently listings should be confirmed with the responsible agency.

The Rye Park Wind Farm falls within the boundaries of three local council areas, they being Boorowa Council, Upper Lachlan Shire Council and Yass Valley Council. A search of this database in relation to all three council areas (13 June 2012) revealed no listings that were in the vicinity of the proposed Rye Park Wind Farm study area.

*National Trust of Australia (NSW) Register*

The National Trust of Australia (NSW) is a non-government Community Organisation which promotes the conservation of both the built and natural heritage (for example, buildings, bushland, cemeteries, scenic landscapes, rare and endangered flora and fauna, and steam engines may all have heritage value). The Trust has approximately 30,000 members in New South Wales.

A search of the National Trust of Australia (NSW) Register (13 August 2012) revealed that there is only one item in the vicinity of the Rye Park Wind Farm proposal area that is currently listed with the National Trust (Table 2). The item in question is the property 'Everton', formerly 'Llangrove', which is outside the Wind Farm study area.

Table 2 National Trust of Australia (NSW) Register search results.

Item name	Address	LGA
Everton formerly Llangrove	Rye Park	Boorowa

*Historical Themes*

A historical theme is a way of describing a major historical event or process that has contributed to the history of NSW. Historical themes provide the background context within which the heritage significance of an item can be understood. Themes have been developed at National and State levels, but corresponding regional and local themes can also be developed to reflect a more relevant historical context for particular areas or items.

The table below (Table 3) summaries the historical themes that are applicable to the Rye Park study area.

Table 3 National, state and local historical themes applicable to the study area and surrounds.

Australian Theme	NSW Theme	Local Theme	
Peopling Australia	Aboriginal cultures and interactions with other cultures	Day-to-day life	
		Mythological and ceremonial	
		Natural resources	
		Contact period	
Developing local, regional and national economies	Agriculture	Fencing	
		Sheds	
		Pasture	
		Water provision	
		Farmsteads	
		Shearing	
		Machinery	
	Commerce	Commerce	Banking
			Trade routes
			Shops
			Inns
	Communication	Communication	Postal services
			Telephone and telegraph services
			Newspapers
			Transport networks
	Environment – cultural landscape	Environment – cultural landscape	Tree plantings
			Picnic areas
	Events	Events	Floods
	Exploration	Exploration	Camp sites
			Exploration routes
			Water sources
	Industry	Industry	Mills
			Shearing sheds
			Workshops
			Transport network
	Mining	Mining	Prospecting
			Mine claims
			Extraction of ores
			Processing plants
			Transport of supplies and ore

Australian Theme	NSW Theme	Local Theme	
		Mining settlements	
		Mining equipment/machinery	
		Mining landscapes	
	Pastoralism		Pastoral homesteads
			Sheds and yards
			Travelling stock reserves
			Fencing and boundaries
			Pastoral workers' camps
			Water sources
	Technology		Communication networks
			Processing of ores
	Transport		Railways
			Early roads
			Private tracks
			Coaches and teamsters
Bridges			
Building settlements, towns and cities	Towns, suburbs and villages	Town plan	
		Neighbourhoods	
	Land tenure		Fencing and other boundary markers
			Mining lease markers
			Trig stations
	Utilities		Water distribution
			Garbage disposal
			Sewage/septic systems
			Provision of electricity
			Bridges
	Accommodation		Culverts
			Inns and hostels
			Domestic residences
			Temporary encampments
			Homesteads
	Developing Australia's cultural life	Domestic life	Humpies
			Domestic artefact scatters
			Residences
Food preparation			
Gardens			
Leisure			Domesticated animals
			Show grounds
			Picnic/camping areas
			Racecourse
			Scenic lookouts
			Town halls
Religion			Tourism
			Churches
Social institutions			Public hall
			Social groups/associations
Sport			Sports grounds
			Sports teams
Marking the phases of life		Birth and death	Graves
	Persons	Individual monuments	
		Significant individuals/families	



Australian Theme	NSW Theme	Local Theme
		Place names

Predictive Statements

As the above table indicates, there is an array of themes and hence potential site types that might occur in and around the Rye Park Wind Farm study area, although many of these correspond to heritage items in urban contexts. Given that there are no known historical villages or towns within the proposal area it is unlikely that most of these themes will be represented within the proposed turbine envelopes and other areas of direct impacts. There is, however, potential for sites associated with agriculture, such as fences, stockyards, sheep folds, sheds, ploughfields and water tanks. More generally there is the potential for roads, tracks and paths. There is also some potential for evidence of small mining ventures, including shafts, mullock heaps and costeans. However, given that the majority of impacts associated with the proposed wind farm are located on exposed ridge tops, the potential for evidence of early settlement, such as homesteads and huts, is relatively low.

Results

Three European heritage items have been recorded in the vicinity of proposed impacts, as listed in Table 5 and described below.

Table 5 List of European Heritage Items

Name	Comments	Easting	Northing
SU16/H1	Harvester	680511	6173417
SU24/H1	Costean	679992	6179258
See below	Mine	680190	6179520

SUI6/H1

The harvester is located under a tree on the High Rock property (see Plate 1). It is in good condition. The significance of this item is not sufficient to warrant heritage listing. While in the general vicinity of a proposed transmission line, the harvester is unlikely to be impacted, however, measures should be undertaken to ensure that it is not.



Plate 1 Harvester – SUI6/H1.

SU24/H1

This costean, or exploratory digging, is located on the crest of a ridge (SU24) – see Plate 2. It measures c. 16 x 7 m in total area, including the trench and mullock on either side. The trench is 0.7 – 1 m deep. The significance of this item is not sufficient to warrant heritage listing. It is in the area of a proposed track and could be impacted. Measures should be undertaken to ensure that it is not.

It is noted also that a mine site, not inspected during the survey, is present near to the costean (350 m to the north-east). Its location has been determined via the topographic map. Its grid coordinate is 680190.6179520.



Plate 2 SU24/H1 Costean