VIEW ALONG A SECTION OF THE PROPOSED PIPELINE ALIGNMENT.

ABORIGINAL DUE DILIGENCE ARCHAEOLOGICAL ASSESSMENT

GREATER RAVENSWORTH TAILINGS PIPELINE

SINGLETON LOCAL GOVERNMENT AREA

NOVEMBER 2015

REPORT PREPARED BY

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Acknowledgement

OzArk acknowledge Traditional Owners of the area on which this assessment took place and pay respect to their beliefs, cultural heritage and continuing connection with the land. We also acknowledge and pay respect to the post-contact experiences of Aboriginal people with attachment to the area and to the elders, past and present, as the next generation of role models and vessels for memories, traditions, culture and hopes of local Aboriginal people.

EXECUTIVE SUMMARY

Glencore Coal Pty Limited (the Proponent) is proposing a development modification from the NSW Minister for Planning or their delegate for a modification to each of Ravensworth Operations (PA 09_0176), Liddell Coal Operations (DA 305-11-01) and Ravensworth East (DA 52-03-99) planning approvals.

Modification is sought under section 75(W) of the *Environmental Planning and Assessment Act 1979* and will, in part, include the following:

- Construction of an approximately 11km tailings pipeline network connecting both the Ravensworth Coal Handling and Preparation Plant and Liddell Coal Handling and Preparation Plant to the West Pit Void at Ravensworth East; and
- Construction of a Flocculant Plant within the vicinity of the West Pit Void at Ravensworth East, to allow flocculants to be mixed with tailings immediately prior to deposition in the emplacement area, a process known as secondary flocculation.

For the purposes of this report, these constructions constitute those aspects of the development modification (the Modification) that have potential to impact Aboriginal cultural heritage sites and/or items.

OzArk Environmental & Heritage Management (OzArk) has been engaged to complete an Aboriginal Due Diligence archaeological assessment of the Modification. The current assessment applies *Due Diligence* to those portions of the Study Area to which it is determined appropriate, and ensures that those areas which require further investigation as per the *Code of Practice for the Investigation of Aboriginal Objects in New South Wales* are examined as such.

A field inspection of the Study Area (as defined in **Section 1.3**) took place on 9 July 2015 by an archaeologist from OzArk. No new sites of Aboriginal heritage were recorded. Two areas of archaeological sensitivity were identified (**Figure 6−1**). Section 2 of the Study Area was assessed at a desktop level only.

Recommendations concerning the Modification are as follows:

1. The Modification may proceed without further archaeological investigation under the following conditions:
    a) No impacts from the Modification should occur outside of the areas assessed in this report.
    b) No impacts from the Modification should occur within Sensitive Areas 1 and 2. To ensure that there are no inadvertent impacts to these areas, temporary fencing should be erected during construction at the following locations:
        i. Along the northern and southern boundaries of the Modification for the length of Sensitive Area 1; and

ii. Along the northern boundary of the Modification for the length of Sensitive Area 2.

2. Nardell N2 (37−3−0491) and Nardell N4 (37−3−0492) should be protected by taking the following precautions:
   a) Existing fencing at the sites should be visible and intact;
   b) Signage should be erected at regular intervals along the fencing of these sites to clearly identify that these areas are not to be entered; and
   c) The workforce should be inducted with the information that these areas are not to be entered.
3. OzArk shall notify AHIMS that site 37-3-0420 should be listed as 'destroyed' rather than 'valid'.
4. If unexpected remains are encountered during construction of the Modification that are suspected to be of Aboriginal cultural heritage, then, depending on the location of the find one of the following procedures should be followed:

   a) Should an individual mine where a suspected Aboriginal object is uncovered have an active Aboriginal Cultural Heritage Management Plan (ACHMP; i.e. Ravensworth Open Cut and Glendell Colliery), then the appropriate ACHMP provisions should be followed; or

   b) Should an individual mine where a suspected Aboriginal object is uncovered not have an active ACHMP then the *Unanticipated Finds Protocol* in **Appendix 2** should be followed.

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1 INTRODUCTION

1.1 BRIEF DESCRIPTION OF THE MODIFICATION

Glencore Coal Pty Limited (the Proponent) is proposing to construct an approximately 11km tailings pipeline network connecting both the Ravensworth Coal Handling and Preparation Plant and Liddell Coal Handling and Preparation Plant to the West Pit Void at Ravensworth East.

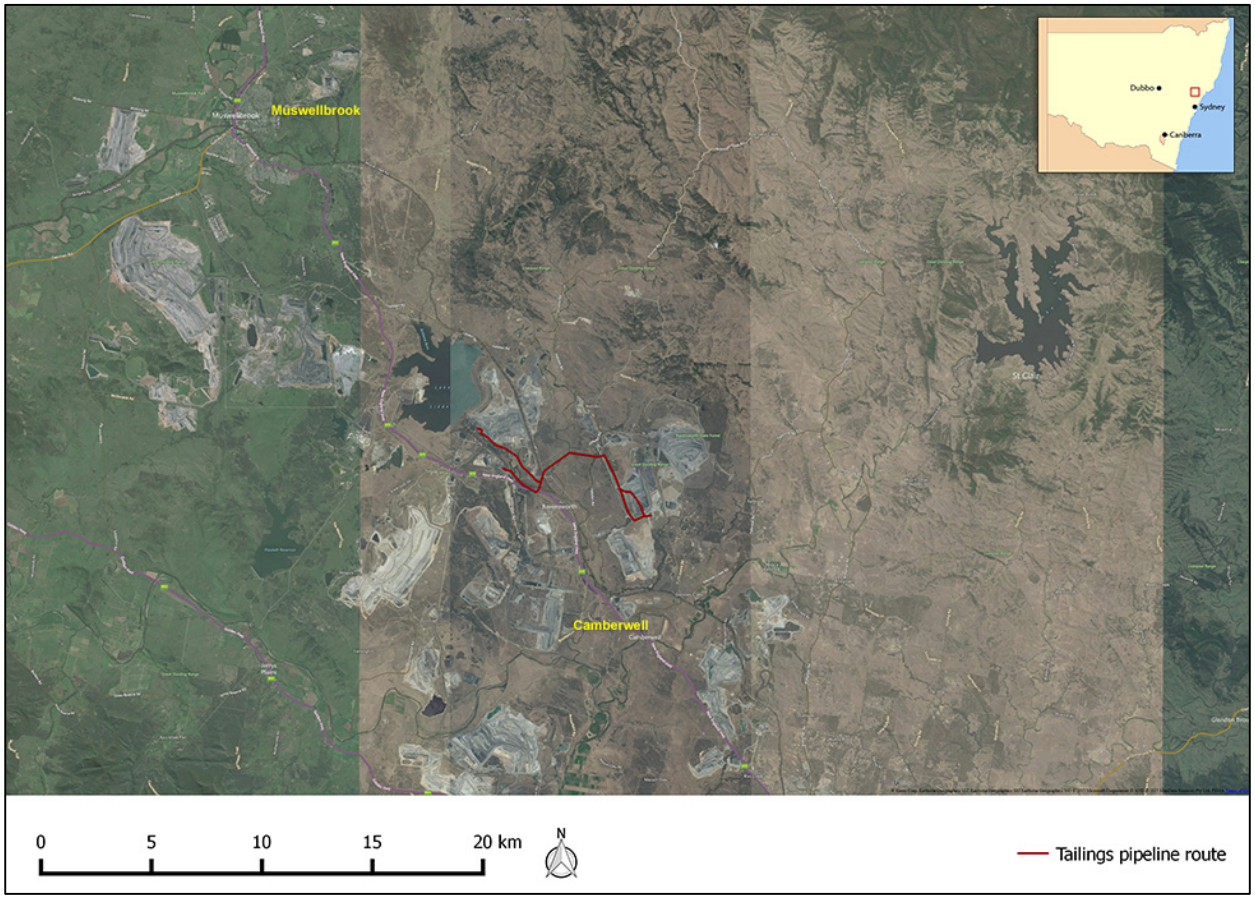
In addition the Proponent wishes to construct a Flocculant Plant within the vicinity of the West Pit Void at Ravensworth East, to allow flocculants to be mixed with tailings immediately prior to deposition in the emplacement area, a process known as secondary flocculation.

These proposed works are part of a development modification (the Modification) that is being sought under section 75(W) of the *Environmental Planning and Assessment Act 1979*.

The Modification is located in the Singleton Local Government Area (LGA; **Figure 1−1**) and will involve modification to the planning approvals for Ravensworth Operations (PA 09_0176), Liddell Coal Operations (DA 305-11-01) and Ravensworth East (DA 52-03-99).

OzArk Environmental & Heritage Management (OzArk) has been engaged to complete an Aboriginal Due Diligence archaeological assessment of the Modification.

Figure 1-1: Location of the Study Area.



1.2 PROPOSED WORKS

The Modification is designed to facilitate an integrated approach to tailings management across several of Glencore's adjoining upper Hunter Valley coal mining operations (the Greater Ravensworth Area).

The implementation of the proposed integrated tailings management strategy will result in Ravensworth Operations (Ravensworth West, Ravensworth North, Narama and previous Cumnock Mining Areas), the Mt Owen Complex (Mt Owen, Glendell and Ravensworth East Mining Areas) and Liddell Coal Operations realising each operation's life of mine tailings emplacement strategy in a sequential order. This Modification will provide for approved tailings emplacement areas to be decommissioned and rehabilitated in an orderly sequence rather than causing all tailings areas having to remain operational until the completion of mining at each individual mining complex.

The Modification will involve the construction of an interconnecting tailings pump and pipe network connecting both the Ravensworth Coal Handling and Preparation Plant (CHPP) and Liddell Coal CHPP to the West Pit Void at Ravensworth East. In addition, a Flocculant Plant within the vicinity of the West Pit Void at Ravensworth East is proposed (**Figure 1−2**; **Figure 1−3**).

The Modification will utilise existing infrastructure wherever possible, including existing creek crossings, pipeline and lineal infrastructure corridors. Pipework will be DN400 / PN20 / PE100 pipes, which are 400mm in diameter.

Existing access tracks will be utilised for the Modification. All projected disturbance associated with the Modification will be limited to surface impacts.

Figure 1-2: Alignment of the proposed tailings pipeline.

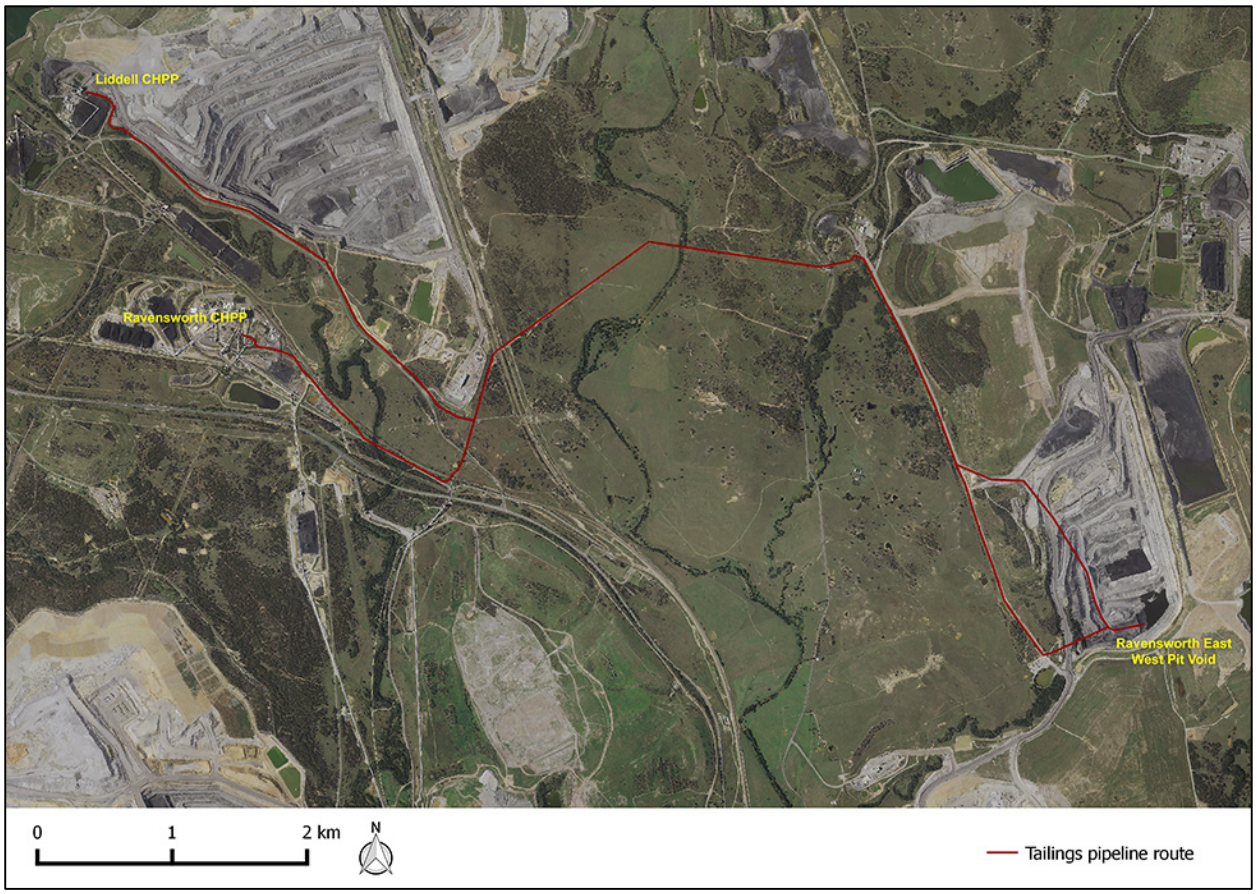
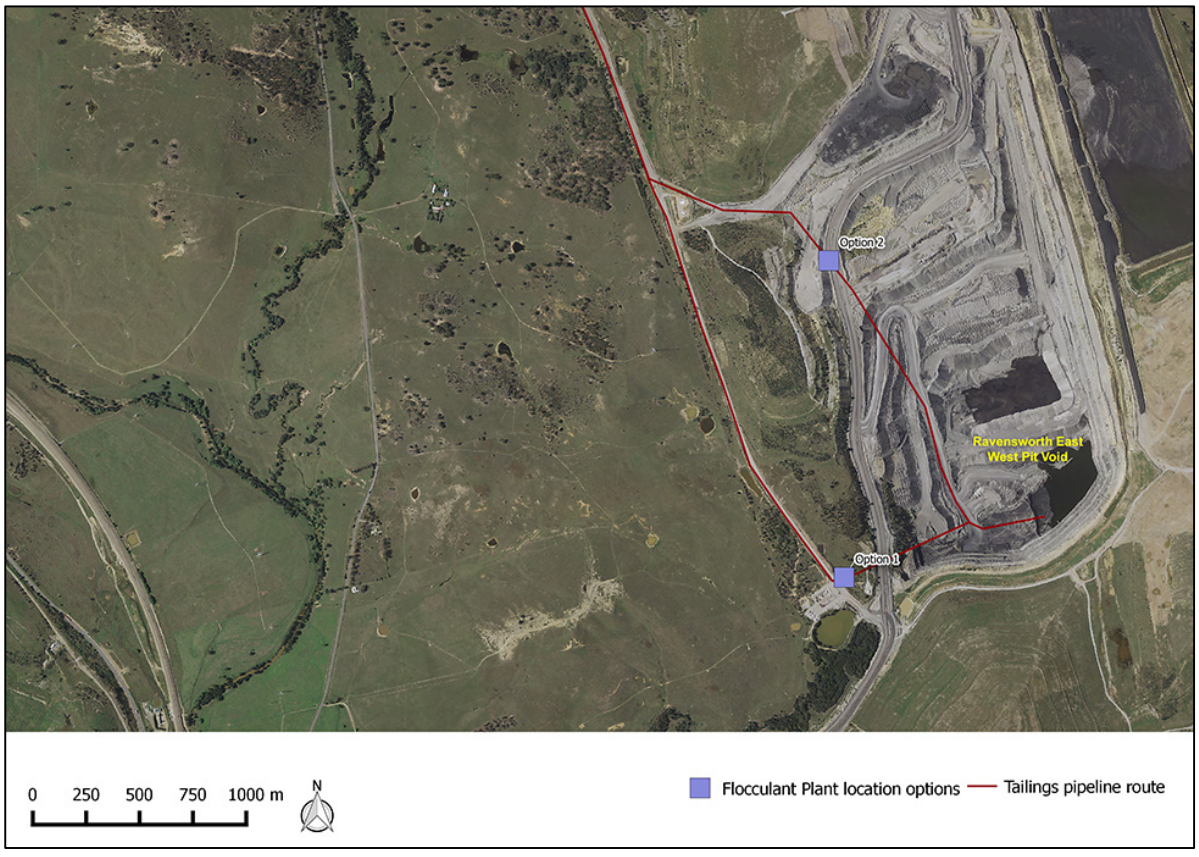


Figure 1-3: Options for the location of the Flocculant Plants.



1.3 STUDY AREA

The Study Area is a corridor approximately 11km-long and 20m-wide between the Ravensworth and Liddell CHPPs and the Ravensworth East West Pit Void approved tailings emplacement area. It includes a variety of landscapes and land uses. The Study Area overlaps with mining infrastructure along the entire route, with variable existing disturbances.

For the purposes of this assessment, the Study Area is divided into five sections based on land use (**Figures 1−4** to **1−7**). Sections 1a and 1b are the two options that pass through the Ravensworth CHPP. Section 2 is from the Liddell CHPP to the main line. Section 3 is east from Sections 1a, 1b and 2, crossing Bayswater Creek and Foy Brook (Bowmans Creek). Section 4 crosses Yorks Creek and terminates at the Ravensworth East West Pit Void.

The location of both options for the placement of the Flocculant Plant is associated with Section 4. Section 4 includes two pipeline options depending on whether Flocculant Plant option 1 or option 2 is used. Option 1 is the preferred location. Both optional routes for the pipeline use existing roads or cross highly modified areas.

Characteristics of each section of the Study Area are as follows:

- Section 1a: Entirely within landforms modified by approved mining activities.
- Section 1b: Entirely within landforms modified by approved mining activities. Section 1b is an alternative route for Section 1a. Section 1a is the preferred route.
- Section 2: The majority of this section is within landforms modified by approved mining activity although some portions in the southeast cross paddocks with scattered regrowth trees.
- Section 3: This section follows the route of a coal conveyor that crosses predominantly flat landforms that have been predominantly cleared of tree cover although patches of regrowth trees do exist.
- Section 4: This section is either on an existing road or within landforms modified by approved mining activity.

Figure 1-4: Sections 1a and 1b of the Study Area.

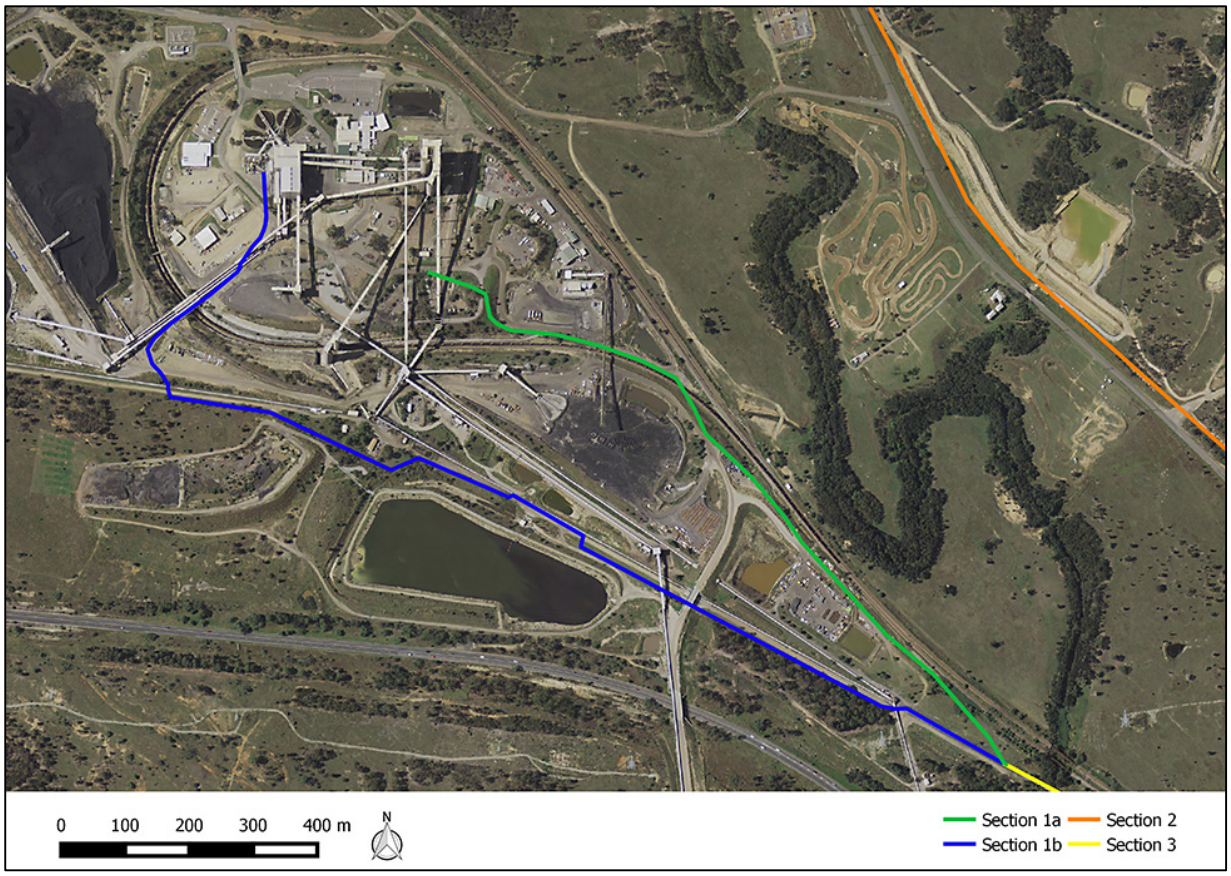


Figure 1-5: Section 2 of the Study Area.

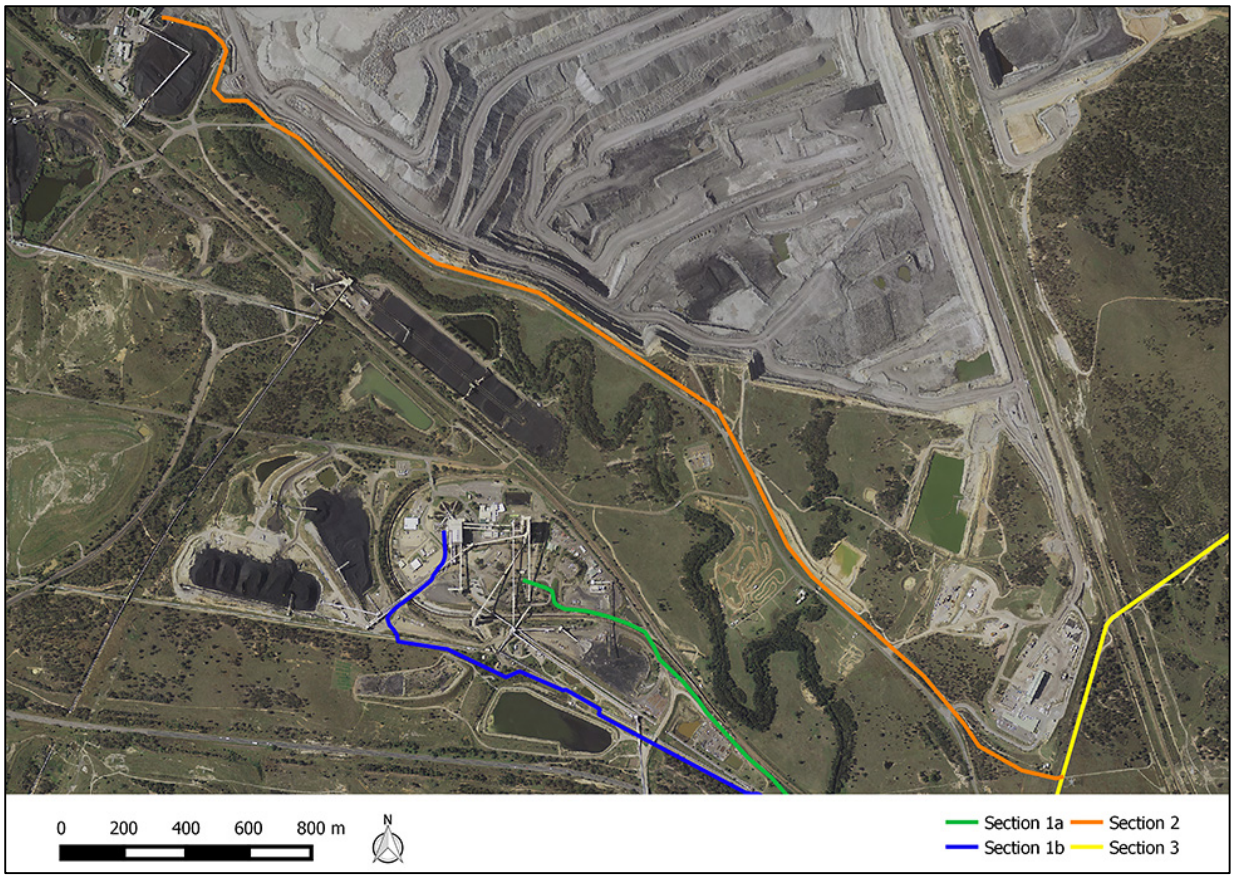


Figure 1-6: Section 3 of the Study Area.

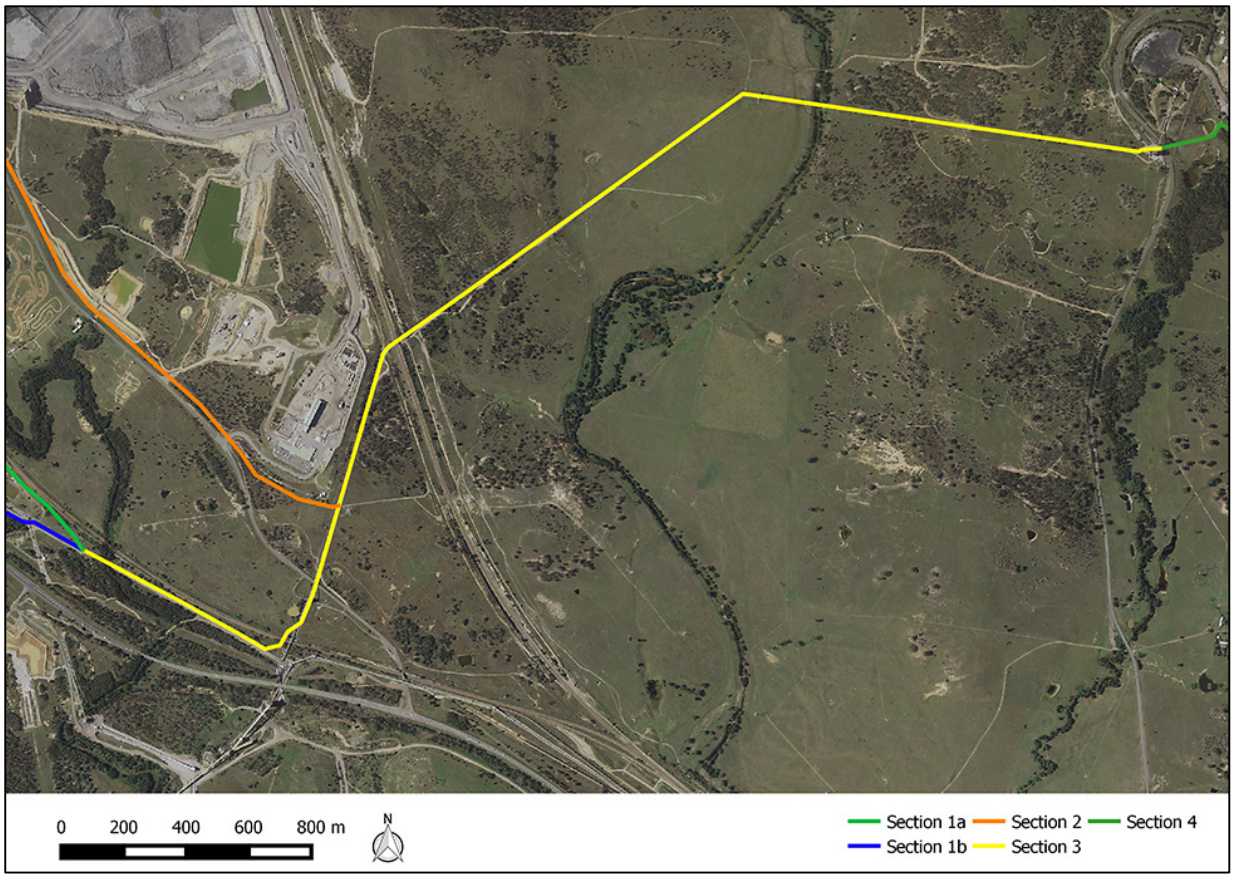
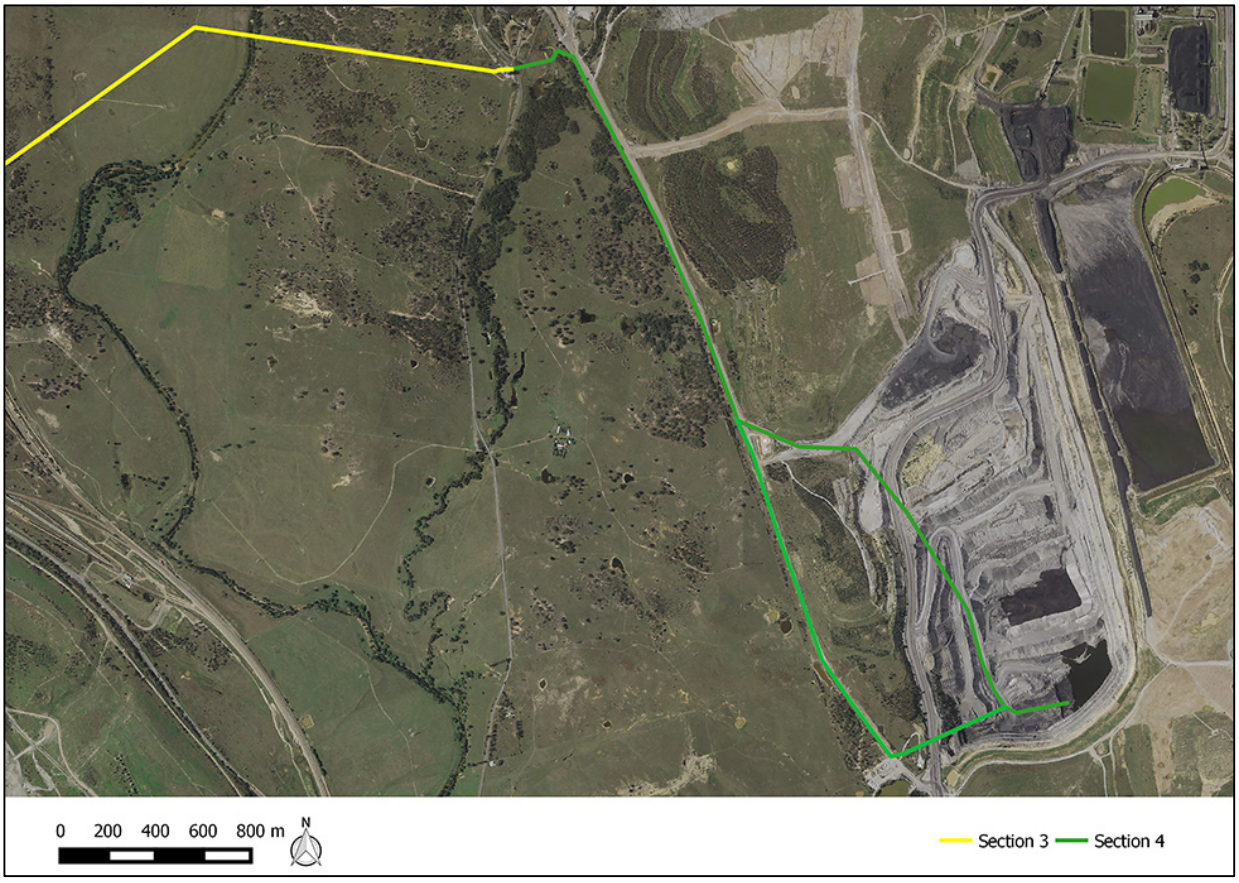


Figure 1-7: Section 4 of the Study Area.



1.4 RELEVANT LEGISLATION

Cultural heritage is managed by a number of state and national acts. Baseline principles for the conservation of heritage places and relics can be found in the *Burra Charter* (Australia ICOMOS 2013). The *Burra Charter* has become the standard of best practice in the conservation of heritage places in Australia, and heritage organisations and local government authorities have incorporated the inherent principles and logic into guidelines and other conservation planning documents. The *Burra Charter* generally advocates a cautious approach to changing places of heritage significance. This conservative notion embodies the basic premise behind legislation designed to protect our heritage, which operates primarily at a state level.

A number of acts of parliament provide for the protection of heritage at various levels of government.

1.4.1 State Legislation

Environmental Planning and Assessment Act 1979 (EP&A Act)

This Act established requirements relating to land use and planning. The framework governing environmental and heritage assessment in NSW is contained within the following parts of the EP&A Act:

- **Part 3A**: Approvals Process for transitional state significant development;
- **Part 4:** Local government development assessments, including heritage. May include schedules of heritage items;
- **Part 4.1:** Approvals process for state significant development;
- **Part 5:** Environmental impact assessment on any heritage items which may be impacted by activities undertaken by a state government authority or a local government acting as a self-determining authority; and
- **Part 5.1:** Approvals process for state significant infrastructure.

The Modification will be assessed under section 75W of Part 3A of the EP&A Act. As a transitional Part 3A project, the Modification will be subject to section 75U of the EP&A Act. Section 75U states that, amongst other things, an Aboriginal heritage impact permit under section 90 of the National Parks and Wildlife Act 1974, will not be required for the works.

National Parks and Wildlife Act 1974 (NPW Act)

Amended during 2010, the NPW Act provides for the protection of Aboriginal objects (sites, objects and cultural material) and Aboriginal places. Under the Act (S.5), an Aboriginal object is

defined as: any deposit, object or material evidence (not being a handicraft for sale) relating to indigenous and non-European habitation of the area that comprises NSW, being habitation both prior to and concurrent with the occupation of that area by persons of European extraction, and includes Aboriginal remains.

An Aboriginal place is defined under the NPW Act as an area which has been declared by the Minister administering the Act as a place of special significance for Aboriginal culture. It may or may not contain physical Aboriginal objects.

As of 1 October 2010, it is an offence under Section 86 of the NPW Act to 'harm or desecrate an object the person knows is an Aboriginal object'. It is also a strict liability offence to 'harm an Aboriginal object' or to 'harm or desecrate an Aboriginal place', whether knowingly or unknowingly. Section 87 of the Act provides a series of defences against the offences listed in Section 86, including:

- The harm was authorised by and conducted in accordance with the requirements of an Aboriginal Heritage Impact Permit (AHIP) under Section 90 of the Act;
- The defendant exercised 'due diligence' to determine whether the action would harm an Aboriginal object; or
- The harm to the Aboriginal object occurred during the undertaking of a 'low impact activity' (as defined in the regulations).

Under Section 89A of the Act, it is a requirement to notify the Office of Environment and Heritage (OEH) Director-General of the location of an Aboriginal object. Identified Aboriginal items and sites are registered on the Aboriginal Heritage Information Management System (AHIMS).

1.4.2 Commonwealth Legislation

Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)

Amendments in 2003 established the National Heritage List and the Commonwealth Heritage List, both administered by the Commonwealth Department of the Environment. Ministerial approval is required under the EPBC Act for proposals involving significant impacts to National/Commonwealth heritage places.

1.4.3 Applicability to the Project

The Modification will be assessed under transitional Part 3A seeking development consent under section 75w of the EP&A Act. Any Aboriginal sites within the Study Area are afforded legislative protection under the NPW Act. It is noted that Aboriginal heritage on individual mine sites will be managed under the terms of any active Aboriginal Cultural Heritage Management Plans (ACHMPs) for that particular mine. It is noted there are no Commonwealth or National heritage listed places within the Study Area, and as such, the EPBC Act does not apply.

1.5 ASSESSMENT APPROACH

The current assessment will follow the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (*Due Diligence*; DECCW 2010a).

2 THE ARCHAEOLOGICAL ASSESSMENT

2.1 PURPOSE AND OBJECTIVES

The purpose of the current study is to identify and assess heritage constraints relevant to the Modification.

The current assessment will apply *Due Diligence* (DECCW 2010a) in the completion of an Aboriginal archaeological assessment, in order to meet the following objectives:

Objective One: Conduct a background desktop study to identify any possible heritage constraints to the Modification and existing AHIMS registered archaeological sites;

Objective Two: Record any possible Aboriginal sites and sensitive landforms within the Study Area during the site inspection; and

Objective Three: Assess the likely impacts of the Modification to any recorded sites and provide management recommendations.

2.2 OZARK INVOLVEMENT

The fieldwork component of this assessment was undertaken by OzArk on 9 July 2015.

The fieldwork was undertaken by Nick Harrop, Senior Archaeologist at OzArk (BA[Hons], University of Sydney). The reporting component of the current project was undertaken by Nick Harrop. The report has been reviewed by Ben Churcher, Principal Archaeologist at OzArk (BA[Hons] – University of Queensland, Dip Ed – University of Sydney).

3 LANDSCAPE CONTEXT

An understanding of the environmental contexts of a Study Area is requisite in any Aboriginal archaeological investigation (DECCW 2010b). It is a particularly important consideration in the development and implementation of survey strategies for the detection of archaeological sites. In addition, natural geomorphic processes of erosion and/or deposition, as well as humanly activated landscape processes, influence the degree to which these material culture remains are retained in the landscape as archaeological sites; and the degree to which they are preserved, revealed and/or conserved in present environmental settings.

3.1 TOPOGRAPHY, GEOLOGY AND SOILS

The Study Area traverses a variable landscape. In general, the landscape undulates and includes low to moderate gradients (**Plates 1** and **2**). In parts, the Study Area overlaps with hill crests. There are also several waterway crossings.

Where disturbance levels are low, soils are typically eroded on hill crests and slopes and relatively thick on flats and other low points within the Study Area. Gravels were observed in the soil where vegetation was low, but no large rock outcrops are within the Study Area.

3.2 HYDROLOGY

The Study Area crosses Foy Brook (Bowmans Creek), Yorks Creek and Bayswater Creek: all permanent water sources to varying degrees (**Plates 3** and **4**). The majority of the Study Area is within 1km of these waterways, but only about 10% of Sections 1a, 1b, 3 and 4 are within 200m of the waterways while the majority of Section 2 is within 200m of Bayswater Creek. In addition, several ephemeral waterways intersect with the Study Area.

3.3 VEGETATION

The Study Area has been mostly cleared of trees, as has the surrounding landscape (**Plates 1** to **5**). There are stands of trees adjacent to the Study Area in parts, and some new growth trees within the Study Area. Ground cover is variable, with grass cover being predominant.

3.4 CLIMATE

The closest climate data is from Singleton, approximately 19km to the south of the Study Area (BOM 2015). Records since 2002 show that average annual rainfall is approximately 685mm. It peaks between November and February, but is relatively consistent throughout the year. January is the warmest month, with mean temperatures peaking at 31.7 degrees Celsius. July and August are the coldest months with mean minimum temperatures of 4.3 and 4.2 degrees Celsius respectively.

3.5 LAND–USE HISTORY AND EXISTING LEVELS OF DISTURBANCE

Levels of disturbance are moderate to high throughout the Study Area. Landforms in Sections 1a and 1b are highly modified as they largely overlap with the Ravensworth CHPP infrastructure (**Figure 1−4**). Landform modification is consistently moderate along Section 2 of the Study Area where the pipeline runs between a visual bund along the road and the Liddell pit area. Section 3 of the Study Area contains a disused conveyor and access track (**Plates 1** to **4**). Additionally, this section has been largely cleared of trees and contain other miscellaneous infrastructure. Landforms within Section 4 of the Study Area are highly modified as most of the Modification is along the bund of a haul road and rehabilitation area (**Plate 5**).

3.6 LANDSCAPE CONTEXT: CONCLUSION

The moderate gradient of the topography, as well as the availability of nearby permanent water and a temperate climate, would have encouraged year-round occupation by Aboriginal people in the past. However, the lack of abundant resources (such as major river systems) probably indicates that the Study Area would have been either sporadically visited or visited for short-term resource gathering activities.

The generally high degree of landform modification from both agricultural uses (vegetation clearing etc.), as well as more recent mining activities (infrastructure and/or roads), indicates that the integrity of any archaeological values (i.e. intact archaeological deposits), had they existed within the Study Area, is likely to have been diminished or dispersed.

4 ABORIGINAL ARCHAEOLOGY BACKGROUND

4.1 ETHNO-HISTORIC SOURCES OF REGIONAL ABORIGINAL CULTURE

The Study Area is located in the Wonnarua tribal area of the upper Hunter Valley.

The Wonnarua people lived in an environment rich in food resources. Freshwater fish, shellfish, reptiles, mammals, birds and plant food provide a diverse diet (see Brayshaw 1981). Brayshaw (1986: 82) suggests that inland groups visited the coast during the summer when marine resources were plentiful, and coastal groups travelled inland to participate in the winter kangaroo hunts. Trade and/or exchange also occurred between the coastal and inland groups. Reed spears and shells were traded inland for possum skin rugs and fur cord (Brayshaw 1986: 41). Social gatherings were a feature of Aboriginal life in this area.

Visiting by coastal and inland groups for initiations and ceremonies seemed to occur. These were conducted within earthen circles. Carved trees were associated with these sites (Brayshaw 1981: 12).

There is virtually no reference to flaked stone tools in the nineteenth century descriptions of Aboriginal material culture in the Hunter Valley. This paucity of information is at odds with the types of occupation evidence which are preserved in the valley. By far the most common type of Aboriginal site in the inland part of the valley is the "open campsite" or stone artefact scatter.

4.2 REGIONAL ARCHAEOLOGICAL CONTEXT

A very large amount of archaeological investigation has been undertaken in the Hunter Valley and only a brief regional archaeological context that focuses on work in similar landforms to the Study Area is provided here.

Evidence from the Central Lowlands sub-region of the Hunter Valley (broadly between Murrurundi in the north and Cessnock in the south-east), suggests that archaeological material is scattered almost continuously, but in varying density, along most creek banks and flats. It has been suggested that archaeological material is primarily contained within 100m of drainage lines (Koettig 1990: 13).

In broad terms, these open artefact scatters appear to be confined to the A-Horizon of the soil (topsoil) profile which is generally less than 50cm in depth (Hughes 1981; Stern 1981). These sites are often disturbed and stratification is unclear (Hughes 1984: 8). Artefacts are generally manufactured from indurated mudstone, with silcrete, fossilised wood and chert occurring less frequently (Hiscock and Koettig 1985). Features found at open surface scatters include hearths, pits, ovens and heat treatment areas (Burton *et al.* 1990). These sites are generally detected where some form of ground disturbance has occurred, for example erosion due to both cultural and non-cultural processes, and thus the extent of the site is often difficult to determine. Often

the density of artefacts on the surface do not relate to the amount of subsurface archaeological material (see Koettig 1990: 15).

A review of GHD (2005), HLA-Envirosciences (2005) and Umwelt (2007) provides the following regional synthesis:

- Archaeological sites, even where surface evidence is not present, occur on most landforms. This was confirmed by a HLA-Envirosciences (2005) excavation program, in which Aboriginal sites were encountered on alluvial terraces, flats, slopes, bench areas, spurs and ridgelines. HLA-Envirosciences acknowledges that the sample areas were biased somewhat as they were all near creek lines;
- Site frequency and density are dependent on their location in the landscape. This theme is consistent throughout NSW and is influenced by a range of factors, the most relevant of which the existing level of disturbance. More specifically, the potential for undisturbed *in situ* deposits remaining in the upper Hunter Valley on a mining property is generally low;
- The highest concentration of Aboriginal sites on the valley floor surrounds creeks and waterways;
- Few scarred trees are recorded reflecting the high degree of tree clearing in the region;
- The most frequently recorded raw material is indurated mudstone (a fine gained siliceous material) associated with Hunter River gravels. Other frequently recorded materials include locally sourced silcrete, quartz and volcanic stones; and
- Assemblages recorded in the region consist largely of unmodified flakes with few formed tools. Backed blades comprise the characteristic diagnostic artefact in the region. The mid- to late-Holocene appears to have witnessed this move to smaller tools, perhaps as an impetus to conserve raw material during tool manufacture or due to new functionality requirements. This impetus seems to have driven the development of what Hiscock (1993) calls the Redbank A Strategy (RAS), after three sites along Redbank Creek (within the United Colliery south of Singleton) of backed blade production. It is noted that RAS reduction has been infrequently recorded at other sites in the district and no mention of it is made for sites within the Study Area.

From previous investigations, the following generalisations can be made about archaeological patterns in the Hunter Valley region:

- Sites are commonly open artefact scatters or isolated finds;
- Sites are generally of low density;
- Most sites are situated close to drainage lines;

- Archaeological material is densest within 30m of the creek edge but continues at a lower density away from the creek;
- Some artefact concentrations are virtually continuous along larger creek lines and associated foot slopes;
- The most common raw materials were indurated mudstone and silcrete with smaller quantities of chert, siltstone, quartzite and quartz also identified;
- Flakes and flaked pieces accounted for the bulk of assemblages. Proportions of cores and backed blades are low;
- There is evidence of heat-treated artefacts; and
- Many recorded artefacts are characteristic of the Small Tool Tradition (Bondaian) of the late Holocene.

4.3 LOCAL ARCHAEOLOGICAL CONTEXT

4.3.1 Desktop Database Searches Conducted

A desktop search was conducted on the following databases to identify any potential previously-recorded heritage within the Study Area.

The results of this search are summarised in **Table 4−1** and presented in detail in **Appendix 1**. This search was for Sections 1a, 1b, 3 and 4 as Section 2 was added to the Study Area subsequent to the initial search and assessment. A separate AHIMS search was conducted for Section 2 (see below).

As per **Table 4−1**, it is noted that the Study Area includes land currently subject to a Native Title Claim by Scott Franks and Anor on behalf of the Plains Clans of the Wonnarua People (Tribunal File No. NC2013/006, Federal Court No. NSD1680/2013). This claim is registered but not yet determined and the implication of this claim will have to be considered by the Proponent.

Table 4-1: Desktop-database search results.

Name of Database Searched	Date of Search	Type of Search	Comment
Commonwealth Heritage Listings http://www.environment.gov.au/cgi-bin/ahdb/search.pl	07.07.15	Singleton LGA	No places listed on either the National or Commonwealth heritage lists are located within the Study Area.
National Native Title Claims Search http://www.ntv.nntt.gov.au/index.asp	07.07.15	NSW	An active Native Title claim includes the Study Area.
OEH AHIMS http://www.environment.nsw.gov.au/awssapp/login.aspx	03.08.15	Centred on the Study Area (1a, 1b, 3 and 4) with a minimum buffer of 100m.	11 valid sites within the search area.
Local Environment Plan (LEP) http://www.austlii.edu.au/au/legis/nsw/consol_reg/	07.07.15	Singleton LEP of 2013	None of the Aboriginal places noted occur near the Study Area.

A search of the OEH administered AHIMS database returned 28 records for Aboriginal heritage sites within 100m of the Modification. Three sites have been recorded twice and as such there are 25 sites within the search area. The 25 sites are shown in **Figures 4−1** to **4−4**, and summarised in **Table 4−2**. Eleven of the 20 sites are recorded as being valid, the remainder having been destroyed under permit during previous impacts. However, the number of valid sites is actually nine as #37-3-0292 has been recorded twice and 37−3−0420 is destroyed.[1]

Figure 4−3 uses data obtained from AHIMS in November 2015 to cover the vicinity of Section 2 of the Study Area. Sites shown in this figure, apart from 37-3-0426, 37-3-0738, 37-3-0463, 37-3-0450 and 37-3-1167, are not included in **Table 4−2** that is restricted to sites within 100m of impacts.

Figure 4−4 shows AHIMS data from the Mt Owen Complex that provides coverage of Section 4 of the Study Area. Sites shown in this figure, apart from 37-3-0417 and 37-3-0773, are not included in **Table 4−2** that is restricted to sites within 100m of impacts.

Table 4-2: AHIMS Site types and frequencies.

Site Type	Number	% Frequency
Open Camp Site	5	20
Isolated Find	4	16
Open Camp Site or Isolated Find	16	64
Total	**25**	**100**

All sites within the search area are / were stone artefact sites. At least four are isolated finds and the others are low density artefact scatters.

[1] 37-3-0420 was destroyed under AHIP number SZ340. This was recorded by Umwelt on 05/06/2012 in an Aboriginal Site Impact Recording Form, but the site is still registered as valid on AHIMS. OzArk will bring this to the attention of AHIMS. Sites 37-3-0560 and 37-3-0292 (Nard 8) are noted as duplicates already in AHIMS.

Figure 4-1: Sites in the vicinity of Sections 1a/1b registered on AHIMS.

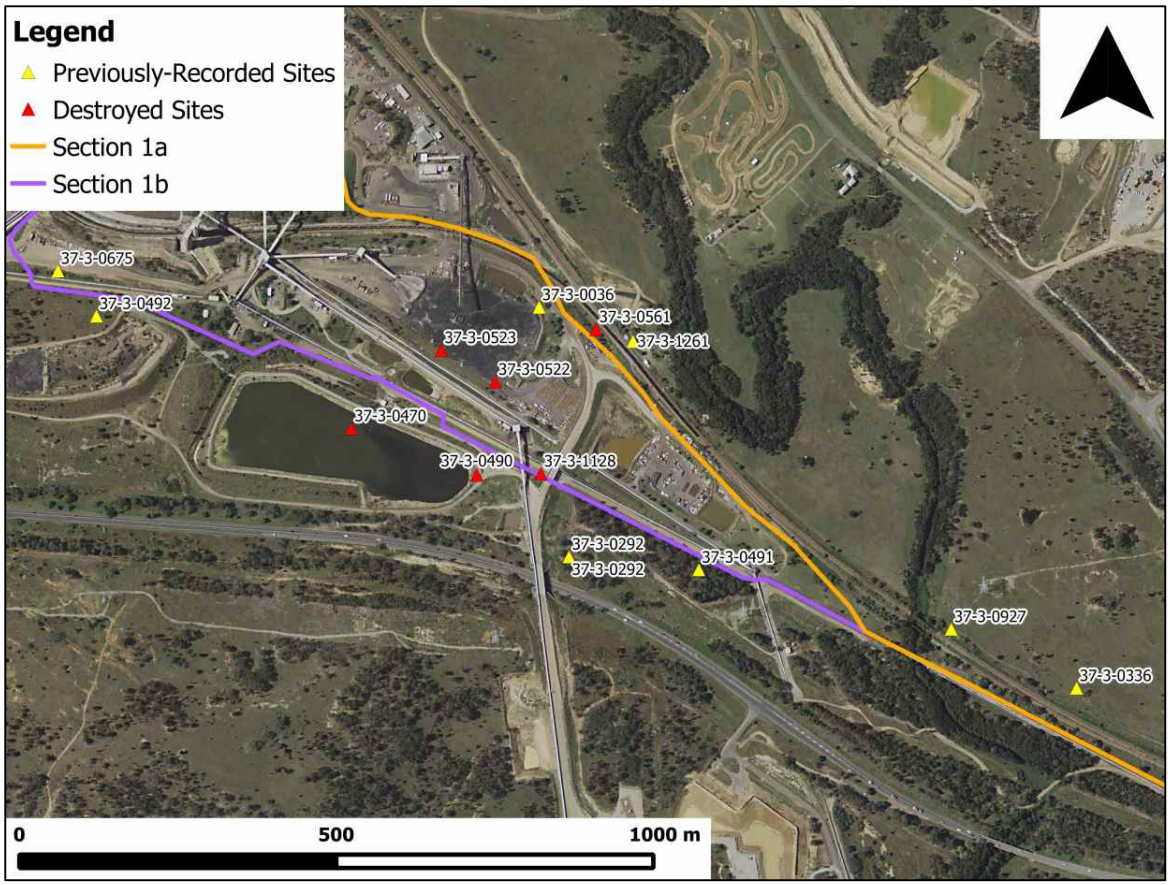


Figure 4-2: Sites in the vicinity of Section 2 registered on AHIMS.

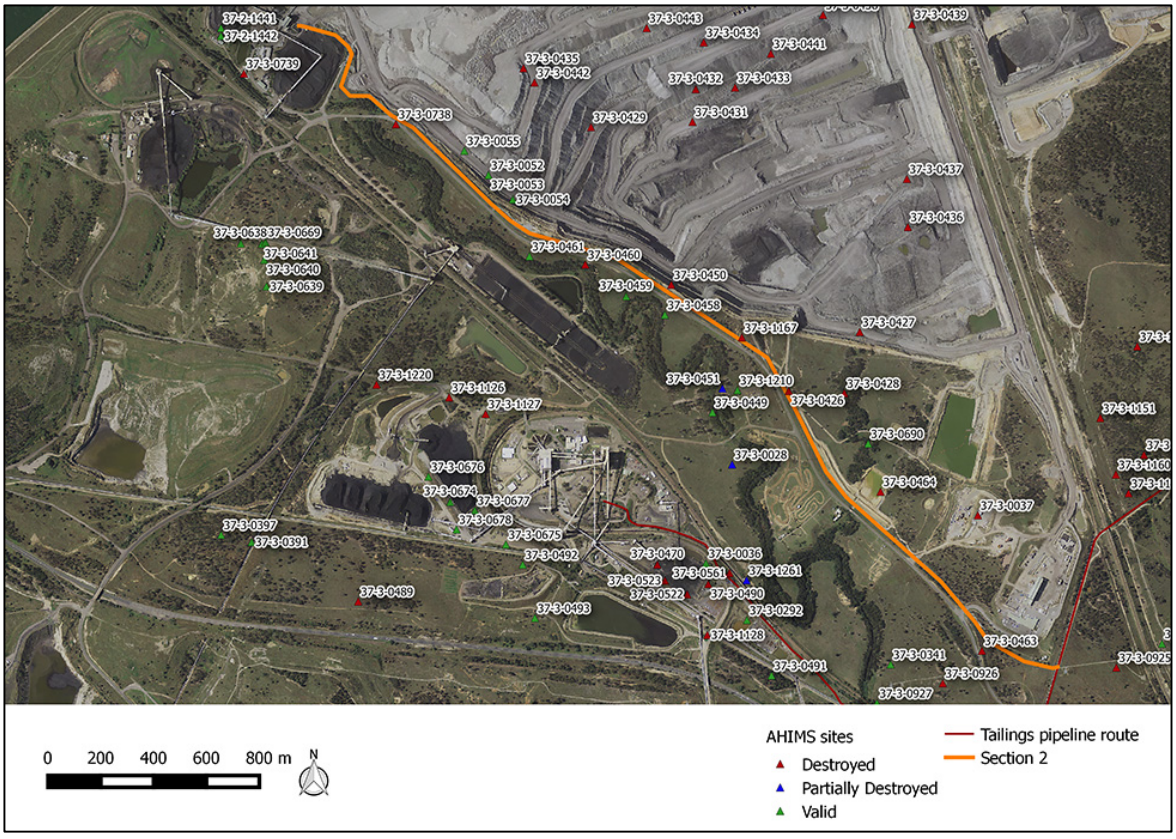


Figure 4-3: Sites In the vicinity of Section 3 registered on AHIMS.

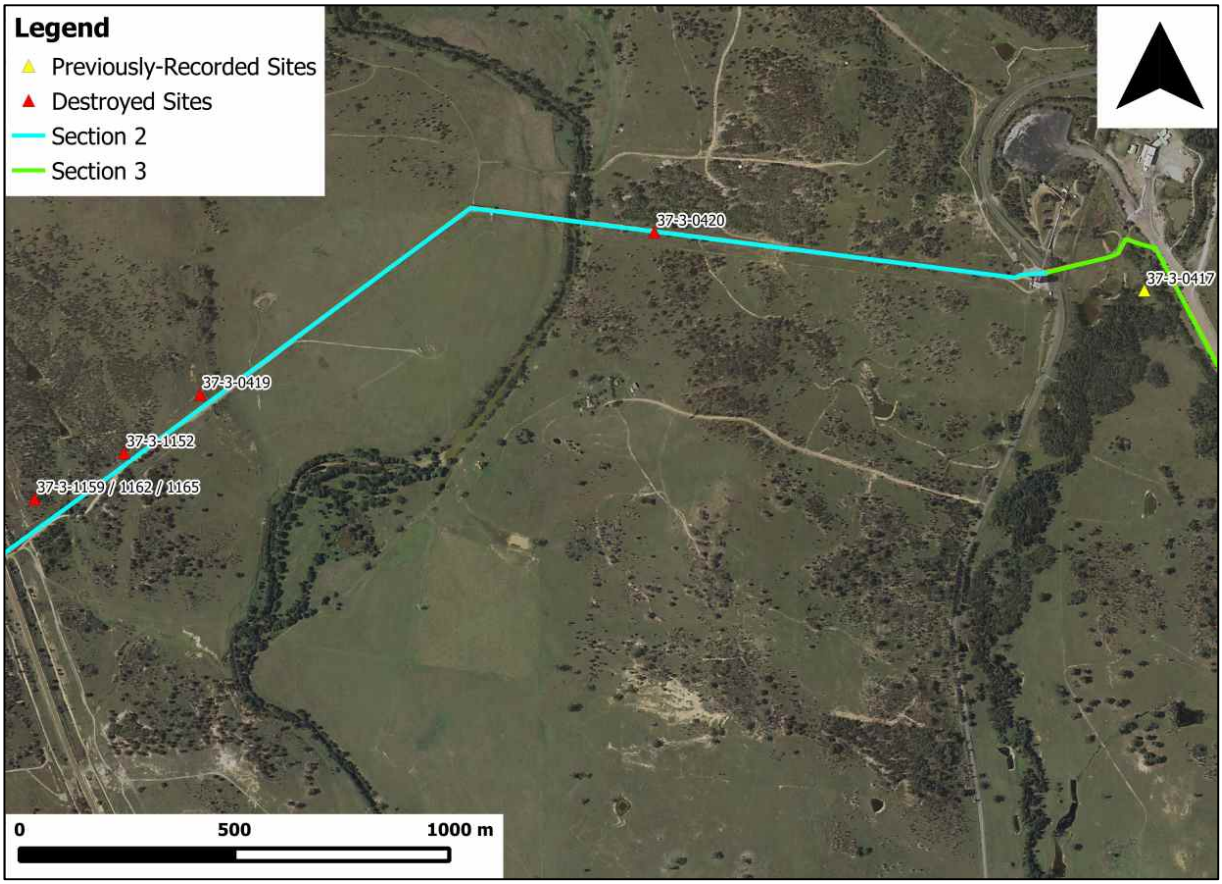
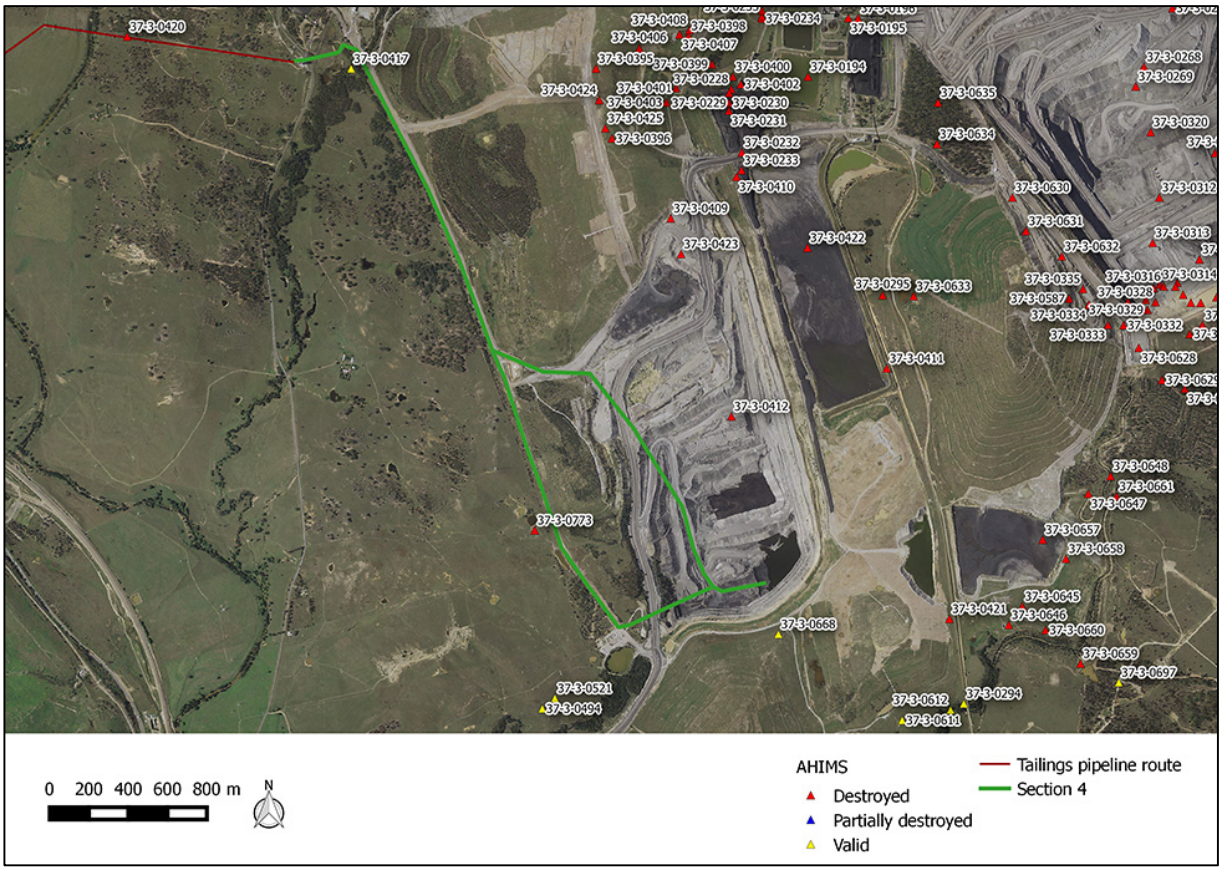


Figure 4-4: Sites in the vicinity of Section 4 registered on AHIMS.



Two assessments are particularly relevant to the Study Area; OzArk 2013a and OzArk 2013b.

OzArk's *Aboriginal Archaeological Values Assessment: Mount Owen Continued Operations* (2013a) overlaps with Section 3 and part of Section 2 of the current Study Area. The assessment covered 464ha within the Mount Owen mine complex and included surface survey and test excavation. The results of the Mount Owen assessment were:

- 91% of the newly recorded sites were either isolated finds or low density artefact scatters without associated archaeological deposits;
- Test excavation was carried out at two locations. No sub-surface artefacts were retrieved from one site and 114 artefacts were excavated from the other site. At the site that recorded artefacts (MOCO OS-4), most of the artefacts were concentrated in a small area, representing two or three discreet knapping events of mudstone and silcrete.
- Widespread disturbances and thin A Horizon soils were noted across the assessment area. Thin, or non-existent, A-Horizon soils were also noted during the test excavation at both locations.

OzArk's assessment of the Development Modification 5 at Liddell Coal Operations (2013b) overlaps with Sections 2 and 3 of the Study Area. Poor ground surface visibility restricted the assessment of the Liddell and several registered sites were found to no longer exist due to various disturbances, especially sheetwash erosion. However, several new recordings were made and sites were further investigated.

The findings from the Liddell assessment indicate a strong association between sites and Bowmans Creek and Chain of Ponds. There were, however, a number of sites on ridge lines and slopes, including two sites nearby to the current Study Area (Rav 24 East and LID 36; **Figure 4−1**). Sites in this part of the landscape were either low density artefact scatters or isolated finds with little to no subsurface deposit (OzArk 2013b).

4.4 PREDICTIVE MODEL FOR SITE LOCATION

Across Australia, numerous archaeological studies in widely varying environmental zones and contexts have demonstrated a high correlation between the permanence of a water source and the permanence and/or complexity of Aboriginal occupation. Site location is also affected by the availability of and/or accessibility to a range of other natural resources including: plant and animal foods; stone and ochre resources and rock shelters; as well as by their general proximity to other sites/places of cultural/mythological significance. Consequently sites tend to be found along permanent and ephemeral water sources, along access or trade routes or in areas that have good flora/fauna resources and appropriate shelter.

In formulating a predictive model for Aboriginal archaeological site location within any landscape it is also necessary to consider post-depositional influences on Aboriginal material culture. In all

but the best preservation conditions very little of the organic material culture remains of ancestral Aboriginal communities survives to the present. Generally it is the more durable materials such as stone artefacts, stone hearths, shell, and some bones that remain preserved in the current landscape. Even these however may not be found in their original depositional context since these may be subject to either (a) the effects of wind and water erosion/transport - both over short and long time scales or (b) the historical impacts associated with the introduction of European farming practices including: grazing and cropping; land degradation associated with exotic pests such as goats and rabbits and the installation of farm related infrastructure including water-storage, utilities, roads, fences, stockyards and residential quarters. Scarred trees may survive for up to several hundred years but rarely beyond.

The following predictive model is formulated based on knowledge of the environmental contexts of the Study Area and a desktop review of the known local and regional archaeological record:

- Any possible sites are most likely to be open artefact scatters or isolated finds with the following characteristics:
    - Most likely on a terrace within 200m of a waterway or perhaps on a ridge crest or slope;
    - Most likely low-moderate density, possibly higher within 30m of Bowmans Creek or Bayswater Creek and likely lower on ridge lines and slopes;
    - Will have an artefact assemblage dominated by flakes with few cores made from mudstone and silcrete and will have few chronological markers in the typology apart from the presence of backed blades.
- Scarred trees are possible on the few remaining mature trees of suitable type (i.e. not Casuarinas);
- Hearths are possible but are likely to have been damaged by existing disturbances and, if present, may only remain as a disarticulated scatter of baked clay nodules. Similarly, ceremonial sites are possible but any evidence such as stone arrangements are likely to be disturbed;
- Burials are also possible but are unlikely to have survived; and
- Quarries, grinding grooves and rock shelters will only occur where there are necessary geological formations.

5 APPLICATION OF THE DUE DILIGENCE CODE OF PRACTICE

5.1 INTRODUCTION

In late 2010, changes were made to the NPW Act via the Omnibus Bill. As of October 2010, Due Diligence (DECCW 2010a) was instituted to assist developers to exercise the appropriate level of caution when carrying out activities that could cause harm to Aboriginal heritage.

5.2 DEFENCES UNDER THE NPW REGULATIONS 2009

The first step before application of the Due Diligence process itself is to determine whether the proposed activity is a "low impact activity" for which there is a defence in the NPW regulations 2010. The exemptions are listed in Section 7.5 of the Regulations (DECCW 2010a: 6).

The activities of the Proponent do not fall into any of these exemption categories. Therefore the Due Diligence process must be applied.

Relevant to this process is the assessed levels of previous land-use disturbance.

The regulations (DECCW 2010a: 18) define disturbed land as follows:

> *Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable.*
>
> *Examples include ploughing, construction of rural infrastructure (such as dams and fences), construction of roads, trails and tracks (including fire trails and tracks and walking tracks), clearing vegetation, construction of buildings and the erection of other structures, construction or installation of utilities and other similar services (such as above or below ground electrical infrastructure, water or sewerage pipelines, stormwater drainage and other similar infrastructure) and construction of earthworks.*

5.3 APPLICATION OF THE DUE DILIGENCE CODE OF PRACTICE TO THE PROPOSED DEVELOPMENT

To follow the generic Due Diligence process, a series of steps in a question answer flowchart format (DECCW 2010a: 10) are applied to the project impacts and Study Area and the responses documented.

The following paragraphs address this Due Diligence for the Modification.

Step 1: Will the activity disturb the ground surface or any culturally modified trees?

Yes the activity will disturb the ground surface. Go to Step 2.

Step 2: Are there any:

a) Relevant confirmed site records or other associated landscape feature information on AHIMS? and/or

b) Any other sources of information of which a person is already aware? and/or

c) Landscape features that are likely to indicate presence of Aboriginal objects?

a) Yes, several sites plot nearby to the Study Area (see **Figure 4−1** and **Appendix 1**).

b) No. It is noteworthy that Aboriginal community consultation is not a formal requirement of the Due Diligence process (DECCW 2010a Section 5), although it is noted that the Proponent may wish to consider undertaking consultation if it will assist in informing decision making.

c) Landscape features noted here include (DECCW 2010a):

- within 200 metres of waters, or
- located within a sand dune system, or
- located on a ridge top, ridge line or headland, or
- located within 200 metres below or above a cliff face, or
- within 20 metres of or in a cave, rock shelter, or a cave mouth

and' is on land that is not disturbed land (see **Section 5.2**) then you must go to Step 3.

Yes. Approximately 10% of the Study Area is within 200m of permanent water. Parts of the Study Area also overlap with ridge and hill crests.

Step 3: Can harm to Aboriginal objects listed on AHIMS or identified by other sources of information and/or can the carrying out of the activity at the relevant landscape features be avoided?

No. The activity will impact landforms within 200 metres of water.

An answer of 'no' to Step 3 advances the process to Step 4.

The Proponent has elected to proceed with a visual inspection as per Step 4 of the Due Diligence Process to better clarify any heritage constraints for the Modification. The visual inspection is intended to better inform the levels of existing disturbance within the Study Area and to identify any possible sites not previously recorded. The results of the visual inspection are provided in **Section 6**.

6 RESULTS OF ABORIGINAL ARCHAEOLOGICAL ASSESSMENT

6.1 SAMPLING STRATEGY AND FIELD METHODS

All sensitive archaeological landforms and parts of the Study Area nearby to recorded sites were inspected on foot in order to establish the possible presence of sites within the Study Area. This included areas within 200m of permanent water, ridge / hill crests, and sections of the Study Area within 50m of a recorded site. Additionally, other parts of the Study Area were sampled on foot.

All areas of the Study Area not surveyed on foot were inspected by vehicle. Areas of heavy disturbance were included in the vehicle survey, such as along the haul road at Mount Owen. Additionally, areas of low landscape sensitivity such as hill and ridge slopes were mostly surveyed by vehicle, with some sampling on foot. Rehabilitation areas at the south-western end of the Study Area were not surveyed as existing disturbance in these areas is total.

6.2 PROJECT CONSTRAINTS

Section 2 of the Study Area was added to the Modification after the field survey had taken place. As such, this Section of the Study Area has been assessed for this report at a desktop level only. However, the entire area was assessed by OzArk during the assessment for the Liddell Coal Operations DA 305-11-01 Modification 5 (2013b). In addition, Section 2 is within a moderately modified landform and has been impacted by numerous approved mining activities including a visual buns, road works and drainage works. The landforms within Section 2 have also been archaeologically salvaged on more than one occasion, most recently by OzArk in 2015 (OzArk 2015). As a result of the level of disturbance, previous assessment and a recent salvage program, there were no constraints to assessing this section of the Study Area at a desktop level.

There were no further constraints in completing the assessment.

6.3 RESULTS

6.3.1 Ground Surface Visibility

Two of the key factors influencing the effectiveness of archaeological survey are ground surface visibility (GSV) and exposure. These factors are quantified in order to ensure that the survey data provides adequate evidence for the evaluation of the archaeological materials across the landscape. For the purposes of the current assessment, these terms are used in accordance with the definitions provided in the Code of Practice (DECCW 2010b).

GSV was variable along the Study Area, but was generally high due to disturbance. A large proportion of the Study Area included a dirt track and associated erosion. GSV was between 30% and 70% along these sections. Section 1b had lower GSV: generally only 5% to 10%. Many sections, such as the haul road and rehabilitation areas (Section 3) and the CHPP (Section 1a)

had good GSV but this is largely irrelevant as disturbance was total in these areas and they were surveyed by vehicle. GSV was generally low adjacent to the Study Area in most sections.

6.3.2 Aboriginal Heritage

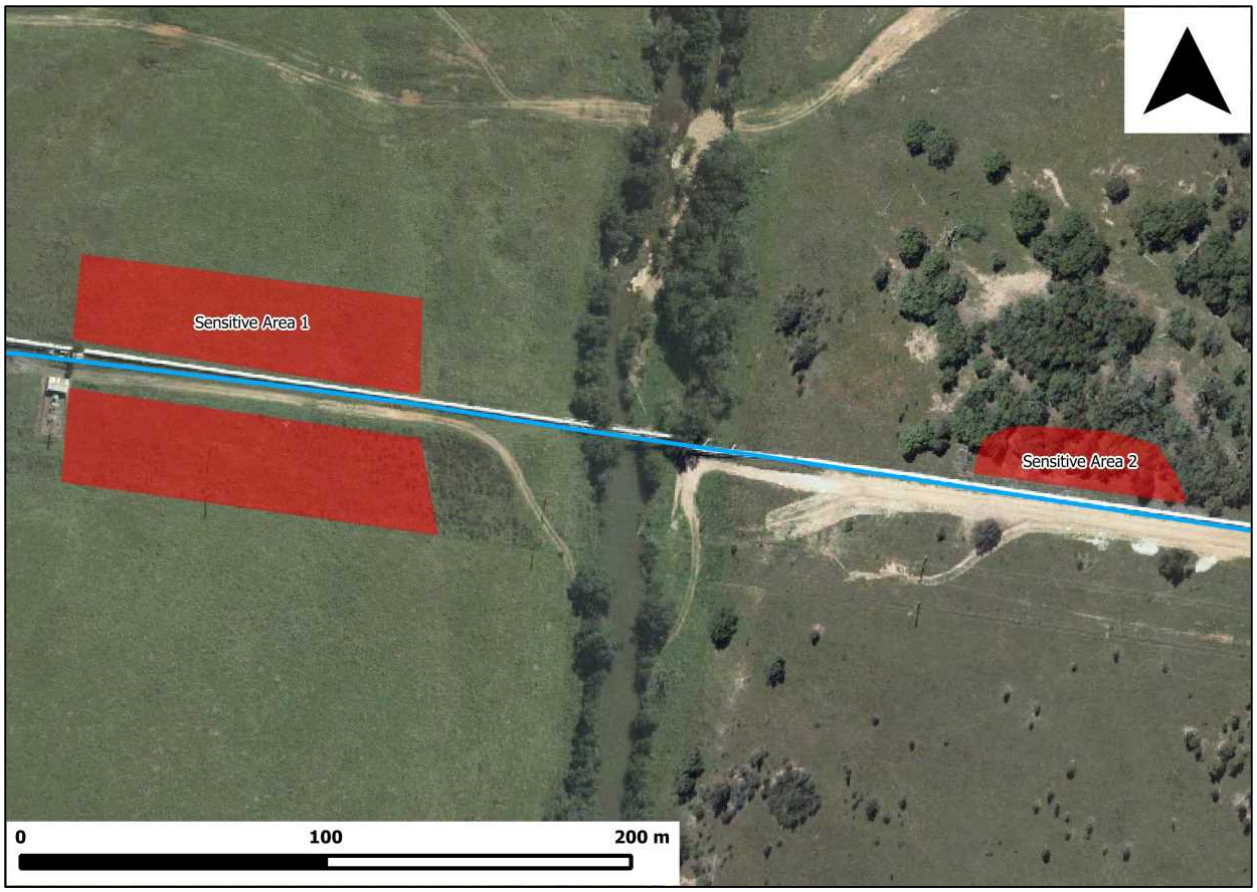
No new sites of Aboriginal cultural heritage were recorded during the field inspection. Further, it is assessed that there is a low likelihood of there being further, undetected (i.e. subsurface) sites within the Study Area.

Two sections of archaeological sensitivity were recorded adjacent to the Study Area (**Figure 6−1**). These sensitive areas were both nearby to Bowmans Creek and were relatively undisturbed.

Sensitive Area 1 is located on a terrace to the west of Bowmans Creek (**Plate 6**; **Figure 6−1**). This waterway is a known focus for Aboriginal occupation with sites to the north and south of the proposed pipeline crossing. The area is assessed as being archaeologically sensitive based on landscape sensitivity of the landform as well as relatively low disturbance to the north and south of the Study Area.

Although no sites were recorded within the Sensitive Area 1, GSV was generally low and therefore there is uncertainty as to the presence of sites on the landform. However, the section of the Study Area that passes through this landform is disturbed, and therefore archaeological sensitivity is limited to adjacent areas. It is important to note that the northern and southern boundaries of Sensitive Area 1 are not fixed and likely extend further beyond the limits defined in **Figure 6−1**.

Figure 6-1: Location of archaeologically sensitive areas.



Sensitive Area 2 is 100m to 150m to the east of Bowmans Creek, on a roughly level area on the mid-slope of a hill (**Figure 6−1**; **Plate 7**). It is adjacent to the northern side of the Study Area where disturbance is lower than within the Study Area and to the south of it. Sensitive Area 2 is bound on the north by an ephemeral waterway and to the south by the fence line that marks the northern edge of the Study Area. The eastern and western extents are defined by the break of slope uphill and downhill.

6.3.3 Previously-Recorded Aboriginal Sites

25 sites have been previously recorded within 100m of the Study Area (**Figures 4−1** to **4−4**). However, most of these have been destroyed under permit during previous developments. Three sites remain extant that are adjacent to the Study Area; Nardell N2 (37−3−0491), Nardell N4 (37−3−0492) and Rav east 25 (37-3-0417).

Nardell 2 is a stone artefact scatter located in a stand of trees at a minimum of 5m to the south of the fence line that marks the southern edge of the Study Area (**Plate 8**). Information supplied by Ravensworth Operations indicates that no artefacts were observed there during the last attempt to locate them. The site is fenced and will not be impacted as a result of the Modification.

Nardell 4 is a small stone artefact scatter on the crest of a hill, adjacent to the Study Area (**Plate 9**). It is currently fenced and will not be impacted as a result of the Modification.

Rav east 25, an isolated find, is located at least 70m from proposed impacts and requires no specific management to avoid harm to the site.

6.4 DISCUSSION

The results of the site inspection largely conformed to the regional and local archaeological characteristics as summarised in the predictive model (**Section 4.4**). Sites were extremely unlikely in Sections 1a and 3 where large portions of the Study Area were totally disturbed. Sites have been previously recorded within and nearby to the Study Area in the most archaeologically sensitive locations, being nearby to waterways (Nardell N2, rav east 23) and on ridge / hill crests (Nardell N4, rav east 24, LID 36). These previous recordings indicate the high level of assessment that have already taken place in the vicinity of the Study Area and therefore the lower likelihood that new recordings will be made.

6.5 LIKELY IMPACTS TO ABORIGINAL HERITAGE FROM THE MODIFICATION

There will be no impacts to Aboriginal heritage as a result of the Modification. However, several management measures are required to ensure that no incidental impacts occur to known sites (**Section 7**).

7 MANAGEMENT AND MITIGATION: ABORIGINAL HERITAGE

Under the current design of the Modification there will be no impacts to Aboriginal heritage, and therefore, no further investigation is required. However, several management measures are suggested to avoid incidental impact Aboriginal heritage.

Sensitive Areas 1 and 2 do not contain known Aboriginal heritage but the likelihood of further, undetected Aboriginal heritage is unknown due to the poor GSV. Therefore it is recommended that the boundaries of the Modification in these areas be temporarily fenced during the construction of the Modification to ensure that there are no inadvertent impacts to either of these areas (**Figure 6−1**).

Three recorded sites, Nardell N2 (37−3−0491), Nardell N4 (37−3−0492) and Rav east 25 (37-3-0417), are nearby to the Modification (**Figure 4−1** and **4−4**). Nardell N2 and N4 are currently fenced but further precaution should be taken to ensure that they are not impacted during the construction of the pipeline. The condition of site fencing should be checked at the commencement of construction associated with the Modification and signage should be erected at regular intervals along the fencing of these sites to clearly identify that these areas are not to be entered. Additionally, the workforce should be inducted with the information that these areas are not to be entered. Rav east 25 is located at a suitably safe distance from the road corridor in which the pipeline is proposed to be constructed and no specific management is required to avoid harm to the site.

The following general recommendations are also made:

- If unexpected remains are encountered during the proposed works that are suspected to be of Aboriginal cultural heritage, then, depending on the location of the find one of the following procedures should be followed:
    - Should an individual mine where a suspected Aboriginal object is uncovered have an active Aboriginal Cultural Heritage Management Plan (ACHMP; i.e. Ravensworth Open Cut and Glendell Colliery), then the appropriate ACHMP provisions should be followed; or
    - Should an individual mine where a suspected Aboriginal object is uncovered not have an active ACHMP then the Unanticipated Finds Protocol in **Appendix 2** should be followed.
- Should the parameters of the Modification extend beyond the area assessed, then further assessment may be required.

8 RECOMMENDATIONS

Under Section 91 of the NPW Act (as amended in 1974) it is mandatory that all Aboriginal sites recorded under any auspices be registered with OEH AHIMS. As a professional in the field of cultural heritage management it is the responsibility of OzArk to ensure this process is undertaken.

To this end it is noted that **no Aboriginal sites** were recorded during the assessment.

The following recommendations are made on the basis of these impacts and with regard to:

- Legal requirements under the terms of the NPW Act (as amended in 1974) whereby it is illegal to damage, deface or destroy an Aboriginal place or object without the prior written consent of OEH;
- The findings of the current investigations undertaken within the Study Area; and
- The interests of the Aboriginal community.

Recommendations concerning the Modification are as follows:

1. The Modification may proceed without further archaeological investigation under the following conditions:

   a) No impacts from the Modification should occur outside of the areas assessed in this report.

   b) No impacts from the Modification should occur within Sensitive Areas 1 and 2. To ensure that there are no inadvertent impacts to these areas, temporary fencing should be erected during construction at the following locations:

      i. Along the northern and southern boundaries of the Modification for the length of Sensitive Area 1; and
      ii. Along the northern boundary of the Modification for the length of Sensitive Area 2.

2. Nardell N2 (37−3−0491) and Nardell N4 (37−3−0492) should be protected by taking the following precautions:
   a) Existing fencing at the sites should be visible and intact;
   b) Signage should be erected at regular intervals along the fencing of these sites to clearly identify that these areas are not to be entered; and
   c) The workforce should be inducted with the information that these areas are not to be entered.
3. OzArk shall notify AHIMS that site 37-3-0420 should be listed as ‘destroyed’ rather than ‘valid’.

4. If unexpected remains are encountered during construction of the Modification that are suspected to be of Aboriginal cultural heritage, then, depending on the location of the find one of the following procedures should be followed:

    a) Should an individual mine where a suspected Aboriginal object is uncovered have an active Aboriginal Cultural Heritage Management Plan (ACHMP; i.e. Ravensworth Open Cut and Glendell Colliery), then the appropriate ACHMP provisions should be followed; or

    b) Should an individual mine where a suspected Aboriginal object is uncovered not have an active ACHMP then the *Unanticipated Finds Protocol* in **Appendix 2** should be followed.

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PLATES

Plate 1: View to the west of the Study Area toward Bowmans Creek.

Plate 2: View to the southwest of the Study Area between Bowmans Creek and the New England Highway.

Plate 3: View of the intersection of the Study Area with Bowmans Creek.

Plate 4: View to the east toward Bayswater Creek (at bottom of slope).

Plate 5: View along Section 4.

Plate 6: View to the east of the Study Area flanked by Sensitive Area 1.

Plate 7: Sensitive Area 2 can be seen to the right (north) of the fence-line in this view of the Study Area.

Plate 8: View across Nardell N2 to the northeast toward the Study Area.

Plate 9: View to the east along the Study Area with Nardell N4 to the right of the image.

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : 1247

Client Service ID : 183933

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0417	rav east 25	AGD	56	317923	6413298	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	Adam Ford					Permits		
37-3-0419	rav east 24	AGD	56	315867	6413228	Open site	Destroyed	Artefact : -	Isolated Find	
	Contact	Recorders	Adam Ford					Permits	3765	
37-3-0420	rav east 23	AGD	56	316780	6413440	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	Adam Ford					Permits		
37-3-0336	Rail Facility 1	AGD	56	314600	6411910	Open site	Valid	Artefact : -	Open Camp Site	103364
	Contact	Recorders	Mr.Matthew Barber					Permits		
37-3-0036	Ravensworth;Ravensworth B;	AGD	56	313744	6412518	Open site	Valid	Artefact : -	Open Camp Site	4525,102217
	Contact	Recorders	ASRSYS					Permits		
37-3-0490	NARDELL -N1	AGD	56	313754	6412440	Open site	Destroyed	Artefact : -		
	Contact	Recorders	Ray Fife,Victor Perry,Ms.Alison Lamond					Permits		
37-3-0491	NARDELL N2	AGD	56	314000	6412100	Open site	Valid	Artefact : -		103364
	Contact	Recorders	Ray Fife,Laurie Perry					Permits		
37-3-0492	NARDELL N4	AGD	56	313050	6412500	Open site	Valid	Artefact : -		103364
	Contact	Recorders	Ray Fife,Laurie Perry					Permits		
37-3-0470	Nard 13	AGD	56	313560	6412510	Open site	Destroyed	Artefact : -		
	Contact	Recorders	Iain Stuart					Permits	1362,1363	
37-3-0560	Nard 8, same as 37-3-0292	AGD	56	313903	6412307	Open site	Valid	Artefact : -		
	Contact	Recorders	Iain Stuart					Permits		
37-3-0561	Nard 9	AGD	56	313834	6412483	Open site	Destroyed	Artefact : -		
	Contact	Recorders	Iain Stuart					Permits		
37-3-0522	Nard 11	AGD	56	313675	6412400	Open site	Destroyed	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits	1414	
37-3-0523	Nard 12	AGD	56	313590	6412450	Open site	Destroyed	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits	1414	
37-3-0675	Newpac Stockpile OS 2	AGD	56	312985	6412575	Open site	Valid	Artefact : 4		99846
	Contact Searle	Recorders	Austral Archaeology Pty Ltd					Permits	2385	
37-3-1128	REA256	GDA	56	313859	6412438	Open site	Destroyed	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited,Ms.Alison Lamond					Permits		
37-3-0292	Nard 8; same as 37-3-0560	AGD	56	313903	6412307	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Iain Stuart					Permits		
37-3-0927	REA3	GDA	56	314506	6412193	Open site	Valid	Artefact : -		103364
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		

Report generated by AHIMS Web Service on 03/08/2015 for Nicholas Harrop for the following area at Search using shape-file Study Area.SHP with a buffer of 0 meters. Additional Info : To identify possible sites within a proposed impact area.. Number of Aboriginal sites and Aboriginal objects found is 22

Office of Environment & Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Purchase Order/Reference : 1247

Client Service ID : 183933

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-1152	LID 36	GDA	56	315653	6413108	Open site	Destroyed	Artefact : 1		
	Contact	**Recorders**	Umwelt (Australia) Pty Limited,Miss.Nicola Roche,Mr.NICHOLAS HARROP					**Permits**	3765	
37-3-1165	LIDEE OS1 duplicate of 37-3-1159 and 37-3-1162	GDA	56	315444	6413001	Open site	Deleted	Artefact : 1		
	Contact	**Recorders**	OzArk Environmental and Heritage Management					**Permits**		
37-3-1159	LIDEE-OS1 duplicate of 37-3-1162 and 37-3-1165	GDA	56	315444	6413001	Open site	Destroyed	Artefact : 1		
	Contact	**Recorders**	OzArk Environmental and Heritage Management,Mr.NICHOLAS HARROP					**Permits**	3765	
37-3-1162	LIDEE - OS1 duplicate of 37-3-1165 and 37-3-1159	GDA	56	315444	6413001	Open site	Deleted	Artefact : 1		
	Contact	**Recorders**	OzArk Environmental and Heritage Management					**Permits**		
37-3-1261	REA426	GDA	56	314004	6412647	Open site	Partially Destroyed	Artefact : -		
	Contact	**Recorders**	Ms.Alison Lamond,Ms.Nadia Zakrzewski					**Permits**		

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APPENDIX 2: UNANTICIPATED FINDS PROTOCOL

An Aboriginal artefact is anything which is the result of past Aboriginal activity. This includes stone (artefacts, rock engravings etc.), plant (culturally scarred trees) and animal (if showing signs of modification; i.e. smoothing, use). Human bone (skeletal) remains may also be uncovered while onsite.

Cultural heritage significance is assessed by the Aboriginal community and is typically based on traditional and contemporary lore, spiritual values, and oral history, and may also take into account scientific and educational value.

Protocol to be followed in the event that previously unrecorded or unanticipated Aboriginal object(s) are encountered:

1. All ground surface disturbance in the area of the finds should cease immediately the finds are uncovered.
    a) The discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be halted; and
    b) The site supervisor will be informed of the find(s).
2. If there is substantial doubt regarding an Aboriginal origin for the finds, then gain a qualified opinion from an archaeologist as soon as possible. This can circumvent proceeding further along the protocol for items which turn out not to be archaeological. If a quick opinion cannot be gained, or the identification is positive, then proceed to the next step.
3. Immediately notify the following authorities or personnel of the discovery:
    a) OEH; and
    b) Relevant Aboriginal Community Representatives.
4. Facilitate, in co-operation with the appropriate authorities and relevant Aboriginal community representatives:
    a) The recording and assessment of the finds;
    b) Fulfilling any legal constraints arising from the find(s). This will include complying with OEH directions; and
    c) The development and conduct of appropriate management strategies. Strategies will depend on consultation with stakeholders and the assessment of the significance of the find(s).
5. Where the find(s) are determined to be Aboriginal Objects, any re-commencement of construction related ground surface disturbance may only resume in the area of the find(s) following compliance with any consequential legal requirements and gaining written approval from OEH (as required).