

LIDDELL COAL OPERATIONS

APPENDIX J

Aboriginal and Historic
Heritage Assessment (OzArk, 2013)

APPENDICES



**Environmental and
Heritage Management P/L**

ABORIGINAL AND HISTORIC HERITAGE ASSESSMENT

Liddell Coal Operations

Modification 5 to Development Consent DA 305-11-01

September 2013

**Report Prepared by
OzArk Environmental & Heritage Management Pty Ltd
for GSS Environmental
on behalf of
Liddell Coal Operations Pty Limited**

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DOCUMENT CONTROLS

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Client	GSS Environmental
Project No / PO No	
Document Description	Archaeological Assessment: Liddell Coal Operations Extension Project, Upper Hunter Valley, NSW.
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Location	OzArk Job No.
\\DROBONAS\Public\OzArk EHM Data\Clients\GSS Environmental\Liddell Open Cut\Reports	549
Document Status FINAL V3.4	Date
Draft V1.1 Author to Editor OzArk 1 st Internal (Series V1.X = OzArk internal edits)	V1 JN to JB 4.11.2011 V1.2 JB edit 23.11.11
Draft V2.0 Report Draft for release to client (Series V2.X = OzArk and Client edits)	V2.0 JB to Client V2.1 JN to Client 18.1.2012 V2.1 GSS to OzArk 25.1.2012 V2.2 JN to JB V2.3 OzArk to GSS 10.2.12 V2.4 JN to JB 21.12.2012 V2.5 KM to JB 28.01.13 V2.6 OzArk to GSS 4.2.13 V2.7 OzArk to GSS 13.2.13 V2.8 JB to KM/JN V2.9 OzArk to GSS 19.4.13 V2.10 OzArk to GSS 23.4.13 V2.10 comments received from GSS 29.5.13
FINAL: Once Latest Draft Approved by Client	V3.0 OzArk to GSS 30.5.13 V3.0 comments received 3.6.13 V3.1 OzArk to GSS 13.6.13 V3.2 OzArk to GSS 27.6.13 Comments received from adequacy 28.8.13 V3.3 OzArk to GSS 4.9.13 Edits from GSS/Glencore 9.9.13 V3.4 OzArk to GSS/Glencore 10.9.113
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EXECUTIVE SUMMARY

Liddell Coal Operations (LCO) is an established open-cut mining operation located at Ravensworth, in the Upper Hunter Valley of New South Wales. LCO is operated and managed by Liddell Coal Operations Pty Limited, a wholly owned subsidiary of Glencore Coal Pty Limited (Glencore), on behalf of a joint venture between Glencore (67.5%) and Mitsui Matsushima Australia (32.5%).

LCO currently has approval to conduct mining operations until the end of 2023 within an approved mining footprint. Open cut mining activities will however reach this approved boundary in 2014. Coal reserves have been identified outside of this footprint within the development consent boundary, and LCO therefore propose to extend the existing open cut mining operations outside the approved mining area in both the South Pit and Entrance Pit, to enable continuity of mining and maximise recovery of coal resources within the existing development consent boundary.

LCO engaged OzArk Environmental and Heritage Management (OzArk EHM) to undertake an Aboriginal and Historic Heritage Assessment of the proposed modification (the Proposal).

From the 19th to 24th of September 2011 Dr. Jodie Benton and Joshua Noyer (Senior Archaeologist and Archaeologist respectively of OzArk EHM) carried out a heritage assessment at four non-contiguous proposed impact zones (collectively referred to as the Subject Area) located at LCO; as follows:

- Proposed Entrance Pit Extension;
- Proposed South Pit Extension;
- Proposed CHPP Pit; and
- Proposed additional tailings dam.

The Subject Area was inspected with representatives from multiple Aboriginal parties from the Upper Hunter Valley. See **Appendix 1** for a log of Aboriginal community members that were engaged in the current assessment.

Subsequent to this assessment, the proposal was modified to only include two proposed impact zones: the Entrance Pit and South Pit Extension. LCO are no longer seeking approval for the CHPP Pit and the additional tailings dam in the north of the LCO lease. It is noted that an additional tailings emplacement is still proposed as part of the modification; however this is within the South Pit void.

Aboriginal Heritage

Initial desktop level assessment of sites on the Office of Environment and Heritage (OEH) Aboriginal Heritage Information Management System AHIMS database identified 22 previously recorded sites within the original four proposed impact zones that collectively make up the Subject Area. During the field survey portion of this assessment, re-location of 18 of these 22 sites was attempted and field officers were successful in re-locating 10 of the sites. In addition to the 10 re-located sites, OzArk EHM field officers identified six additional un-recorded sites within two of the proposed impact zones (five within the proposed Entrance Pit Extension and one within the proposed South Pit Extension).

During the field portion of this assessment three primary management areas were identified based on the sensitivity of the landforms and concentration of archaeological material witnessed during the survey. These include:

- Bowmans Creek Sensitive Archaeological Landscape (LID-BC-SAL)
- Bowmans Creek Ridge Sites (LID-BC-RS)
- Chain of Ponds Creek Sites (LID-CPCS)¹

These have been discussed in detail in **Section 6.4** of this report.

Within the parameters of the Proposal, avoidance of Bowmans Creek Ridge Sites and Chain of Ponds Creek Sites is not feasible given that these sites lie directly within the proposed impact zone of the proposed Entrance Pit Extension and South Pit Extension open cut mining activity, meaning that minor adjustments to the location of either of these will not manage to avoid the sites.

The Bowmans Creek Sensitive Archaeological Landscape lies directly on the eastern edge of the proposed Entrance Pit Extension within the impact zone of the proposed auxiliary disturbance. Subsequent to the field survey, the extent of the Entrance Pit Extension was reduced to avoid the majority of sites with this Sensitive Archaeological Landscape.

A test excavation program was carried out in April 2012 following the field survey to further confirm the presence of archaeological deposits.

If works are to proceed as proposed in **Section 1.2** then it is recommended that the following management measures be applied:

1. Management Group 1 - Sites that would be avoided by the Proposal: Includes sites not directly impacted but within 50 m of proposed impacts. Recommendations include

¹ NB Although these sites remain extant, they are currently subject to AHIP # 2348, which remains in force until October 3rd 2016. They have already undergone salvage and are likely to be impacted under the current AHIP. They are noted as *Destroyed* on AHIMS.

inductions and suitable curtilage to make workers aware of site locations to prevent inadvertent impacts. No AHIP required. These sites include:

- a. Bowmans Creek SAL sites: Foy Brook / HAZ-OS1 and the remaining areas of the partially impacted sites of this area (LID ES1, LID 3 with PAD, and LID 34 with PAD).
- b. Brayshaw sites (A, B, C, and D), LID 2, Foy Brook / HAZ-OS1 and remaining areas of the partially impacted LID-BC-SAL sites (LID ES1, LID 3 with PAD, and LID 34 with PAD).

2. Management Group 2: Sites requiring surface collection and/or artefact relocation: All previously recorded or newly identified sites within the impact zones where cultural material was identified as part of the current assessment or where cultural material can be expected but identification was constrained by limited surface visibility. Test excavations carried out at LCO confirmed that this group of sites does not overall have associated deposit, hence collection is appropriate as the primary management option for these sites. Sites that require the salvage of surface artefacts under an Aboriginal Heritage Impact Permit (AHIP) prior to construction impacts occurring (refer to **Section 7.2** and **Table 9**) include:

- a. Bowmans Creek Ridge Sites management area – Sites Rav 24 East, LID 35, LID 36, LID EEOS1, LID EEOS2 and LID EEIF1 and IF2 (refer to **Section 6.4.2**);
 - i. Management sub-group A: Site Rav 24 East will also require grader scrape salvage in addition to surface collection as limited subsurface deposits (less than 10 cm below surface) and artefacts embedded in the topsoil are expected to occur at this site (refer to **Section 7.2**).
 - ii. Management sub-group B: Site Rav 24 East will also require soil stockpiling of the topsoil during initial impact as limited subsurface deposits (less than 10 cm below surface) and artefacts embedded in the topsoil are expected to occur at this site.
- a. Chain of Ponds Creek Sites management area – Sites LID 30, LID 31, LID 32 (this collection will occur under current valid AHIP #2348 prior to Development Modification 5 being assessed) and LIDSE OS1 (refer to **Section 6.4.3**);
- b. Bowmans Creek SAL sites LID ES1, LID ES2, LID 34, and LID 3 with PAD (refer to **Section 6.4.1**);
 - i. Management sub-group B: Sites LID 3 and LID 34 will also require soil stockpiling of the top soil during initial impact as low density subsurface deposits were identified by a April 2012 test excavation programme (**Attachment 1**).
 - ii. Management sub-group C: Site LID ES2 will also require vegetation clearance prior to surface collection as the site was unable to be re-located in the field due to poor surface visibility.

- c. Of the lone sites, site LID 33 will require collection while Site Rav A and LID 27 fall into management sub-group C and will require vegetation clearance prior to surface collection as the sites were unable to be re-located in the field due to poor surface visibility.
- 3. Management Group 3 - No further salvage activity required: Includes sites salvaged as part of a previous section 90 consent where impacts have caused complete ground disturbance and have removed any material evidence enabling identification of the site. No AHIP required. These sites include:
 - o LID EE-IF3
 - o LID 1; 37-3-0454
 - o LID 5; 37-3-0450
 - o LID 15; 37-3-0439
 - o LID 31; 37-3-0428
 - o LHP 1; 37-3-0739
 - o SP 1; 37-3-0457
 - o SP 3; 37-3-0455

The recommendations of this assessment should be included in the Aboriginal Cultural Heritage Management Plan (ACHMP) for LCO, which will be updated to incorporate the proposed modification, if approved.

Further detailed recommendations have been provided in **Section 11**.

Non-Indigenous Heritage

The Chain of Ponds Inn which is listed on the State Heritage Register is located within 65 m of the South Pit Extension and is at risk of indirect impacts if the works are to proceed. The Blast Vibration Study (**Section 9.4.1.2**) states that mining in the vicinity of the Inn complex could proceed without any major risk of damage provided that blast design control is implemented and a number of major defects in the structures are rectified prior to the commencement of the proposed close range blasting program. Subsequently, a Blast Impact Strategy was developed for the Chain of Ponds Inn (Enviro Strata Consulting, 2013) to ensure that blast related impacts are minimised on the Chain of Pond Inn. This strategy is based on an adaptive management approach, undertaking an ongoing review of structural assessments and blast processes as blasting locations get closer to the Inn and vibration levels increase.

Initial stabilisation measures are recommended by the Blast Vibration Study, including support of badly termite-damaged timber structures such as the front verandah, and support of all Chimney's laterally, and in the case of Chimney in Building C, vertically. As blasting gets closer

to the Inn and vibration levels increase, it is likely that further structural support will be required, subject to ongoing review of the Inn and blasting processes.

The following recommendations apply:

- It is imperative that the blast impact towards the Chain of Ponds Inn is gradual and fully monitored. A structural engineer should be engaged to monitor the condition of the buildings on an ongoing basis and if necessary, further stabilisation measures should be put in place.
- Measures to protect the buildings should be guided by the Burra Charter, replace like with like, be temporary and/or easily removed and works should be limited to those parts of the buildings that are at risk.
- An Exemption form and Statement of Heritage Impact should be submitted to the Director, Heritage Branch to notify the Heritage Council of a proposed development that may be exempt under section 57(2) of the Heritage Act.
- Ensure consultation with Singleton Council is undertaken.
- Consultation with other relevant stakeholders should also be considered.

In relation to LID-HS1 (stockyards):

This site has been assessed as having no heritage significance. It can be destroyed without a Statement of Heritage Impact (SoHI) or any further actions.

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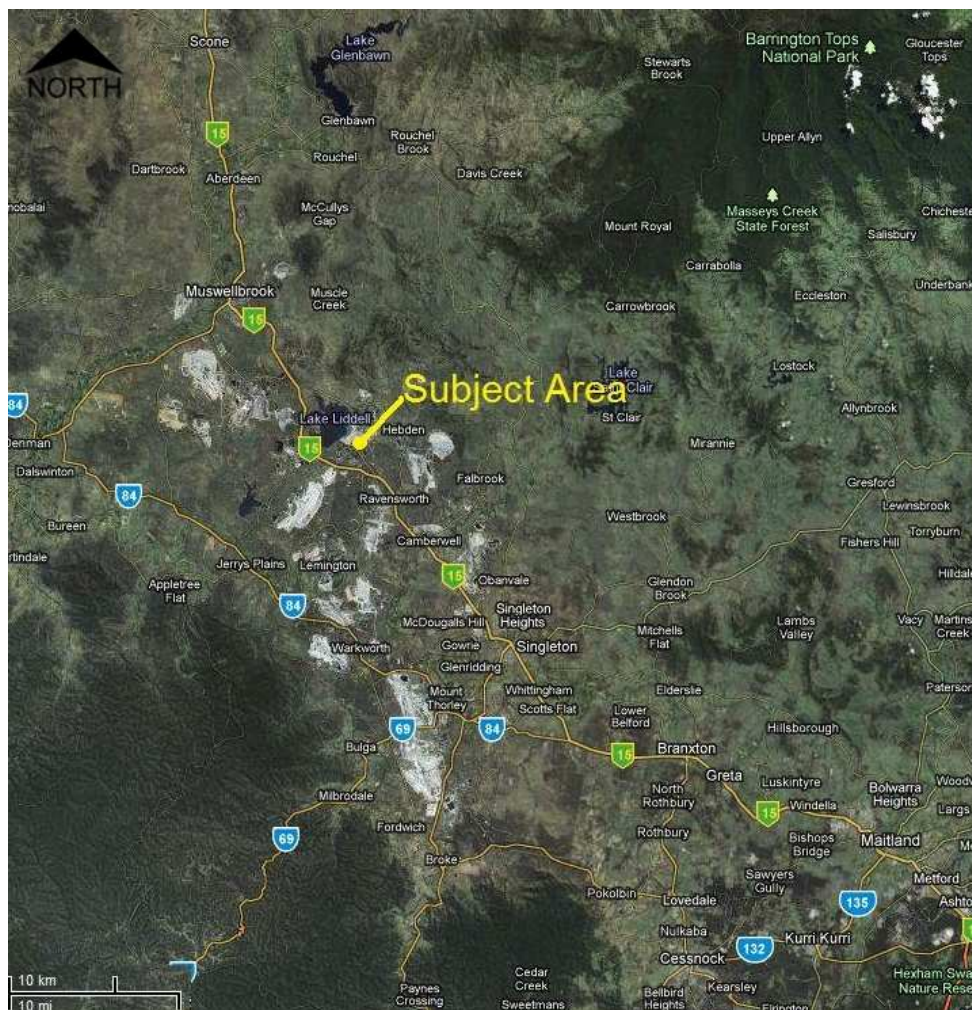
ATTACHMENT 1: Archaeological test excavations at Lid 3 (#37-3-0452) and Lid 34 (#37-3-1150)

1 INTRODUCTION

1.1 BRIEF DESCRIPTION OF THE PROPOSAL

Liddell Coal Operations (LCO) is an existing open cut coal mine located approximately 25 kilometres north-west of Singleton in the Upper Hunter Valley of New South Wales, as illustrated on **Figure 1**. LCO is located within the Parish of Liddell, in the County of Durham, and lies within both the Singleton Local Government Area (LGA) and the Muswellbrook LGA.

Figure 1: Location Map (Google Maps 2011).



1.2 PROPOSED WORKS

The key components of the proposed modification (collectively referred to as 'the Proposal' throughout this report), as illustrated on **Figure 2**, include the following:

- Extension of the South and Entrance Pits to the south east, and, upon completion of mining in these pits, the mining of coal resources under the Mine Infrastructure Area (MIA) during which the MIA would be relocated to a temporary facility.

- The extension of open cut mining activities would lead to an associated extension of the life of mine at LCO from 2023 to 2028.
- An additional tailings emplacement area would be constructed within the final void of the South Pit to dispose of the additional tailings associated with the extension of open cut mining activities.
- Coal would continue to be processed at the LCO Coal Handling and Preparation Plant (CHPP) at the approved rate of up to 8 Mtpa. As a contingency for coal processing, LCO also propose to deliver up to 1.5 Mtpa of this ROM coal to the Ravensworth Central Coal Processing Facility (RCCP) for washing via a new connection to the existing overland conveyor or the road transport route to RCCP. In addition, up to 2 Mtpa may be received from the adjacent Mt Owen Complex for processing via a new connection to the existing overland conveyor.
- Infrastructure and auxiliary surface disturbance to support the new mining areas would also be required, including but not limited to, powerlines, water management infrastructure and haul roads.

The proposed works lie wholly within both the existing development consent boundary and the mining lease ML 1597 boundary. No further changes are proposed to that already approved by DA 305-11-01 including operating hours, coal handling techniques and mining methods.

1.3 PROJECT AREA

The Project Area for the proposed works is identified on **Figure 2** and is defined as all land encompassed within the existing DA 305-11-01 boundary, covering an area of approximately 2108 hectares. The Project Area is bounded to the east by Bowmans Creek and to the west by Lake Liddell and the New England Highway, and includes the proposed new mining and disturbance areas associated with the modification.

1.4 SUBJECT AREA

For the purposes of the current assessment, the Project Area has been divided into the two specific areas to be assessed for impact as a result of the Proposal. **Figure 2** clearly delineates these two areas, which when referred to collectively throughout this report will be called 'the Subject Area'.

Each individual area of impact will be referred to as follows:

- South Pit Extension (SPE) Impact Zone. This includes the proposed MIA Pit; and
- Entrance Pit Extension (EPE) Impact Zone.

1.5 PURPOSE AND OBJECTIVES OF THE ARCHAEOLOGICAL INVESTIGATION

The purpose of the current study is to survey the proposed project impact zones of the LCO Extension Project in order to assess the heritage impacts of the proposal.

The objectives of the current study are to:

Objective One: Identify and record Aboriginal objects and sites within the Subject Area;

Objective Two: Identify and record historical artefacts / features within the Subject Area.

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

1.6 OZARK PROJECT TEAM

1.6.1 Field Assessment

The fieldwork component of the current project was undertaken by:

- Fieldwork director: Dr Jodie Benton (BA (Hons) – University of Sydney; PhD – University of Sydney); and
- Archaeologist: Joshua Noyer (BA Anthropology/Archaeology – University of California, Santa Cruz).

The test excavation component of the current project was undertaken by:

- Fieldwork director: Joshua Noyer;
- Archaeologist: Jenni Streatfield;
- Operations manager: Jen McGhee; and
- Field assistant: Anna Streatfield.

1.6.2 Reporting

The reporting component of the current project was undertaken by:

- Report author: Joshua Noyer; and
- Reviewer: Dr Jodie Benton.

1.7 PROJECT CONSTRAINTS

The assessment was undertaken with an experienced team during generally good weather, consequently there were no issues with weather impeding survey efforts.

Access to all survey locations that required assessment was facilitated by LCO. As the survey was undertaken during early spring, ground cover was relatively thick. Ground surface visibility was consequently obscured by thick vegetation over most of the Subject Area.

The survey team applied Due Diligence, where a given area of land within the Subject Area was visualised by the team members (irrespective of disturbed context) and discussed to determine

if a targeted inspection was required. This technique was excellent and provided no project constraints (re inadequacy of survey coverage).

Figure 2: Project Area (Source GSSE 2013).

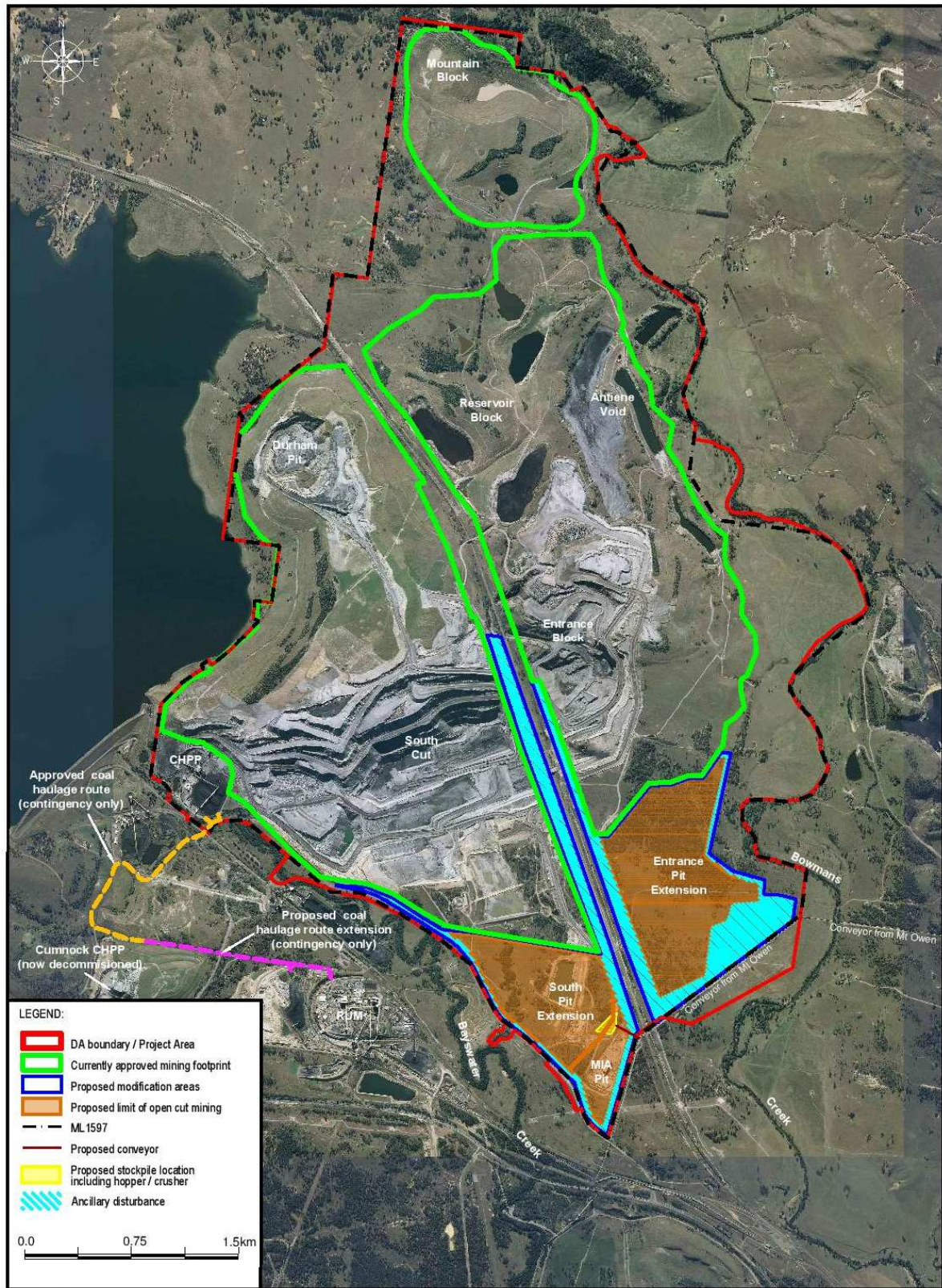
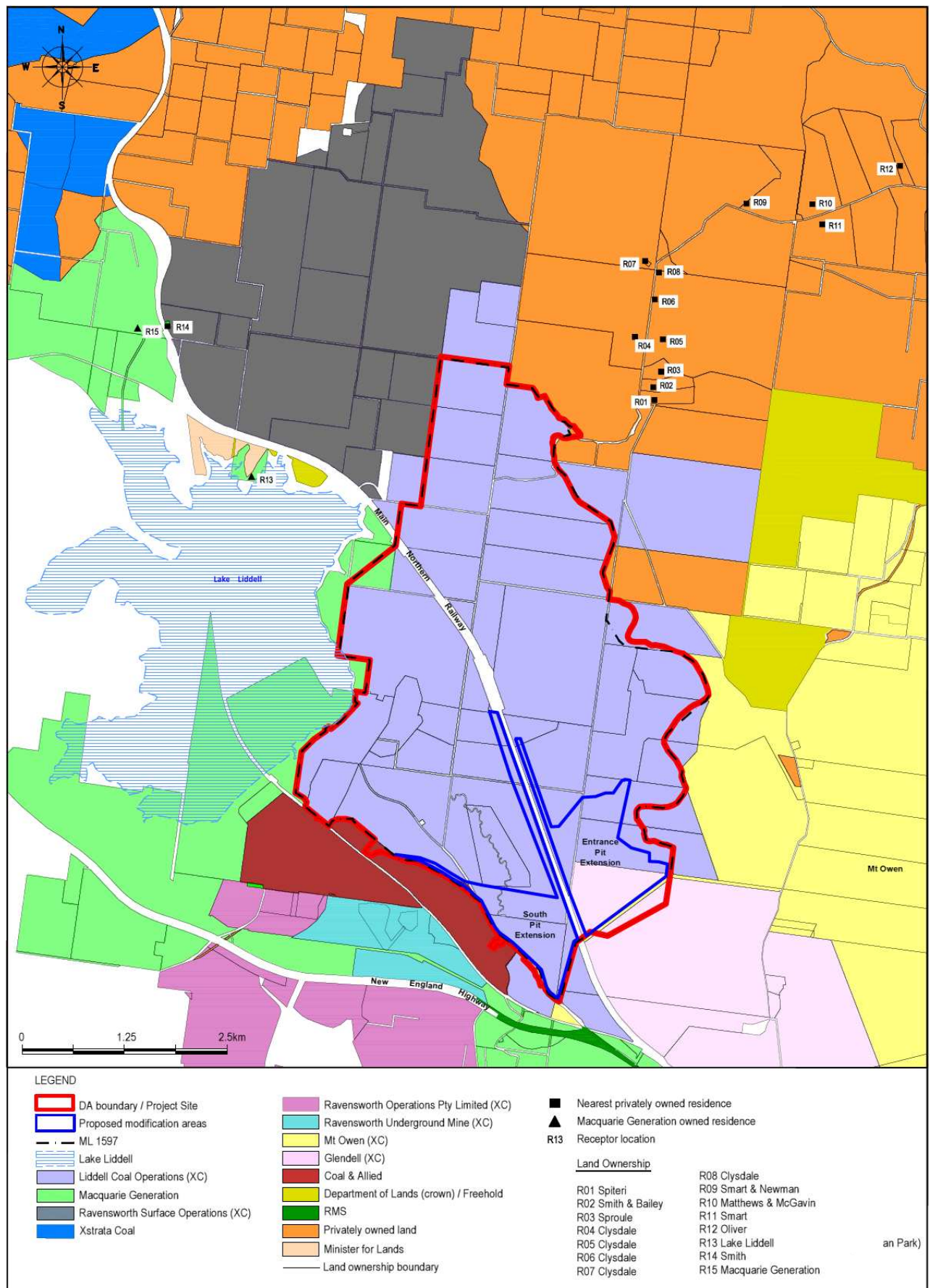


Figure 3: Land ownership of the Project Area (GSS Environmental 2013).



2 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 Charter², which recognises that there are places worth keeping because they can enrich our lives on many levels. The significance of such places may be embodied in fabric (physical material), environmental setting, contents, use or meaning to people, and should be assessed through methodical data collection. Since its adoption in 1979, 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 Aboriginal heritage at various levels of government³. The two most important statutes in New South Wales are the:

- *Environmental Planning and Assessment Act 1979* (EP&A Act).
- *National Parks and Wildlife Act 1974* (NPW Act).

While at Commonwealth level, the following statute is relevant:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) amended by the *Environment and Heritage Legislation Amendment Act* (no. 1) 2003.

2.1.1 State Legislation

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

This Act established requirements relating to land use and planning. The primary parts of the Act are:

- Part 3: environmental planning instruments;
- Part 3A (now repealed) was the process through which major projects were approved, and this part will remain operative for the project, as it is a Development Consent Modification of an older Part 4 approval.
- Part 4: local government development assessments, including heritage. May include schedules of heritage items;

² The Burra Charter defines the basic principles and procedures to be followed in the conservation of all kinds of places such as monuments, buildings, Aboriginal sites, roads, archaeological sites, whole districts or even regions. It was first adopted in 1979, based on the Australian ICOMOS (International Council on Monuments and Sites) review (1977) of the 1966 Venice Charter (Australian ICOMOS Inc. 1998).

³ NSW Heritage Office 1998: *Living with Aboriginal Culture*, p. 3.

- Part 4.1 approvals process for State Significant Development;
- Part 5: environmental impact assessment requirements (for those developments not assessed under Part 3A or requiring consent under Part 4). State owned heritage items listed on LEPs are governed by Part 5; and
- Part 5.1 approvals process for State Significant Infrastructure.

2.1.1.2 National Parks and Wildlife Act 1974 (NPW Act)

Amended during 2010, the *National Parks and Wildlife Act 1974* 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 New South Wales, 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 *National Parks and Wildlife Act 1974* 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 *National Parks and Wildlife Act 1974* 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, viz.:

- 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 Director-General of the location of an Aboriginal object. Identified Aboriginal items and sites are registered with the NSW OEH on the AHIMS.

2.1.1.3 NSW Heritage Act 1977

The *Heritage Act 1977* (as amended) protects the State's natural and cultural heritage and contains measures to protect archaeological remains. More specifically, the Heritage Act provides protection for European/historic relics and sites. Under Section 139, a relic is defined

as “those buildings, works, relics or places of historic, scientific, cultural, social, archaeological, architectural, natural or aesthetic significance for the State.”

A relic is further defined by the Act as “...any deposit, object or material evidence:

- which relates to the settlement of the area that comprises New South Wales, not being Aboriginal settlement; and
- which has local or state heritage significance.”

Under Section 138 of this Act impacts to an area suspected of containing historic artefacts requires a Section 140 permit issued by the Heritage Office.

2.1.2 Commonwealth Legislation

2.1.2.1 *Environmental Protection and Biodiversity Conservation Act 1999*

The EPBC Act protects the environment, particularly matters of National Environmental Significance. It streamlines national environmental assessment and approvals process, protects Australian biodiversity and integrates management of important natural and cultural places. Under the EPBC Act, definitions of the ‘environment’ include the following:

- Ecosystems and their constituent parts, including people and their communities;
- Natural and physical resources;
- The qualities and characteristics of locations, places and areas;
- Heritage values of places; and
- The social, economic and cultural aspects of a thing mentioned in the above points.

The EPBC Act provides that any action assessed as likely to have a significant effect on listed matters of national environmental significance is to be known as a *controlled action*, and may only proceed with the Minister of the Environment’s approval.

In January 2004 changes to the protection of national heritage came into effect through amendments to the EPBC Act (*Environment and Heritage Legislation Amendment Act (no. 1) 2003*). These amendments established the National Heritage List and the Commonwealth Heritage List, both administered by the former Commonwealth Department of the Environment, Water, Heritage and the Arts (DEWHA), now Department of Sustainability, Environment, Water, Populations and Communities (SEWPaC). Ministerial approval is required for proposals involving significant impacts to National/Commonwealth heritage places. Additionally, the Australian Heritage Council maintains the Register of the National Estate (RNE).

2.1.2.2 Australian Heritage Council Act 2003

This Act established the Australian Heritage Council as an independent advisory body regarding National/Commonwealth heritage places. The Council conducts assessments of listing nominations, advises the Minister for Environment and Heritage, maintains the RNE, and promotes the assessment and conservation of heritage items.

2.1.3 Conclusion

The following statutes in New South Wales apply to heritage items recorded within the Project Area:

- *Environmental Planning and Assessment Act 1979* (EP&A Act).
 - o Modification of the existing consent is required under the Part 3A s75W of this act to allow for the extension of mining activities;
- *National Parks and Wildlife Act 1979* (NPW Act).
 - o Multiple Aboriginal heritage sites were recorded as part of this assessment and are therefore protected under the definition provided in Section 86 of the NPW Act. Under Section 87 any impacts to such items require a Section 90 permit be issued before impacts occur.
- *NSW Heritage Act 1979* (Heritage Act).
 - o Chain of Ponds Inn is listed on the NSW State Heritage Register (SHR). Any impacts to the heritage values of the Inn will need to be approved via a Section 60 permit or an exemption under section 57(2) of the Heritage Act.

While at Commonwealth level, the following statutes are relevant:

- *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) amended by the Environment and Heritage Legislation Amendment Act (no. 1) 2003.
 - o None of the items in the Project Area or affected by the Project are listed under the EPBC Act.

3 ABORIGINAL COMMUNITY CONSULTATION

Consultation with the Aboriginal Community was undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements* (ACHCRs), Department of Environment, Climate Change and Water (DECCW 2010).

3.1 STAGE 1: NOTIFICATION AND REGISTRATION

An expression of interest advertisement was placed in the Singleton Argus and the Hunter Valley News, to appear in each publication on the 17th and 18th May 2011 respectively. To establish a broad base of Aboriginal people or organisations who may hold cultural knowledge relevant to the Project Area, contact details were sought from the following organisations:

- Office of Environment & Heritage (OEH),
- Muswellbrook Shire Council,
- Singleton Council,
- Native Title Services Corporation (NTSCORP),
- Hunter – Central Rivers Catchment Management Authority (CMA),
- National Native Title Tribunal,
- Wanaruah Local Aboriginal Land Council (LALC) and
- the Register of Aboriginal Owners.

In addition an existing data base of Aboriginal Stakeholders associated with previous projects at LCO was sourced so that these individuals / organisations could be advised of the proposed modification and invited to register interest. A search of the Native Title Tribunal website (28.2.13) revealed two claims that relate to the local area (NC 12/5 Wonnarua Traditional Custodians and NC12/4 Plains Clans of the Wonnarua Peoples), although they do not include the current Project Area.

A second round of letters was sent to additional groups identified as a consequence of the first round of advertising and agency contact. At the conclusion of the Stage 1 notification phase of this process, fourteen Aboriginal groups or organisations registered an interest (original letters, if received, are provided in **Appendix 3**).

- Cacatua Culture Consultants;
- Hunter Traditional Owners;
- Wanaruah LALC;
- Hunter Valley Aboriginal Corporation;
- Kayaway Eco Cultural & Heritage Services;

- Ungooroo Cultural and Community Services;
- Ungooroo Aboriginal Corporation (UAC);
- Wattaka Wonnarua Cultural Consulting Service;
- Widescope Indigenous Group P/L;
- Wonn1 Consultants;
- Wonnarua Culture Heritage;
- Wonnarua Nation Aboriginal Corporation;
- Yarrawalk Enterprises; and
- Yinarr Cultural Services.

It is noteworthy that the number of Registered Aboriginal Parties (RAPs) increased to fifteen as a late registration of interest for the project was received from T & G Cultural Consultants.

3.2 STAGES 2 AND 3: INFORMATION EXCHANGE; METHODS REVIEW AND ASSESSMENT

ACHCR Stage 2 / 3 letters presenting information about the Proposal and describing the proposed heritage assessment methodology were sent to all stakeholders with a request for any specific cultural information (should any be available), as well as inviting comment / input on the methodology proposed. Included with this correspondence was an invitation to attend an inception meeting and site visit, to introduce the Proposal and discuss the proposed methodology. Subsequently this meeting was held Thursday 1st September, 2011 and attended by representatives from seven of the fifteen registered Aboriginal Parties. Representatives from LCO and GSSE also attended the meeting, and provided an overview of the Proposal to the RAPs. The methodology for the field assessment was also discussed, including how the field work would be shared amongst the RAPs.

Feedback from the consultation meeting was incorporated into the methodology prior to fieldwork being initiated. The minutes of the meeting, as presented in **Appendix 3**, cover the issues discussed and as they related to the survey methods, the most relevant were those surrounding the approach to land that had poor ground surface visibility. This was noted as a constraint that would be discussed throughout the survey and modelling of archaeological potential used as an additional tool.

Several positions were made available for Aboriginal community representatives and a roster system was developed to allow all stakeholders to be represented in the fieldwork program. The fieldwork was undertaken over four days, commencing Tuesday 20th September to Friday 23rd September, 2011. It was agreed by stakeholders at the initial project meeting that should their organisation not have a representative available on their roster date, efforts would be made to fill the position with a Site Officer from another registered Aboriginal organisation.

Positions for eight Site Officers were made available on each of Day 1 and Day 2, with positions for seven Site Officers made available on each of the final two days of survey.

3.2.1 Field Survey

The following organisations / individuals participated in the September 2011 fieldwork for the assessment:

Tuesday 20th September

- Cacatua Culture Consultants / Mr George Sampson
- Hunter Valley Aboriginal Corp / Mrs Rhonda Griffiths
- T&G Cultural Consultants / Mr David Smtih
- Wanaruah LALC / Mr Les Atkinson
- Wonnarua Culture Heritage / Mr Shannon Griffiths
- Yarrawalk Enterprises / Mr Raymond French
- Yinarr Cultural Services / Mr Owen Davison

Wednesday 21st September

- Cacatua Culture Consultants / Mr George Sampson
- Hunter Valley Aboriginal Corp / Mrs Rhonda Griffiths
- T&G Cultural Consultants / Mr David Smtih
- Wanaruah LALC / Mr Les Atkinson
- Wonnarua Culture Heritage / Mr Tim Smith
- Yarrawalk Enterprises / Mr Raymond French
- Yinarr Cultural Services / Mr Owen Davison

Thursday 22nd September

- Hunter Traditional Owners / Ms Paulette Ryan
- Hunter Valley Aboriginal Corp / Mrs Rhonda Griffiths
- Ungoorooo Aboriginal Corporation (UAC) / Mr Trevor Sproule
- Yarrawalk Enterprises / Mr Raymond French

Friday 23rd September

- Hunter Traditional Owners / Ms Paulette Ryan
- Ungoorooo Aboriginal Corporation (UAC) / Mr Trevor Sproule

3.2.2 Post Survey: Review of Aboriginal Heritage Data Collected

Following the fieldwork programme, a meeting was held on Tuesday 13th December, 2011 to which all RAPs were invited, to discuss the results of the survey and work through potential

management recommendations of sites within the Subject Area. Minutes and a sign in sheet from this meeting can be found in **Appendix 3**. As a result of this post survey meeting two additional groups then registered interest to be consulted as stakeholders, taking the number of registered stakeholders to 17, namely:

- Ngarramang-Kuri Aboriginal Culture & Heritage; and
- Myland Cultural & Heritage Group.

The impact to sites within the EPE area, and specifically those close to Bowmans Creek, consumed the majority of meeting focus as the sites are considered by the community to be very significant. During discussion stakeholders expressed a strong preference that this area be avoided; subsequently LCO was able to reduce the impact footprint within the EPE area to avoid and hence conserve this group of sites.

3.2.3 Review of Draft Report and Test Excavation Methods

In February 2012, a draft version of this Aboriginal Heritage Assessment Report (prior to it being updated with the test excavation results) was distributed to all RAPs and an invitation extended to attend a meeting on Wednesday 29th February, 2012 to discuss the document, and in particular the outcomes of the field survey and management recommendations, as well as any associated cultural heritage values. Regardless of attendance at the scheduled meeting, feedback on the report was requested by March 16th 2012, however it was noted should an extension be required to facilitate comment, arrangements would be made.

The management recommendations were generally supported by the RAPs at the meeting, in particular the recommendation to undertake a test excavation to confirm the presence/absence of artefacts sub-surface. The test excavation methodology was discussed, in addition to payment rates for fieldwork.

A request was also made at this meeting for the RAPs, who had previously been unable to accept invitations to undertake a field inspection of the Subject Area, to be given the opportunity again to visit the sites. A site orientation was subsequently scheduled. Wonn1 representative(s) Arthur Fletcher and Suzie Worth re-visited these sites on Wednesday 28th March, 2012, accompanied by Ben de Somer (Environment and Community Superintendent, LCO) and Dr Jodie Benton (OzArk P/L).

During the February meeting RAPs also raised the need to consult with older members of the Aboriginal community who may hold cultural knowledge specific to the Subject Area. A formal written request was subsequently distributed specifically to those RAPs who indicated that they would source contact details for knowledge holders within the community. Although four RAPs were approached for this information, no response was received. It is noted that flexibility was offered in terms of how these knowledge holders may have wanted to share information, to try

to ensure that they were made to feel comfortable and be able to determine themselves the best time, place and methods.

After the meeting, written response received from Donna Sampson, on behalf of Cacatua Culture Consultants, supporting the test excavation program.

3.2.4 Test Excavation Program

The test excavation program was undertaken over five days, commencing Monday 16th April to Friday 20th April, 2012. A roster system was developed with eight positions made available for RAPs.

The following organisations / individuals participated in the April 2012 test excavation program for the Project:

Monday 16th April, 2012

- Tocomwall / Mr Danny Franks, Mr Steven Verey
- Hunter Valley Aboriginal Corp. (HVAC) / Ms Kylie Saunders
- Wanaruah LALC / Ms Nerida Saunders
- T&G Cultural Consultants / Terry Matthews
- Cacatua Cultural Consultants / Mr George Sampson, Tegan McCormack, Adam Sampson, Donna Sampson
- Wonn 1 Consulting / Mr Arthur Fletcher
- Wonnarua Nation Aboriginal Corporation / Ms Rebecca Lester
- Yinarr Cultural Services / Kay Bartholomew

Tuesday 17th April, 2012

- Tocomwall / Mr Danny Franks, Mr Steven Verey
- Hunter Valley Aboriginal Corporation (HVAC) / Ms Kylie Saunders
- T & G Cultural Consultants / Terry Matthews
- Wanaruah LALC / Ms Nerida Saunders
- Wonnarua Culture Heritage / Ms Deslee Matthews
- Wonn 1 Consulting / Mr Arthur Fletcher
- Yinarr Cultural Services / Ms Kay Bartholomew

Wednesday 18th April, 2012

- Tocomwall / Mr Danny Franks, Mr Steven Verey
- Hunter Valley Aboriginal Corporation (HVAC) / Ms Kylie Saunders
- T & G Cultural Consultants / Terry Matthews
- Wanaruah LALC / Ms Nerida Saunders
- Yinarr Cultural Services / Ms Kay Bartholomew
- Hunter Valley Aboriginal Corporation (HVAC) / Ms Kylie Saunders

Thursday 19th April, 2012

- Tocomwall / Mr Danny Franks, Mr Steven Verey
- Cacatua Cultural Consultants / Mr George Sampson, Mr Adam Sampson, Ms Donna Sampson, Mr Jason Brown
- Ungooroo Aboriginal Corporation (UAC) / Ms Kylie Saunders

Friday 20th April, 2012

- Cacatua Cultural Consultants / Mr George Sampson,
- Ungooroo Aboriginal Corporation (UAC) / Ms Kylie Saunders
- Tocomwall / Mr Danny Franks, Mr Steven Verey
- Yinarr Cultural Services / Ms Kay Bartholomew

3.3 STAGE 4: MANAGEMENT MEETINGS AND REVIEW OF DRAFT REPORT

Following the test excavation program, a meeting was held on Tuesday 28th August, 2012 to which all registered Aboriginal parties were invited, to discuss the results of the test excavation programme and the proposed management of sites. This meeting was undertaken before the report was updated with the test excavation results (note the report had already been distributed as draft prior to the excavation) so that the RAPs could see that the consultation was genuine in wanting to capture their feedback on the test results for the purpose of formulating the possible management strategies for the Aboriginal Heritage Impact Permit (AHIP) application. Minutes and a sign in sheet from this meeting can be found in **Appendix 3**. As a result of this post excavation meeting two additional groups then registered interest to be consulted as stakeholders, namely;

- KL.KG Saunders Trading Services; and
- Kawul Cultural Services.

Subsequent to the meeting a package was distributed to RAPs which included a summary of the items discussed and a feedback form inviting comment by Friday 12th October, 2012. This time period was extended until Friday 9th November, 2012 for stakeholders who had not taken the opportunity to submit comment by the original date.

Written and verbal responses received from Widescope Indigenous Group, Ungooroo Aboriginal Corporation, Hunter Valley Aboriginal Corporation, Cacatua Culture Consultants and Wonnarua Nation Aboriginal Corporation indicated their satisfaction and support of the management recommendations. Comments received from Wanaruah LALC and Wonn1, although supporting the recommendations, included more extensive proposals relating to the analysis and fate of the artefacts, and the erosion protection and re-vegetation of the impact areas. Both groups advocated for the sieving of sub-surface deposits or monitoring of ground

surface disturbance for the purpose of retrieving cultural material. It noted that this is a cultural recommendation and that the results of the extensive sub-surface testing programme undertaken (**Attachment 1**) do not support *archaeological* salvage, based on the exceptionally low artefact density (0.3 artefacts per 1 metre²) and the lack of intact sub-surface deposits. It is further noted that any soil material from the A horizon will be stockpiled and reused close to where it has been derived from, such that any artefacts present will remain in the modified landscape. It is due to these reasons that sieving of deposits and monitoring have not been recommended as part of the current assessment.

Another request from both groups regarded RAP representative involvement in the analysis of material salvaged via surface collection and grader scrape salvage. This currently constitutes part of the proposed management, as noted in **Section 7.2, Group 2**. Consultation over the future storage of any retrieved artefacts is also discussed in this section, and this will continue into the consultation to be undertaken for the AHIP application and the updated ACHMP, should this project be approved.

Other issues raised by Wanaruah LALC included rostering of RAP representatives to ensure equitable distribution of service provision when required (this is already in place); recommendations for the establishment of a Keeping Place; offsets and their accessibility; employment for Aboriginal people as well as financial packages. These issues are beyond the scope of the current project to address due to the very low level of direct impacts, especially following the modification of the project disturbance envelope to avoid key findings. Social issues such as building capability and training are currently being addressed through a Reconciliation Action Plan developed by the Proponent over the Hunter region.

It is noteworthy that the response received from Scott Franks, on behalf of Tocomwall P/L, did not agree or support the recommendations. The response did not however, provide a material reason as to why Tocomwall do not support the recommendations, except for saying that other stakeholders who have responded do not understand the cultural importance of the area and do not hold a physical connection to it.

A final letter was distributed to all RAPs in mid-September 2013 with a copy of the final report with all appendices. This letter was simply to inform RAPs that the project is still moving towards final submission despite some delays over the first half of 2013.

A log of correspondence with Aboriginal community stakeholders is presented in **Appendix 1**, while copies of letters and meeting minutes are presented in **Appendix 3**.

4 LANDSCAPE CONTEXT

The Project Area is situated in the Upper Hunter Valley, NSW which is part of the Sydney Basin Biogeographic Region.

4.1 TOPOGRAPHY

The Project Area is characterised by undulating hills and ridge crests that are intersected by numerous ephemeral drainages and minor tributaries that flow out to one of three 2nd order watercourses. Along the watercourses there are alluvial fans and terraces that extend out and bound the floodplains. Additionally, some of the undulating hill landforms slope steeply from the floodplain and watercourse channels providing excellent vantage points.

4.2 GEOLOGY AND SOILS

The geology of the Central Lowlands of the Hunter Valley where the Project Area is situated is part of the Archerfield and Vane subgroup of the Wittingham Coal Measures. This geologic unit is characterised by lithic sandstone, siltstone, shale, conglomerate, and coal seams.

Cobbles of knapping quality lithic material can be found in the major watercourses of Bowmans, Bayswater and Chain of Ponds Creeks. Lithic outcrops along the ridge crests also provide a source of suitable material across the Project Area.

Soils within the Project Area vary, with areas along the banks and terraces of the major watercourses belonging to the Hunter Soil Landscape and undulating upland hill areas belonging to the Liddell Soil Landscape.

Soils characteristic of the Hunter Soil Landscape are (Kovac and Lawrie 1991):

- Brown Clays: brownish black to light brown medium clay overlying dark brown to dull brown medium clay approximately 40 cm depth.
- Non-calcic Brown Soils: brownish black clay loam overlying dark brown medium clay approximately 70 cm depth.
- Red Podzolic Soils: brownish black clay loam overlying dark reddish brown medium clay approximately 100 cm depth.
- Alluvial Sand Soils: brownish black fine sandy loam overlying dark brown clayey sand approximately 200 cm depth.
- Alluvial Loam Soils: black to brownish black fine sandy loam overlying greyish brown sandy clay loam approximately 60 cm depth.

Soils characteristic of the Liddell Soil Landscape are (Kovac and Lawrie 1991):

- Yellow Soloths: brown loamy sand to sandy loam overlying bleached light grey or dull orange sandy loam or sandy clay loam overlying bright brown or dull orange sandy clay approximately 50 cm depth.
- Yellow Solodic Soils: dark brown loam overlying bleached dull orange clay loam overlying bright reddish brown light clay 110 cm depth.
- Earthy Sands: dark brown sandy loam overlying bright brown loamy sand approximately 55 cm depth.
- Siliceous Sands: Brown sand to loamy sand overlying bright brown loamy sand approximately 100 cm depth.

4.3 HYDROLOGY

All surface water within the Project Area runs towards the three primary creeks of the locality. Bowmans and Bayswater Creek (the former a fifth order stream) and Chain of Ponds Creek (second order) - using the Strahler Stream Order system. These three creeks join the Hunter River to the south of the Project Area. Numerous first order tributary drainages across the Project Area flow into these creeks.

4.4 VEGETATION

Broadly, vegetation within the locality is believed to be associated the Hunter-Macleay Dry Sclerophyll Forests vegetation formation as described by Keith (2004). This vegetation formation is a dry open eucalypt forest to 30 m tall, with a mixed sclerophyll and mesophyll shrub stratum and semi-continuous grassy groundcover.

It occurs on foothills and undulating terrain in rain shadow valleys below 400 m elevation in the eastern parts of coastal rain-shadow valleys, on well-drained loams derived from shales, foothills and undulating terrain below 400 m on loamy soils derived from shales. They are associated with the major coastal river valleys along the New South Wales coast, and occur in local areas that are transitional between Coastal Valley Grassy Woodlands and Northern Hinterland Wet Sclerophyll Forests.

4.5 CLIMATE

The closest Bureau of Meteorology (BoM) weather monitoring station is at Jerry's Plains (station number 061086). Climate data from this monitoring point shows that the locality is subject to warm summers, hottest average temperature occurring in January and cool winters (coolest average month occurring in July, **Table 1**). Average rainfall is 720 mm/year (summer dominant) and fairly low average wind speeds. These factors are considered suitable for year-round habitation by traditional Aborigines.

Table 1: Climate data (Source: BoM).

Statistics	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean maximum temperature (°C)	31.7	30.9	28.9	25.3	21.3	18.0	17.4	19.4	22.9	26.3	29.1	31.3	25.2
Mean minimum temperature (°C)	17.1	17.1	15.0	10.9	7.5	5.3	3.8	4.4	7.0	10.3	13.1	15.7	10.6
Mean rainfall (mm)	76.9	72.5	59.1	44.1	40.4	47.6	43.3	36.4	41.7	52.2	59.9	67.6	641.7
Decile 5 (median) rainfall (mm)	64.7	46.2	46.0	32.3	29.3	30.3	35.1	30.5	34.2	48.6	49.8	56.0	644.2
Mean number of days of rain $\geq$ 1 mm	6.4	5.9	5.7	4.9	4.9	5.4	5.2	5.2	5.2	5.9	6.2	6.3	67.2

4.6 LAND-USE HISTORY

The Hunter Valley Region has been subjected to extensive European settlement which has included land use practices such as vegetation clearing, logging, mining, agricultural grazing, land cultivation and residential development.

4.6.1 Existing levels of disturbance

The Project Area has been subject to extensive land-use related to coal mining activities, both open cut and underground. The Subject Area shows evidence of the following land use activities: access tracks, the damming of minor drainages to create ponds, electrical transmission line easements, bore hole drilling pads, geotechnical pits, water pipeline routes (both above ground and sub-surface) and coal conveyor routes.

4.7 CONCLUSION

The Project Area traverses a landscape that holds varying levels of archaeological sensitivity. The presence of one second order creek line (Chain of Ponds Creek) and two third order creek lines (Bowmans Creek and Bayswater Creek) and their associated first order drainages indicate that the region is likely to have maintained exploitable natural resources during antiquity. With a year-round habitable climate and available natural resources, the area would have been suitable for Aboriginal occupation.

Little remnant vegetation is still present throughout the Project Area, as most of the landscape has been subject to historical clearing and agricultural land-use / disturbance.

The landscape within the Project Area is positioned over an area with extensive coal deposits and has had in the past soils appropriate for grazing pastures, resulting in the area's prior use during the historical period as a pastoral grazing property. Continual use and more recent mine development has led to high levels of disturbance across the Project Area destroying potential material evidence from the initial period of European settlement.

5 ABORIGINAL HERITAGE ASSESSMENT: BACKGROUND

5.1 ETHNO-HISTORIC SOURCES OF REGIONAL ABORIGINAL CULTURE

Many early accounts from the late nineteenth century of Aboriginal peoples in the Hunter Valley indicate the tribe of the Wonnarua to be the primary inhabitants of this region. The accounts described the Wonnarua tribal area as covering some 2,000 square miles of the Hunter River Valley (Fawcett 1898:152). Three tribes bordered Wonnarua territory: the Worimi who occupied the lower Hunter River and coastal land in the east; the Gamilaroi occupied lands to the north-west of the Hunter River Valley; and the Gewegal to the north (Moore 1970:28).

Early population estimates by J.W. Fawcett (1848) and Robert Miller (1841) estimated the population to have numbered between 500-600 peoples (Miller 1887:352). It is estimated that their population had plummeted to as little as 14 by 1867 (Laffan and Archer 2004:1). By 1886 much of the Wonnarua population had been decimated by disease, conflict with the settlers, or having fled the area and the tribe was believed to be nearly extinct in the Hunter.

Some of these early accounts indicate widespread use of weapons and implements including the spears, throwing sticks (*woomera*), shields, boomerangs, ground edge axe, flint knives, stone flake tools, shell flakes, clubs, yam stick for digging, bags (of plaited swamp grass), wooden bowls, nets (for catching fish) and bark canoes (Fawcett 1898:152).

5.2 REGIONAL ARCHAEOLOGICAL CONTEXT

Archaeological excavations have so far determined that human occupation of the Hunter Valley has occurred since the last Glacial Maximum (c.27,000–17,000 years Before Present (BP) (HLA-Envirosciences 2005). It is hypothesised that it is likely evidence predating this period will be unearthed/studied in the future.

A review of GHD (2005), HLA-Envirosciences (2005 and 2004) and Umwelt (2001) provides the following regional synthesis:

- Archaeological sites, even where surface evidence is not present, occur on most landforms. This was tested in the HLA excavation programme in 2005 and demonstrated to be correct as Aboriginal sites were encountered on alluvial terraces, flats, slopes, bench areas, spurs and ridgelines. HLA 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 in any region of NSW and is influenced by a range of factors, the most relevant of which is existing levels of disturbance. More specifically, the potential for *in situ* deposits remaining in the Upper Hunter on a mining property is generally low;
- The highest concentration of Aboriginal sites surrounds creeks and waterways;

- Few scarred trees are recorded reflecting the high degree of clearing in the region;
- The most frequently recorded raw materials are indurated mudstone (a fine grained 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 comprise of few formal tools with domination by waste flakes and debitage. This observation is probably relevant throughout NSW.

5.3 LOCAL ARCHAEOLOGICAL CONTEXT

5.3.1 Desktop Database Searches Conducted

A desktop search was conducted on the following databases to identify any potential issues. The results of this search are summarised here in **Table 1** and presented in detail in **Appendix 2**.

Table 2: Desktop-Database Search Results.

Name of database searched	Date of search	Type of search	Comment
Australian Heritage Database http://www.environment.gov.au/heritage/ahdb/	3.11.2011	'Liddell' in Singleton LGA.	One place on the search is within the Project Area the 'Chain of Ponds Hotel and Outbuildings' (Appendix 2)
NSW Heritage Office State Heritage Register and State Heritage Inventory http://www.heritage.nsw.gov.au/	3.11.2011	'Liddell' in Singleton LGA.	One place on the search is on the State Heritage Register, being the 'Inn and outbuildings' at Chain of Ponds on the Old New England Hwy (Appendix 2)
National Native Title Claims Search http://www.nntt.gov.au/Applications-And-Determinations/Search-Applications/Pages/Search.aspx	28.2.13	NSW	No Native Title Claims cover the Study Area. Two are situated within the Hunter valley to the south and west of LCO.
Office of Environment and Heritage (OEH) Aboriginal Heritage Information Management System (AHIMS);	16.5.2011 and 5.9.2011	6 x 6 km centred on the Subject Area	106 sites within the search area. (Appendix 2)
Local Environment Plan	4.11.2011	Singleton LEP of 1996	One place on the search is within the Project Area the 'Chain of Ponds Hotel Former' (Appendix 2)

The Project Area has been subject to extensive archaeological investigations since mining was initiated here, with archaeological surveys conducted by Haglund (1982), Brayshaw (1982 and 1983) and Umwelt (2001, 2008, 2009, 2010 and 2011). These studies have identified a large number of archaeological sites over the Liddell development area and archaeological site patterning is summarised below.

Searches of the Office of the Environment and Heritage (OEH) Aboriginal Heritage Information Management System (AHIMS) Aboriginal Sites Register were undertaken in May 2011 and September 2011 (search date 30.8.2011; area 311000-317000E / 6412000-6418000N⁴) to identify all registered archaeological sites within the Liddell Project Area. This search identified 106 registered sites, of which 22 plot to within the Subject Area of the current assessment. Nine of the total sites registered on the AHIMS database over the Project Area were identified as duplicate recordings and were consequently only counted once in these totals⁵. A large number of the sites over the Project Area have been salvaged under permits/consents issued by OEH prior to impact by LCO.

Past archaeological investigations also discuss the distribution of Aboriginal archaeological sites throughout the Liddell Project Area. Sites have been recorded over all landforms, the majority, however, being located along the watercourses of Bayswater, Chain of Ponds and Bowmans Creeks as well as their tributaries. A lower number have been found on crests somewhat more distant from water.

Figure 4 demonstrates the mapped boundaries of the Subject Area, being the two proposed Impact Zones, overlain with the locations of previously recorded sites.

5.3.2 Entrance Pit Extension (EPE) Impact Zone

In respect of the proposed EPE area, the sites previously recorded within this impact zone⁶ are: LID 35 (37-3-1151), LID 36 (37-3-1152), Rav east 24 (37-3-0419), LID 27 (37-3-0430), LID ES2 (37-3-1137), LID ES1* (37-3-1136), LID 34* (37-3-1150), LID 2* (37-3-0453), LID 3 (37-3-0452), Foy Brook* (37-3-0057) and LID 1 (37-3-0454). **Figure 5** demonstrates the location of these sites as recorded in the OEH AHIMS database.

All of these are open artefact sites associated with Bowmans Creek and its minor tributaries. None have been issued Section 90 consents and they have not been subject to any documented impacts since the time of their original recording. Site LID 3 (37-3-0452) is noteworthy as it was identified as a rather large potential archaeological deposit (PAD) as part of an Umwelt 2009 report; however, Umwelt's assignment of this site as a PAD was not reflected in the OEH AHIMS database.

⁴ This search had to be undertaken in two separate sections due to the number of sites present.

⁵ LID 6 is registered twice (37-3-0448 and 0449); LID 7 is registered twice (37-3-0447 and 0468); Brayshaw sites A, B, C, D are each registered twice (37-3-0051 and 0461; 37-3-0052 and 0460; 37-3-0053 and 0459; 37-3-0054 and 0458); Nard 8 is registered twice (37-3-0292 and 0560); Liddell Pipeline is registered twice (37-3-0642 and 0670) and SP2 is registered twice (37-3-0711 and 0456).

⁶ These sites were within the originally surveyed EPE Study Area, however due to alteration of the Impact Footprint, several are now partially or fully conserved and hence outside the area of the EPE. These sites are denoted with an asterix.

Figure 4: AHIMS Registered Sites in Project Area.

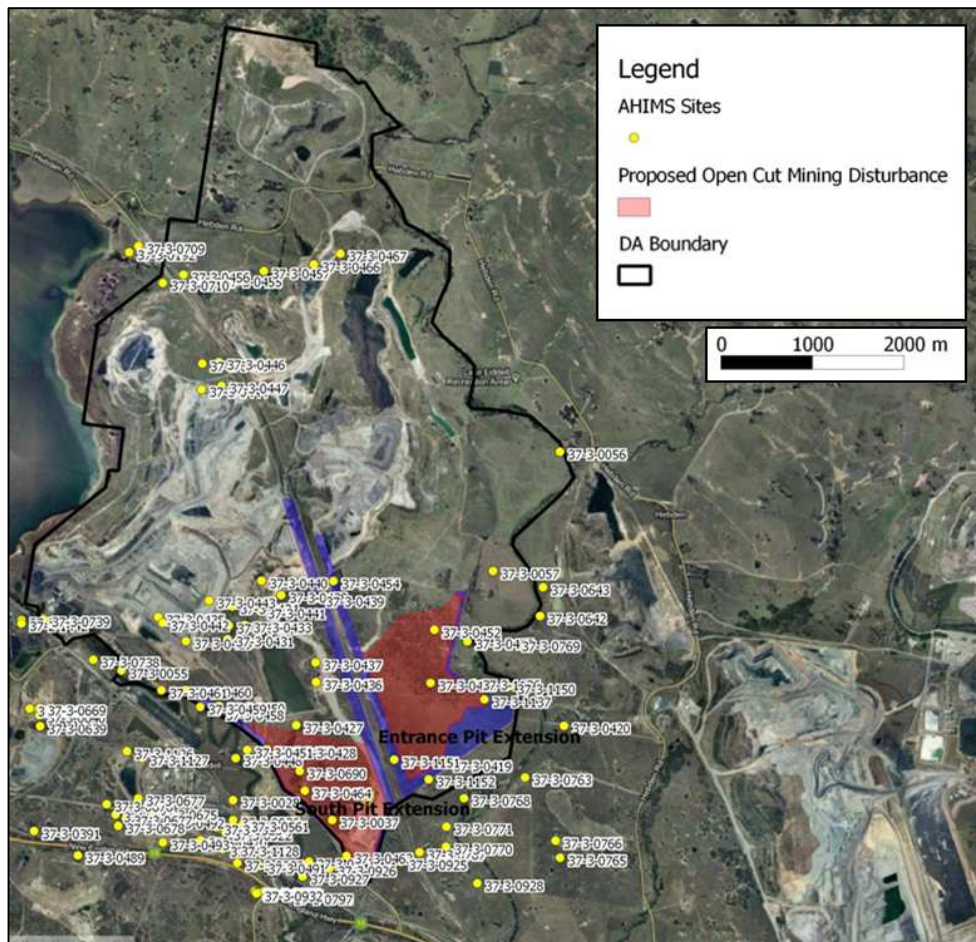
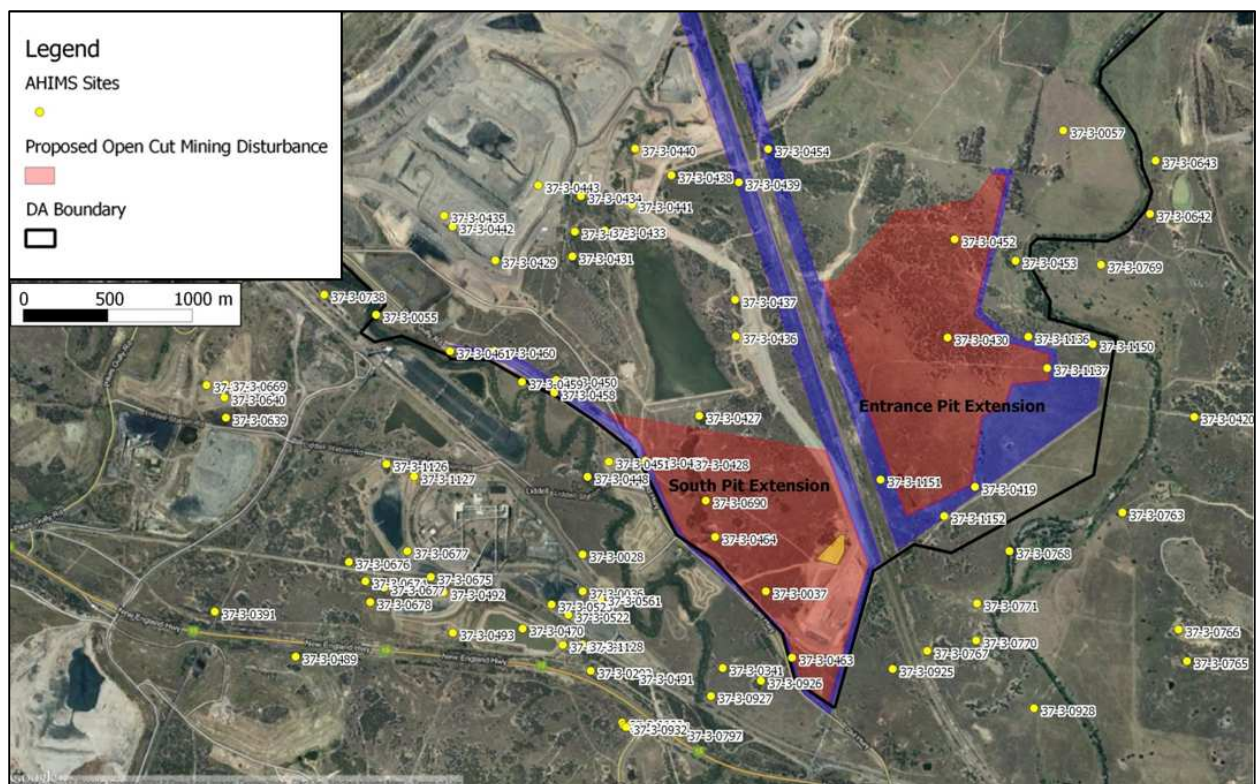


Figure 5: AHIMS registered sites in proposed Entrance and South Pit Extensions.



5.3.3 South Pit Extension Impact Zone

In respect of the proposed South Pit Extension (SPE) area, the sites previously recorded within the impact zone are: LID 30 (37-3-0426), LID 31 (37-3-0428), LID 32 (37-3-0464), LID 33 (37-3-0463), LID 5 (37-3-0450), LID 15 (37-3-0439), Glendell G13 (37-3-0690) and Ravensworth A (37-3-0037). **Figure 5** demonstrates the location of these sites as recorded in the OEH AHIMS database.

All of these are artefact sites with the majority being associated with Bayswater or Chain of Ponds Creeks and their minor tributaries. Sites Glendell G13, LID 31, and LID 32 are all open artefact sites located directly on the banks of Chain of Ponds Creek. The remaining sites Ravensworth A, LID 33, LID 30, and LID 5 are located on low ridge crests in the vicinity of Chain of Ponds and/or Bayswater Creeks.

Five of the sites within the impact zone of the proposed South Pit Extension have been previously salvaged under Section 87/90 consents. Grader scraping was employed on sites LID 30, LID 31, G13 and LID 32 (Permit # 2348, issued Oct 2, 2006 and enacted 21-23 Nov 2006) for the purpose of salvage; however, these sites have, to date, sustained no further impact from proposed mining operations and hence remain partially extant. AHIP # 2348 remains active until 2016 and it is likely that this site will be impacted by mining activities prior to Development Modification 5 being approved.

Surface collections were conducted for sites LID 15 and LID 33 in 2003 (Permit # 1577 issued 26 March 2003) and 2007 (Permit # 2741 issued in 2007 and enacted in August 2007) respectively; no potential for subsurface archaeological deposit was identified at either of these sites.

Additionally, LID 5 was issued a Section 90 consent (Permit # 2896 issued 18 March 2008) however, no salvage was conducted as the site was identified as an isolated find in a disturbed context so development of the area was able to proceed without salvage activity. The site is assumed to have been destroyed by development associated with the approved open cut mining activity.

The remaining site Ravensworth A is assumed to be intact as no record of impacts or salvage activity exists.

5.4 PREDICTIVE MODEL FOR SITE LOCATION

Proximity to a permanent water supply is the primary factor appearing to determine the location of Aboriginal campsites. In the Sydney region, stream ordering has been used to predict the potential for site occurrence, and further to indicate the possible nature of these sites in terms of their complexity. Results of an integrated series of studies including a serious excavation

component (Jo McDonald CHM 1997), suggests a high correlation between the permanence of a water source and the permanence and/or complexity of the areas' Aboriginal occupation. This was further reflected in the lithic assemblages from sites close to permanent water, which suggested that a greater range of activities were represented (e.g. tool use, manufacture and maintenance, food processing and quarrying). Sites near ephemeral water sources had evidence for one-off occupation (e.g. isolated knapping floors or tool discard), and creek junctions were also proven to be foci for site activity.

Using the concept of stream ordering and reviewing the regional and local archaeological context, the following general predictions can be made regarding the nature of sites and their potential location in the current Subject Area:

- Overall previous studies indicate that Aboriginal sites in the Hunter region have the potential to occur over most landforms, although specific landforms exhibit higher potential:
 - o In the vicinity of second / third order creeks (such as those in the Project Area), archaeological evidence may be sparse to frequent (depending on the nature of the waterway), and may indicate focussed activity such as one-off camp sites and knapping events or sites with larger, longer periods of occupation or sites where repeated visits have occurred;
 - o Ridge tops have been previously identified as locations where sites have a moderate likelihood to occur, especially in close association with third order waterways;
- On the flat plains over 200 m from water, archaeological evidence is likely to be sporadic if present at all.

From the known sites outlined previously in **Section 5.2 and 5.3**, it is possible to say that the most likely sites to be encountered in the Project Area will be in relatively undisturbed soils with reasonable visibility:

- Open camp sites (within 150 m of waterways and above the flood plain);
- Isolated finds may occur anywhere, especially in disturbed locations near water sources or in areas close to ephemeral water – i.e. headwaters; and
- Modified trees – scarred or carved – (frequently close to creeks and rivers but also found further afield). The extensive clearing of the majority of the Project Area lowers the likelihood for this site type.

5.5 SAMPLING STRATEGY AND FIELD METHODS

5.5.1 Survey

Using desktop predictive modelling as described above, aerial photographs of the Subject Area were examined to detect landscape features (including vegetation), waterways and potential

food resources. This process identified areas of potentially high archaeological sensitivity (including creek lines and ridges) to be targeted for assessment, although full pedestrian survey of the two proposed impact zones was undertaken.

Survey proceeded via walking, with eight field officers spaced c. 20-30 m apart. The formation was relatively loose at times to optimise accessible areas, high ground surface visibility locations and hence the probability of encountering archaeological sites. The usual survey efficacy issue of visibility remained a key factor of survey effectiveness and overall visibility was 10-20%.

Ground surface visibility does not affect the detection of all site types. It is predominantly open sites, isolated finds, deposits associated with shelters and to a lesser degree grinding groove sites that are impacted by this factor. For these sites, the degree of ground surface visibility combined with archaeological post-formation processes (i.e. whether sites are obtrusive as a result of factors that have occurred since they were formed) will both influence the effectiveness of archaeological field survey. Consequently, it is considered important to document and assess variables associated with ground surface visibility in relation to the landforms surveyed. The following variables are recorded:

- 1) The area of landforms / survey units determined to have exposures or patches of ground surface visibility; and
- 2) The quality of the visibility within these exposures, a factor which is usually influenced by the degree of ground cover from either live vegetation or leaf litter, or from siltation (e.g. floodplains) or imported soil deposits (e.g. tracks, roads).

Ground surface visibility within the proposed impact zones was very variable, as may be expected in a survey which covers such a variety of landforms with shifting degrees of land-use disturbance. The majority of these impact zones were thickly vegetated with ground surface visibility of between 0% and 15%. Vehicle tracks, access tracks, creek banks and creek crossings often had a higher incidence of erosion and offered limited areas of increased ground surface visibility of around 90 %, where wooded slopes and forested undulating hillsides had almost no ground surface visibility.

All mature native trees (of which there were few) were inspected for scarring, ensuring good survey coverage of this site type, while sandstone outcrops were inspected for engravings or grinding grooves, providing equally appropriate survey coverage for these site types.

5.5.2 Test Excavations

The primary objective of the archaeological excavation programme is to assess the nature, extent and integrity of any sites that require it by means of a test excavation programme. The

second objective was to apply the findings of the test excavation programme to better inform the management requirements for both sites in the face of the proposed works.

Beyond these management considerations, the excavation programme also had further research designs as part of its methodology, as follows:

- Determine whether sub-surface archaeological deposits are present and, if so, the integrity, spatial distribution, extent, and nature of these deposits;
- Characterise the soils and investigate land-use disturbance;
- Assess the significance of any archaeological deposits; and
- Provide management recommendations.

5.5.2.1 Test Excavation Constraints

The impact footprint of the Project will specify what site portions will be impacted and hence require test excavation. As such, the test excavation programme will only inform us of the nature of deposits at discrete locations.

5.5.2.2 Layout of Excavation Pits/Sampling Strategy

The excavation programme was guided as follows:

- The Proponent pegged out the extremities of the Impact Footprint for the proposed Entrance Pit Extension as delineated in **Figure 5**;
- Prior to any excavation, the sites were recorded through digital photography;
- Test pit layout was gridded along transects:

As is currently required under the *National Parks and Wildlife Act 1974* (NPW Act), this excavation programme was designed to conform with the Code of Practice, which was adopted in the NPW Act Regulations 2009, Clause 3A. Excavations undertaken as per the Code do not require an Aboriginal Heritage Impact Permit (AHIP) under the NPW Act.

5.5.2.3 Artefact Retrieval

Excavation is by hand in 5cm spits for the first 2 spits and 10cm spits thereafter down to the B Horizon clays. Spits are used during excavation if no stratigraphic divisions are noted. 100% of excavated material from the pits is sieved. All deposits were dry sieved on site using sieves of 5mm and 3mm mesh.

6 RESULTS OF ABORIGINAL HERITAGE ASSESSMENT

6.1 EFFECTIVE SURVEY COVERAGE

Two of the key factors influencing the effectiveness of archaeological survey are ground surface visibility 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 study, these terms are used in accordance with the definitions provided in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales: Part 6 National Parks and Wildlife Act 1974* (DECCW 2010b).

Ground surface visibility is defined as:

... the amount of bare ground (or visibility) on the exposures which might reveal artefacts or other archaeological materials. It is important to note that visibility, on its own, is not a reliable indicator of the detectability of buried archaeological material. Things like vegetation, plant or leaf litter, loose sand, stone ground or introduced materials will affect the visibility. Put another way, visibility refers to 'what conceals' (DECCW 2010b: 39).

Exposure is defined as:

... different to visibility because it estimates the area with a likelihood of revealing buried artefacts or deposits rather than just being an observation of the amount of bare ground. It is the percentage of land for which erosion and exposure was sufficient to reveal archaeological evidence on the surface of the ground. Put another way, exposure refers to 'what reveals' (DECCW 2010b: 37).

The current study examined two proposed impact zones that contained a mix of four different broadly defined landforms (illustrated in Figure 8):

- **Undulating Hills / Ridge Crests.** Consisted of slopes, hills, ridges, and minor tributaries / ephemeral drainages. Sheet-washing on slopes created numerous exposures with surface visibility >70%, while flatter areas were often wooded or had thick grass cover with surface visibility <10%;
- **Alluvial Terrace.** Consisted of areas slightly elevated above the flats surrounding the primary watercourses of Bowmans Creek and Chain of Ponds Creek. In general, these areas had a thick grass cover and surface visibility was <10%, however, erosion has created numerous cut bank exposures where surface visibility was >70%;
- **Alluvial Floodplain.** Consisted of low lying flats along Bowmans Creek. Surface visibility was generally <5% except for several small exposures around disturbed areas and erosion scars (**Plate 1**).

- **Heavily Disturbed.** Consisted of areas that have been subject to significant surface disturbance that has destroyed or covered the original ground surface. None of these areas were surveyed as they have a very low potential for containing visible or extant Aboriginal sites.

All non-Indigenous-disturbed portions of the impact zones were walked. Surface visibility was generally low (<10%) especially in the undulating hills and plains (**Plate 2**) with the only exception being highly disturbed and steeply sloped (>10°) areas. Very few mature native trees were present and the most common trees were Casuarina. In addition, there was minimal rock outcropping with only a few instances on the hill and ridge crests. No overhangs or escarpments were observed.

It is noted that the field survey included areas extending outside the limits of the proposed modification areas, which are illustrated in **Figure 1**. This was to allow for changes to the project as the environmental assessment progressed. The proposed modification areas did in fact change as a result of the initial archaeological field survey. LCO altered the original proposed open cut mining footprint to accommodate the preservation of multiple Aboriginal heritage items identified during the field survey, as illustrated in **Figure 7**.

Figure 7 illustrates surveyed areas and Aboriginal sites recorded as part of the originally proposed impacts in relation to the currently proposed impact extents.

These figures are summarised in **Tables 3** and **4**.

Table 3: Survey coverage data.

Survey Unit	Landform	Survey Unit Area (sq m)	Visibility %	Exposure %	Effective Coverage Area (sq m) (= Survey Unit Area x Visibility % x Exposure %)	Effective Coverage % (= Effective Coverage Area / Survey Unit Area x 100)
E1	Alluvial Terrace	280,000	10%	20%	5600	2%
E2	Alluvial Flood plain	330,000	5%	5%	825	0.25%
E3	Undulating Hills / Ridge Crests	1,231,000	15%	10%	18465	1.5%
E4	Heavily Disturbed	159,000	0	0	0	0
S1	Alluvial Terrace	195,500	5%	10%	977.5	0.5%
S2	Undulating Hills / Ridge Crest	457,200	10%	20%	9144	2%
S3	Heavily Disturbed	727,800	0	0	0	0

Figure 6: Survey Units and Transects.

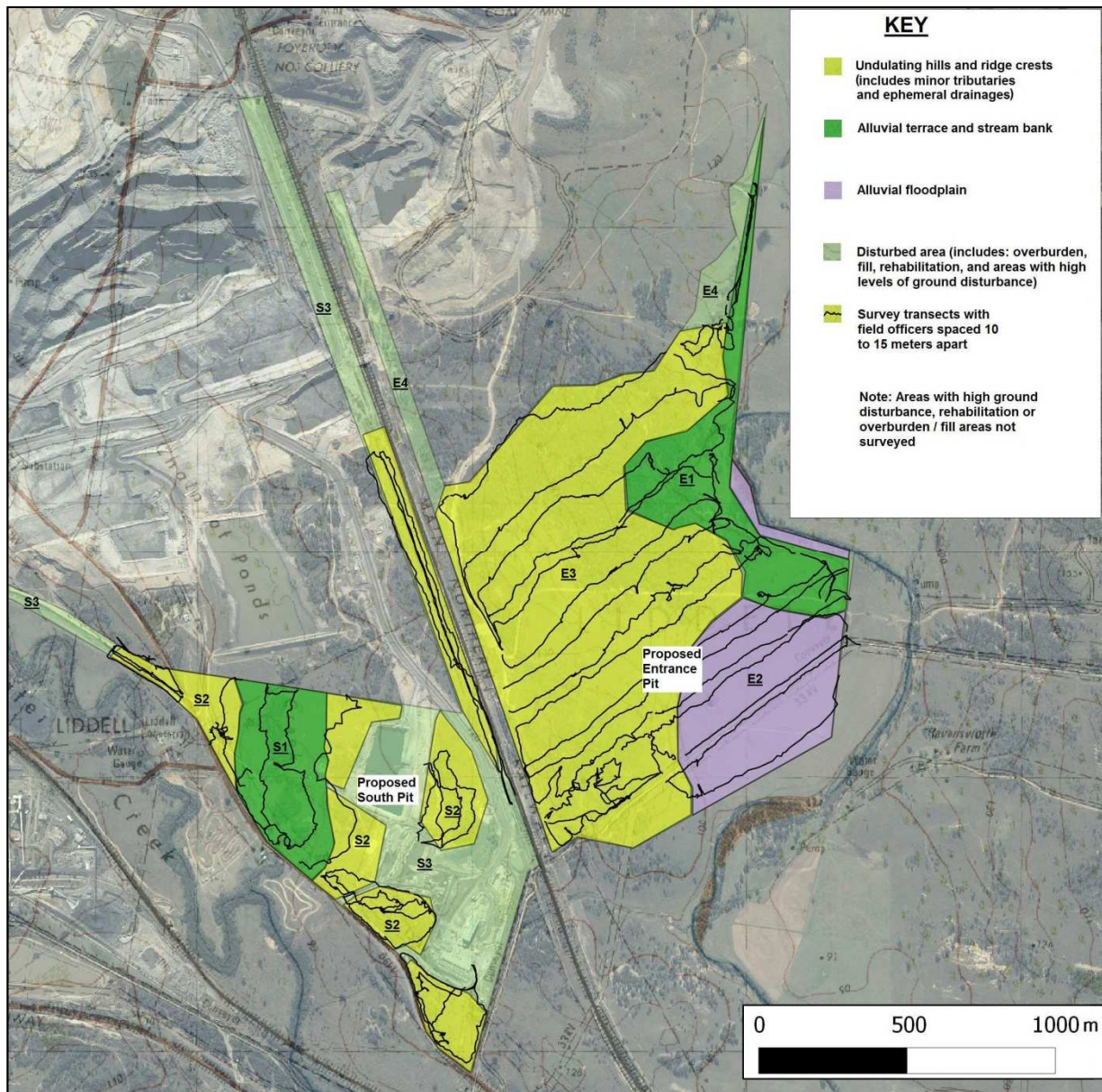


Table 4: Landform Summary—Sampled Areas.

Landform	Landform area (sq m)	Area Effectively Surveyed (sq m) (= Effective Coverage Area)	% of Landform Effectively Surveyed (= Area Effectively Surveyed / Landform x 100)	Number of Sites	Total (?) Number of Artefacts or Features	Previously Recorded Sites on AHIMS
Alluvial Terrace	475,500	6577.5	1.4%	0	0	7
Alluvial Floodplain	330,000	825	0.25%	0	0	0
Colluvial Undulating Hills / Crest	1,910,000	28163.5	1.5%	6	15	12

Figure 8: Survey Results Displayed with AHIMS sites in the Entrance Pit Extension Impact Zone.

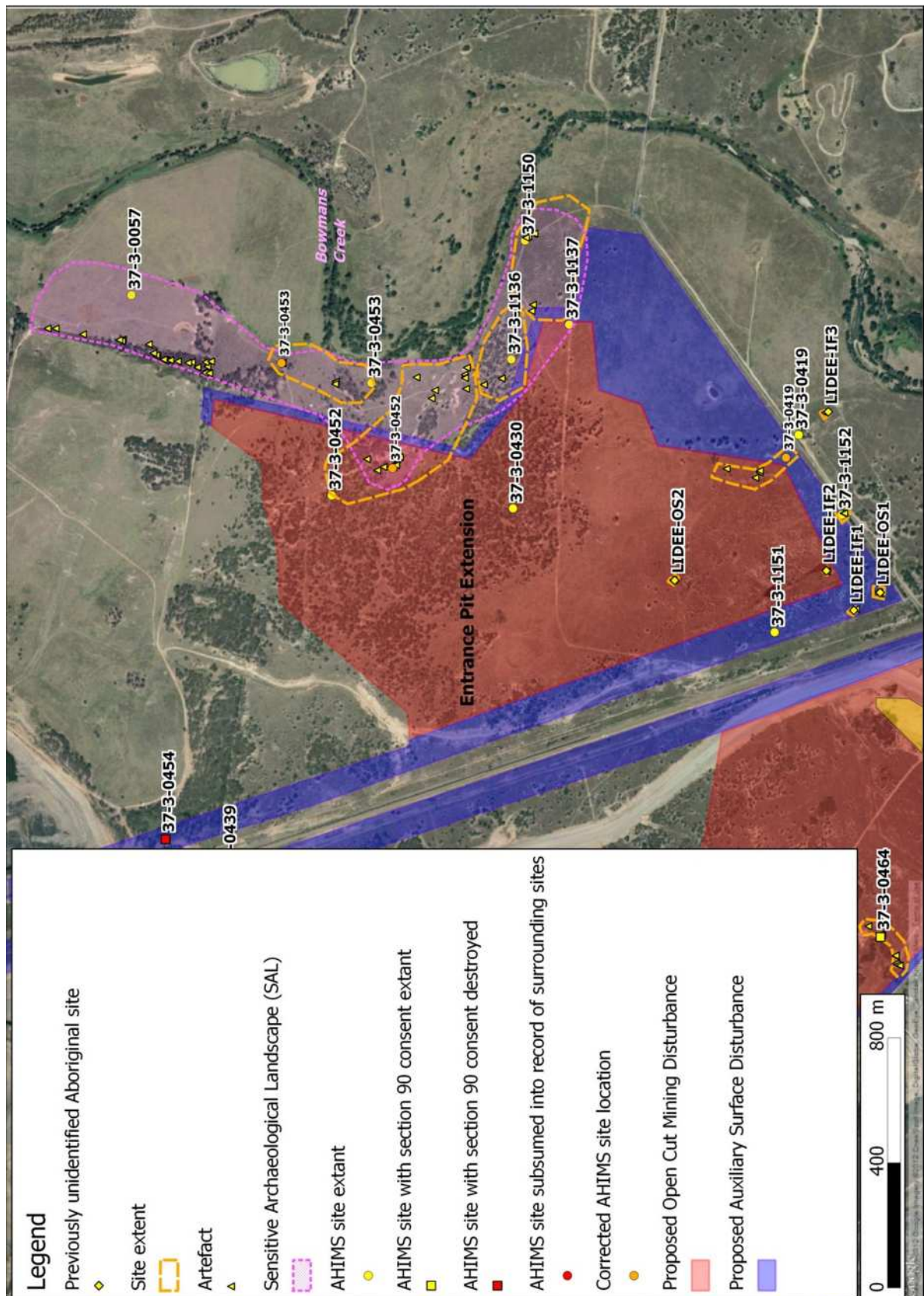
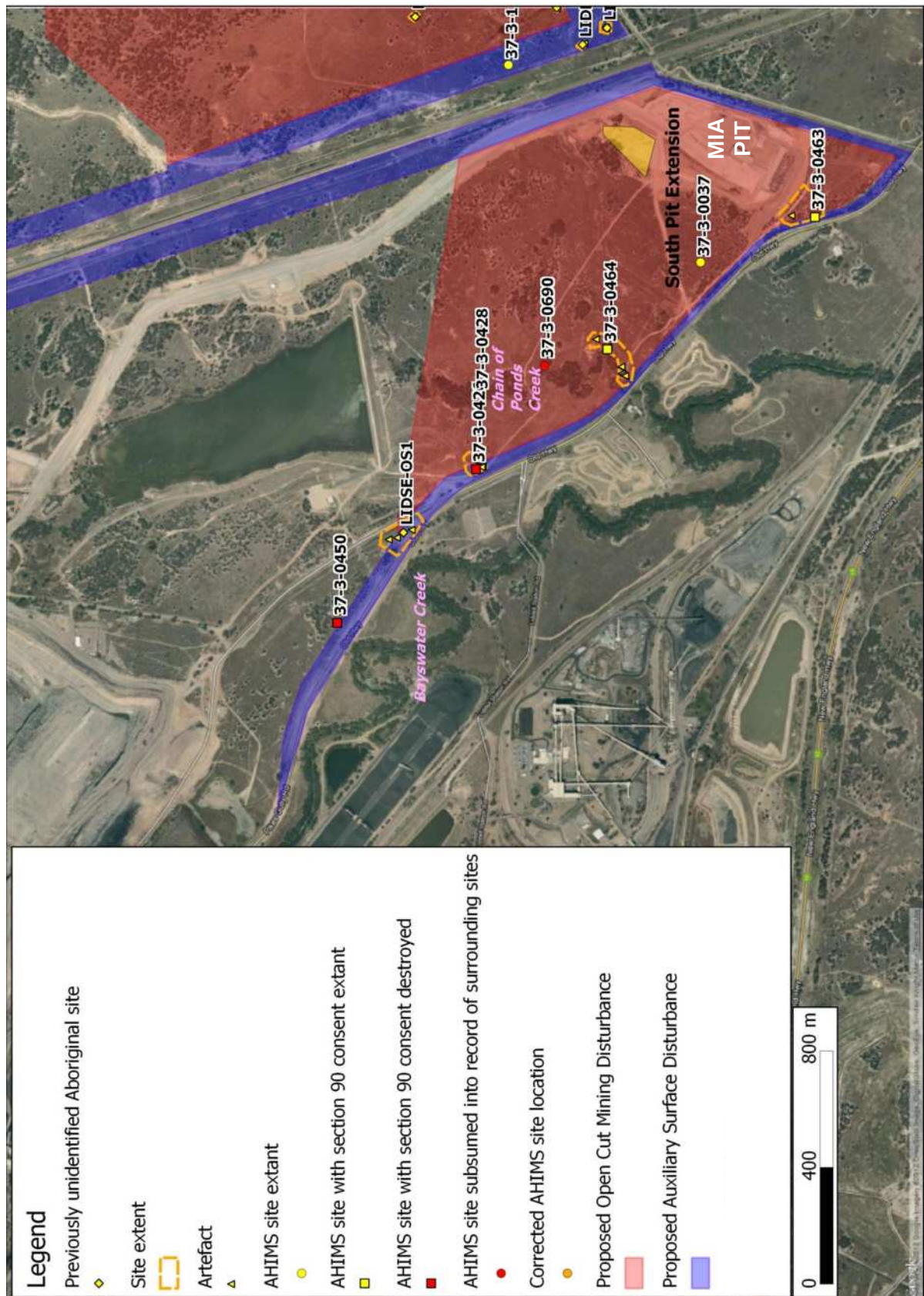


Figure 9: Survey Results in Proposed South/MIA Pit Impact Zone.



The six new sites recorded are summarised in **Table 5**, and discussed in further detail below.

Table 5: Summary of New Sites Recorded During the Field Survey.

Site Number	Feature(s)	Survey Unit	Landform
LIDEE-OS1	Two yellow silcrete flakes.	Entrance 3	Undulating Hills / Ridge Crests
LIDEE-OS2	Five indurated mudstone flakes.	Entrance 3	Undulating Hills / Ridge Crests
LIDEE-IF1	One indurated mudstone flake.	Entrance 3	Undulating Hills / Ridge Crests
LIDEE-IF2	One silcrete flake.	Entrance 3	Undulating Hills / Ridge Crests
LIDEE-IF3	One orange indurated mudstone flake.	Entrance 3	Undulating Hills / Ridge Crests
LIDSE-OS1	Two silcrete and one indurated mudstone flakes.	South 2	Undulating Hills / Ridge Crests

LIDEE-OS1

Site type: Open Artefact Site

GPS Coordinates: GDA 94 Zone 56, E315444 / N6413001

Location of site: East slope of a hill approximately 50 m north of the coal conveyor and 120 m east of the railway.

Description of site: Site is a small artefact scatter of two yellow silcrete flakes (dimensions: 28 x 20 x 8 mm; 40 x 38 x 14 mm) in a stand of Casuarina (**Plate 3**). Site is approximately 30 x 30 m and is situated on the east slope of a hill above a minor tributary of Bowmans Creek that flows in a southerly direction directly through the landform. Signs of vegetation clearing are evident throughout the site area and casuarinas regrowth make for poor surface visibility. The exact extent of the site is unknown.

LIDEE-OS2

Site type: Open Artefact Site

GPS Coordinates: GDA 94 Zone 56, E315406 / N6413554

Location of site: 500 m north of the coal conveyor and 325 m east of the railway.

Description of site: Site is a small artefact scatter five indurated mudstone flakes (no artefact dimension were taken due to time constraints) situated along an access track in an area approximately 25 x 10 m (**Plate 4**). The site is situated on a gentle slope oriented towards the south. Signs of vegetation clearing are evident throughout the site area and grasses and Casuarina regrowth make for poor surface visibility off the access track. The exact extent of the site is unknown.

Figure 10: Extent of LIDEE-OS1, IF1 and IF2 (dashed blue line)



Figure 11: Extent of LIDEE-OS2 (dashed blue line)



LIDEE-IF1

Site type: Isolated Artefact Find

GPS Coordinates: GDA 94 Zone 56, E315394 / N6413070

Location of site: 120 m east of the railway and 120 m north of the coal conveyor.

Description of site: Site is positioned on a gentle slope below the access tract that follows the railway and ETL to the west of the site. Site was identified by a single indurated mudstone flake (dimensions: 24 x 17 x 6 mm) (**Plate 5**). Surface visibility in the area is generally poor despite signs of sheetwash erosion throughout the area. A minor tributary of Bowmans Creek that flows in a southerly direction lies approximately 100 m to the east.

LIDEE-IF2

Site type: Isolated Artefact Find

GPS Coordinates: GDA 94 Zone 56, E315500 / N6413147

Location of site: 330 m east of the railway and 120 m north of the coal conveyor.

Description of site: Site is positioned on a flat at the edge of a pond created by a small dam of a minor tributary to Bowmans Creek (**Plate 6**). The site was identified by a single silcrete flake (dimensions: 40 x 35 x 8 mm) in a Casuarina community (**Plate 7**). Surface visibility in the area is generally poor despite signs of sheetwash erosion throughout the area. Additionally, surface disturbance in the area is generally high due to the construction of dams and associated ponds along the drainage of a minor tributary of Bowmans Creek the flows in a southerly direction directly through the landform.

LIDEE-IF3

Site type: Isolated Artefact Find

GPS Coordinates: GDA 94 Zone 56, E315930 / N6413149

Location of site: 90 m south of the coal conveyor on the same landform as site 37-3-0419.

Description of site: Site consists of a single orange indurated mudstone flake (dimensions: 27x13x10 mm) positioned on a slope 5 m above the Bowmans Creek floodplain (**Plates 8 and 9**). Site was observed in a sheetwash erosion exposure below the ridge crest. Additional artefacts can be expected up slope on the ridge crest; however, dense vegetation cover resulted in poor surface visibility making identification of additional artefacts difficult.

Figure 12: Extent of LIDEE-IF3 (dashed blue line)**LIDSE-OS1**

Site type: Open Artefact Site

GPS Coordinates: GDA 94 Zone 56, E313969 / N6413561

Location of site: on the south side of the Old Highway alignment just north of where it intersects with the road leading to the CHPP Pit 2.4 km north of its intersection with the New England Highway.

Description of site: Small artefact scatter containing two silcrete and one indurated mudstone flake on sheet wash erosion scar on the southwest slope off a ridge crest approximately 75 m northeast above Bayswater Creek. Site is heavily disturbed by sheet wash erosion and is bound by two roads to the north and south. Site dimensions are approximately 90 x 50 m (**Figure 13**).

Figure 13: Extent of LIDSE-OS1 (dashed blue line)

6.3 ABORIGINAL SITES RE-LOCATED

Attempts were made to re-locate 18 of the 22 previously recorded aboriginal sites within the impact zone that were identified in the AHIMS database search. Artefacts were observed near 10 of the 18 previously recorded site locations where re-location was attempted.

6.3.1 Entrance Pit Extension Impact Zone

In respect of the proposed EPE, attempts were made to relocate all previously recorded within the impact zone except LID 1 (37-3-0454), which had already been salvaged and destroyed in 2002. Sites LID 36 (37-3-1152), Rav east 24 (37-3-0419), LID ES1 (37-3-1136), LID 34 (37-3-1150), LID 2 (37-3-0453), LID 3 (37-3-0452) and Foy Brook (37-3-0057) were all re-located and artefacts were observed. **Figure 7** demonstrates the location of these sites and provides updated GPS site locations for sites LID 2 (37-3-0453: GDA94 Zone 56, E316035 / N6414625) and LID 3 (37-3-0452: GDA94 Zone 56, E315756 / N6414320).

Sites LID 3 (37-3-0452) and LID 34 (37-3-1150) are noteworthy as they were both identified during their re-location as potential archaeological deposits (PAD). **Figure 8** demonstrates the

suspected extent of these two PADs. The Foy Brook (37-3-0057) site has also been identified as a PAD as part of a recent Due Diligence assessment (OzArk 2011).

Furthermore, during this assessment artefacts were observed in most of the surface exposures located on the undulating hills / ridge crest and alluvial terrace landforms adjacent to Bowmans Creek. As such the landforms on which sites LID 2 (37-3-0453), LID 3 (37-3-0452), Foy Brook (37-3-0057), LID 34 (37-3-1150) and LID ES1 (37-3-1136) are situated have been identified as a sensitive archaeological landscape (SAL) (refer to **Figure 8** for extent).

The current assessment was not able to re-locate sites LID 35 (37-3-1151), LID 27 (37-3-0430) and LID ES2 (37-3-1137) (**Plate 10**) with the information available. This inability to re-locate these sites can be attributed to poor surface visibility (<5% in the location of these sites) at the time of the survey (**Plate 11**).

No attempt was made to re-locate sites LID 1 (37-3-0454), LID 5 (37-3-0450) and LID 15 (37-3-0439) as these sites have all been issued Section 90 consent and are considered destroyed due to their proximity to the extant open cut mining activity.

Sites re-located in the impact zone of the proposed EPE are described in detail below.

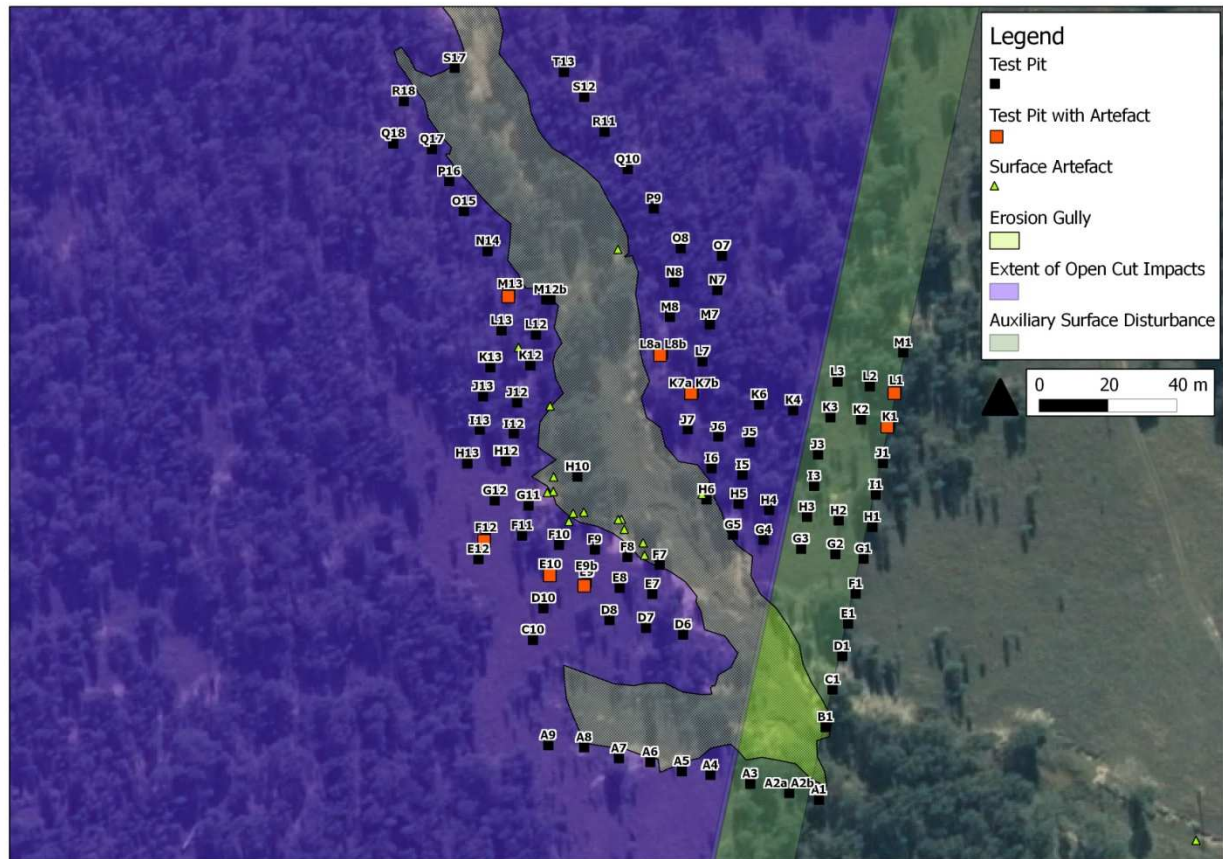
LID 3 with PAD

This site and PAD was initially identified as part of the 2001 Umwelt assessment. The site covers an alluvial terrace and fan on the west bank of Bowmans Creek. These alluvial fan deposits continue approximately 350 m up a minor tributary northwest of the terrace edge and main channel of Bowmans Creek. Artefacts have been identified on the surface of the A horizon in most of the exposures that are part of the alluvial fan and terrace landform. Numerous artefacts ($n \geq 30$) have also been identified at the bottom of cut banks formed by extensive gully erosion that in several areas has cut entirely through the A horizon exposing the B horizon (**Plate 12**). Lithic materials recorded at the site included silcrete, indurated mudstone, quartz, basalt, and silicified sandstone. The site is immediately bordered by sites LID ES1 which is positioned up on the crest of a hill to the south, and LID 2 which is positioned just above the terrace on a gentle slope to the north of the site. Additionally, there were several geotechnical pits near the edge of the alluvial terrace that have disturbed the surface of the site. The presence of artefacts in erosion and geotechnical pit disturbances within the site led to its initial identification as a PAD.

A *Code of Practice* test excavation conducted by OzArk from the 16th thru 20th of April 2012 later determined that an extremely low density deposit was present up to 10–15cm depth, but drops off completely below 15cm. **Figure 14** maps both surface and subsurface artefact distribution in relation to the erosion disturbance present at the site. Given the moderate density of surface artefacts in the erosion gully and extremely low sub-surface artefact densities in the

tested areas, it is likely that the landforms that once comprised LID 3 have largely eroded. This indicates that LID 3, in the area investigated, has been subjected to heavy erosional disturbance that has largely displaced the artefacts of the site. The findings of the test excavation indicate LID 3 as a site deflated by erosion with little remaining potential for sub-surface artefact deposition (refer to **Attachment 1** for the full results of the test excavation programme).

Figure 14: LID 3 Test Excavation Pit Layout and Artefact Distribution.



LID 34 with PAD

The site is situated on a low terrace above the Bowmans Creek alluvial floodplain. Artefacts were identified in the exposures of an access track that bounds the site to the north. Lithic materials recorded at the site were primarily silcrete and indurated mudstone (**Plate 13**). Apart from the access track, surface visibility around the site was very low. Due to this site's proximity to Bowmans Creek and the low profile of the landform it was likely formed by alluvial processes which would indicate a high likelihood of sub-surface archaeological deposition. Additionally a stone arrangement feature was identified within the boundaries of the identified PAD on the crest of the terrace; however, it is unclear if this feature is of Aboriginal origin (**Plate 13**). The site is considered to be intact and in relatively good condition.

While moderate disturbance from the construction of vehicle access tracks has impacted site LID 34, much of the deposits appeared to be intact. A *Code of Practise* test excavation conducted by OzArk from the 16th thru 20th of April 2012 later determined that an extremely low density deposit was present up to 10cm depth in the north-eastern tested areas of the site (around pits 16 through 18). Surface artefacts identified at LID 34 were located on access tracks and small erosion scours that crossed the rim of the terrace landform (refer to **Figure 15**). Additionally, the density of the surface artefacts increases in areas closer to the main channel of Bowmans Creek, to the north and east of the tested areas. This indicates that the investigated portions of LID 34 most likely constitute the site's peripheries (refer to **Attachment 1** for the full results of the test excavation programme).

Figure 15: LID 34 Test Excavation Pit Layout and Artefact Distribution.



LID ES1

This site is positioned on a ridge crest that rises approximately 30-40 m above the floodplain to the south and is located about 150 m from the main channel of Bowmans Creek. Surface visibility across the site was moderate as significant sheetwash erosion on the slope has eroded the A horizon of the soil down to sandstone bedrock creating numerous surface exposures (**Plate 14**). Artefacts were identified in sheetwash erosion scars on the north and east slopes of the landform. Lithic materials recorded at the site included silcrete and indurated mudstone.

Due to the high incidence of erosion off the top of the landform, colluvial soil and artefact deposition can be expected at the base of the steeply sloped sides of the landform on the alluvial terrace landforms where sites LID 3 and LID 34 are situated to the north and east of the site respectively.

Rav 24 East

Site Rav 24 is a sparse 200 x 50 m flake scatter containing at least 15 artefacts along the eastern edge of a ridge crest 20-30 m above and overlooking the Bowmans Creek floodplain. The site is located 300 m from the main channel of Bowmans Creek to the south and a tributary to the west. Most of the artefacts observed during this assessment were located in sheetwash erosion exposures on the steeply sloped eastern portion of the site facing the floodplain (**Plate 15**). Lithic materials recorded at the site included silcrete and indurated mudstone. Signs of vegetation clearing are evident throughout the site area and grasses and casuarinas regrowth make for poor surface visibility, especially on the crest of the ridge. Site has potential for shallow artefact deposition in the top soil. Initial recording of this site in 1998 assign the site high archaeological significance and indicate it has “great” importance to the Wonnarua people.

LID 36

Site LID 36 was observed in a small exposure adjacent to a fence line, approximately 10 m from the coal conveyor belt and at the crest of hill overlooking a tributary into Bowmans Creek. The crest is approximately 70 metres from an ephemeral tributary of Bowmans Creek and approximately 350 metres from the main channel of Bowmans Creek. Inspection of the LID 36 demonstrated that the area was very scoured and eroded, with basically no A horizon remaining (**Plate 16**). Only two artefacts were able to be re-located in addition to the artefact under the fence line. Due to the high levels of leaf litter covering the ground surface south of the fence line, visibility was considered overall low, and despite the overall high levels of disturbance there is nonetheless potential for additional artefacts to be present.

6.3.1.1 *Previously recorded sites avoided by redesign of proposed Entrance Pit Extension Impact Zone*

The proponent (LCO) redesigned the proposed Entrance Pit Extension following the field survey component of the assessment to accommodate Aboriginal heritage constraints, as illustrated in **Figure 17**. Sites within the impact zone of the initial design but completely avoided by the redesign include:

Foy Brook / HAZ2-OS1 with PAD

This extensive site is situated on a broad alluvial terrace located at the confluence of two creek lines; one of which runs along the base of the alluvial floodplain of Bowmans Creek. A June 2011 OzArk Due Diligence assessment of proposed borehole locations identified artefacts in

erosion scars extending east of the access track up to the edge of the terrace landform. The western edge of the site is bound by a large overburden emplacement area. Overall it is considered likely that parts of this site may remain in a relatively intact state, especially those closer to the edge of the landform (if ploughing has occurred), although these have suffered some sheet erosion. During this assessment artefacts ($n \geq 50$) were witnessed along the access track that runs at the base of the overburden on the western edge of the site (**Plate 17**). Lithic materials recorded at the site included silcrete, indurated mudstone, quartz, basalt, and silicified sandstone. The site's position on an alluvial landform indicates a high probability of intact archaeological deposits.

LID 2

Site LID 2 is positioned mid-slope on a hill that slopes gently to the southeast toward Bowmans Creek and the alluvial fan associated with site LID 3. The site is bound by the northern extent of site LID 3 and southern extent of Foy Brook / HAZ-OS1. Signs of vegetation clearing are evident throughout the site area and grasses and casuarina regrowth make for poor surface visibility. Artefacts were identified in two exposures, a sheetwash erosion scar near an ant hill at the sites southern extent and on an access track at the sites northern extent (**Plate 18**).

6.3.2 South Pit Extension/MIA Pit

In respect of the SPE, attempts were made to relocate sites Glendell G13 (37-3-0690), LID 30 (37-3-0426), LID 31 (37-3-0428), LID 32 (37-3-0464), LID 33 (37-3-0463), and Ravensworth A (37-3-0037). It was attempted to relocate these sites because at the time of survey, although it was understood that salvage had taken place, it was uncertain what the status of these sites was according to AHIMS.

Sites LID 30 (37-3-0426), LID 32 (37-3-0464), and LID 33 (37-3-0463) were all re-located and artefacts were observed near the locations provided in the AHIMS database.

Grader scraping from 2006 salvage activity was observed near Chain of Ponds Creek near the location of sites LID 30, LID 31, and LID 32. Although no artefacts were observed during the attempt to relocate LID 31, a grader scrape was observed near the location for this site provided in the AHIMS database. **Figure 16** demonstrates the location of grader scrapes observed in the field during this assessment.

Attempts to re-locate site Glendell G13 were unsuccessful and it is presumed to have been subsumed into the suite of sites recorded along Chain of Ponds Creek in 2001 in 2006 where grader scraping salvage was later employed.

It is noteworthy that since survey, a report on the salvage (Umwelt 2013) and updated Aboriginal Site Impact Recording Forms (ASIRFs) for sites LID 30, LID 31, LID 32 and G13 indicate that these sites have been destroyed.

There was no attempt to relocate LID 5 (37-3-0450) or LID 15 (37-3-0439) as these sites were issued Section 90 consent and are assumed to have been destroyed by development associated with the open cut mining activities.

The remaining site, Ravensworth A, is assumed to be intact as no record of impacts or salvage activity exists; however, attempts to relocate the site were unsuccessful due to low surface visibility (**Plate 19**).

Sites re-located in the impact zone of the SPE are described in detail below.

LID 30

This site is an artefact scatter located on a small ridge crest 180 m west above Chain of Ponds Creek. It is evident on a sheetwash erosion scar in a small stand of trees to the southeast of an access track that crosses Chain of Ponds Creek (**Plate 20**). Lithic materials recorded at the site included silcrete and indurated mudstone. LID 30 was salvaged in 2006 under section 90 consent # 2348 via grader scraping and surface collection. The site has been impacted by a vehicle track and a surface pipeline that both run through the northern portion of the site. A couple of artefacts noted nearby in soil heap have been interpreted as being part of this site. LID 30 is listed as destroyed according to a recent ASIRF for the site and on AHIMS.

LID 31

Site LID 31 was identified as part of an Umwelt 2001 survey on a small terrace to the west of Chain of Ponds Creek (**Plate 21**). It is an isolated find and was unable to be relocated as part of the current assessment. This may be because the site was salvaged via surface collection and grader scraping in 2006, and evidence of past grader scraping activity was observed around the GPS location of the site during the survey for the current assessment. The site is considered destroyed by previous works and salvage activity in the area and is noted as such on the ASIRF and on AHIMS.

LID 32

This site consists of artefacts eroding out of a cut terrace bank to the east above Chain of Ponds Creek. The site was re-located by the presence of artefacts observed in a gully erosion exposure that had completely eroded the A horizon (**Plate 22**). Additional artefacts can be expected on the terrace surface; however, poor surface visibility led to poor overall effective survey coverage making identification of the site boundary difficult. The site was issued a section 90 consent # 2348 in 2006 and was salvaged via surface collection and grader scrapes

that same year. The site has been impacted significantly by development works since then which is best illustrated by the presence of a partially buried pipeline that passes through the southern portion of the site. LID 32 is listed as destroyed according to a recent ASIRF for the site and on AHIMS.

LID 33

Site LID 33 was identified as part of the Umwelt 2001 survey in an erosion scour on a hill slope 100 m south of the current Liddell Mine office. The site is a small artefact scatter consisting of three indurated mudstone flakes. This site was salvaged via surface collection in 2007. A single indurated mudstone flake was recorded in this location during the current assessment. The site exhibits signs of significant sheetwash erosion and an access track is positioned directly upslope from the observed artefact (**Plate 23**).

Figure 16: Location of Grader Scape Salvaging (blue squares) along Chain of Ponds Creek.



6.4 DISCUSSION

During the field portion of this assessment three primary management areas were identified based on the sensitivity of the landforms and concentration of archaeological material witnessed during the survey.

- Bowmans Creek Sensitive Archaeological Landscape (SAL)

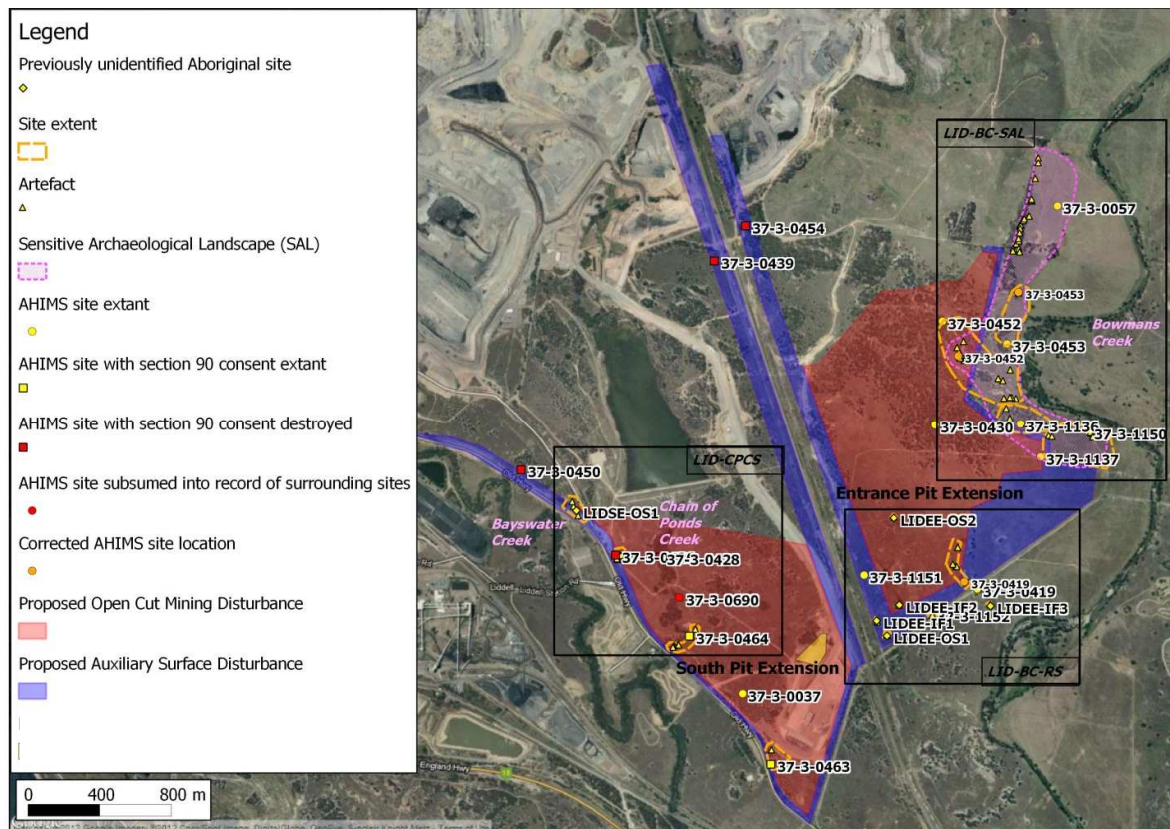
- Bowmans Creek Ridge Sites
- Chain of Ponds Creek Sites

Poor surface visibility at the time of the survey limited the ability of field officers to identify Aboriginal archaeological material; as such the above management areas provide an approximate boundary for areas where there is a high probability of encountering additional Aboriginal material. The limits of these management areas are determined by the location of Aboriginal material as identified and mapped during the field survey in juxtaposition with the settlement pattern formed by the predictive model in **Section 5.4**. Refer to **Figure 17** for the boundaries associated with each of the above management areas.

LID 33 (37-3-0463) is the lone re-located site that was not placed within any of these management areas. The site is located in a highly disturbed context within the impact zone of the proposed SPE/MIA Pit Impact Zone and is difficult to place in context with other sites due to the high level of disturbance and low amount of archaeological material observed at the site.

In addition to the sites that have been placed within these management areas, multiple sites identified within the impact footprint as part of the AHIMS search are considered either destroyed as a result of previous salvage activity and development works (LID 1, LID 5, LID 15, SP 1 and SP 3) or were unable to be relocated during the survey portion of this assessment (LID 27 and Ravensworth A).

Figure 17: Management Areas (Black boxes)



6.4.1 Bowmans Creek Sensitive Archaeological Landscape (LID-BC-SAL)

During the field portion of this assessment a large number of artefacts were identified on the alluvial terraces and ridge crests along the west bank of the main channel of Bowmans Creek. This area has been identified as a Sensitive Archaeological Landscape (SAL) within the Project Area. In total, this SAL covers six previously recorded sites with extant records in the AHIMS database (LID 2, LID 3, LID 34, LID ES1, LID ES2, and Foy Brook / HAZ-OS1), of which five were relocated during the survey portion of this assessment. Additionally, three of the sites were identified as having the additional classification of a Potential Archaeological Deposit (PAD) due to their alluvial depositional nature.

The sites located in this area are positioned adjacent to Bowmans Creek on crests or terrace landforms above the floodplain. The location of these sites falls within the predictive model described in **Section 5.4** as the sites are directly associated with a major watercourse that flows through the area and the boundaries of all of these sites extend directly up to the watercourses main channel. This area has been subject to extensive disturbance from development activity associated with vegetation clearing, grazing and mining. Sheetwash and gully erosion are common disturbances to many of these sites. For approximate boundaries of the SAL refer to **Figure 17**.

6.4.2 Bowmans Creek Ridge Sites (LID-BC-RS)

During the field portion of this assessment a large number of artefacts were identified near the minor tributaries or on the ridge crests above the floodplain of Bowmans Creek. In total, this management area covers three previously recorded sites with extant records in the AHIMS database (Rav 24 east, LID 35, and LID 36), of which two were relocated during the survey portion of this assessment. Additionally, two open sites (LIDEE-OS1 and LIDEE-OS2) and three isolated finds (LIDEE-IF1, LIDEE-IF2 and LIDEE-IF3) were identified as being previously unrecorded during the survey portion of this assessment.

The sites located in this area are positioned either overlooking the floodplain of Bowmans Creek or in association with a large ephemeral drainage that has been dammed up forming two ponds in the south west portion of the proposed Entrance Pit Extension. The location of these sites falls within the predictive model described in **Section 5.4** as the sites are directly associated with drainage lines and watercourses. This area has been subject to extensive disturbance from development activity associated with vegetation clearing, grazing and mining. Erosion from sheetwashing is also common disturbance to many of these sites. Refer to **Figure 17** for the location of sites and boundaries of this management area.

It is important to note the LID 35 was unable to be re-located but has been placed within this management area due to its location on the landform of sites that have been included.

6.4.3 Chain of Ponds Creek Sites (LID-CPCS)

During the field portion of this assessment, some artefacts were identified on terraces and ridge crests near Chain of Ponds Creek. In total, this management area covers four previously recorded sites with extant records in the AHIMS database (Glendell G13, LID 30, LID 31, and LID 32), of which two were relocated (LID 30 and 32) during the survey portion of this assessment. Additionally, one open site (LIDSE-OS1) was located during the survey portion of this assessment. The sites located in this area are positioned either adjacent too or overlooking Chain of Ponds Creek. Prior field assessments along with surface collection and grader scrape salvaging of sites LID 30, LID 31 and LID 32 has identified extensive archaeological material across this area. Sites LID 31 and Glendell G13 were not relocated and the latter is considered to have been absorbed into the record of LID 32. The location of these sites falls within the predictive model described in **Section 5.4** as the sites are directly associated with drainage lines and watercourses. Sheetwash and gully erosion are a common disturbance to many of these sites. Refer to **Figure 17** for the location of sites and boundaries of this management area.

6.4.4 Sites Outside Management Zones

Sites LID 27 (37-3-0430) and Rav A (37-3-0037) are both located outside the defined management zones as noted above and could not be relocated during the recent survey despite considerable attempts (**Figure 17**).

6.5 ASSESSMENT OF HERITAGE SIGNIFICANCE

6.6 INTRODUCTION

The appropriate management of cultural heritage items is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Scientific, cultural and public significance are identified as baseline elements of significance assessment, and it is through the combination of these elements that the overall cultural heritage values of a site, place or area are resolved.

Social or Cultural value

This area of assessment concerns the importance of a site or features to the relevant cultural group: in this case the Aboriginal community. Aspects of social value include assessment of sites, items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas, as well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of value may not be in accord with interpretations

made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

Archaeological value

Assessing a site in this context involves placing it into a broader regional framework, as well as assessing the site's individual merits in view of current archaeological discourse. This type of value relates to the ability of a site to answer current research questions and is also based on a site's condition (integrity), content and representativeness.

The overriding aim of cultural heritage management is to preserve a representative sample of the archaeological resource. This will ensure that future research within the discipline can be based on a valid sample of the past. Establishing whether or not a site can contribute to current research also involves defining 'research potential' and 'representativeness'. Questions regularly asked when determining significance are: can this site contribute information that no other site can? Is this site representative of other sites in the region?

Aesthetic value

This refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use (Australian ICOMOS 1988).

Historic value

Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities.

Places of post-contact Aboriginal history have generally been poorly recognised in investigations of Aboriginal heritage. Consequently the Aboriginal involvement and contribution to important regional historical themes is often missing from accepted historical narratives. This means it is often necessary to collect oral histories along with archival or documentary research to gain a sufficient understanding of historic values.

6.6.1 Assessed significance of the recorded sites

6.6.1.1 Social or Cultural significance/value

Social and cultural significance is determined by the Aboriginal stakeholders and discussion with the RAPs has indicated all sites included in this assessment have **high cultural**

significance. Refer to **Appendices 1** and **3** for specific details of the consultation with the stakeholders.

During the AFGM held in December 2011 (minutes in **Appendix 3**), it was clear from all present that all sites over the LCO Project Area were considered to be of significance to the Aboriginal community. In particular, however, the complex of sites along Bowmans Creek was noted as being of greater significance due to the sheer quantity of sites and the evidence this provides of the intensive use by Aboriginal peoples of the resources of this waterway within the Liddell Project Area.

It is also noted here that no further specific information on the cultural values of the Project Area has been forthcoming from the meetings and communications undertaken for the project to date.

6.6.1.2 Archaeological significance/value

The OzArk team formally acknowledges the past and present Traditional Owners and the effects of the rapid and substantial alteration to Aboriginal cultures and religious belief systems since the time traditional lands were occupied by Europeans and other non-Indigenous groups. The following comments are purely scientific in nature and do not consider cultural values. In doing this, the scientific assessment should not be interpreted as any devaluation of the cultural significance of the sites.

The three open campsites and three isolated artefacts sites identified during the survey have all been assessed as having **low archaeological significance**. There is a preponderance of stone artefact sites throughout the region that reduces the overall rarity (hence significance) of the sites identified during the current survey. None of the stone artefact sites displayed noteworthy / unusually recorded features; however more detailed investigation such as sub-surface investigation has potential to provide additional scientific information about the regions prehistory. See **Table 6** for more individualized significance assessment of each site.

Additionally, the scientific significance of several of the previously recorded sites that were re-located during the field survey portion of this assessment has been re-evaluated. The results of this reassessment can be found in **Table 7**.

6.6.1.3 Aesthetic significance/value

All the sites identified as part of the current heritage assessment are open sites or isolated finds, and such sites present evidence that would be challenging for the lay person to interpret. All the sites discussed as part of the current assessment were assessed as having **low aesthetic significance**.

6.6.1.4 Historic significance/value

There are no known Aboriginal associations with any of the recorded sites and, as such, the recorded sites have no specific, known **no historic values**.

These significance/values were assessed against several criteria: representativeness, rarity, research potential; integrity, complexity and connectedness.

Table 6 presents a summary of these aspects of the significance / values for each site.

Table 6: Significance of sites recorded as part of the current assessment.

Site Number	Site Type / Feature	Archaeological Significance	Aesthetic / Historic Significance	Remarks
LIDEE-OS1	Open Site / Lithic Scatter	Low	Low	Representativeness: Low Rarity: Low Research potential: Moderate Integrity: Moderate Complexity: Low Connectedness: Moderate
LIDEE-OS2	Open Site / Lithic Scatter	Low	Low	Representativeness: Low Rarity: Low Research potential: Moderate Integrity: Low Complexity: Low Connectedness: Moderate
LIDEE-IF1	Isolated Artefact	Low	Low	Representativeness: Low Rarity: Low Research potential: Low Integrity: Low Complexity: Low Connectedness: Low
LIDEE-IF2	Isolated Artefact	Low	Low	Representativeness: Low Rarity: Low Research potential: Low Integrity: Low Complexity: Low Connectedness: Low
LIDEE-IF3	Isolated Artefact	Low	Low	Representativeness: Low Rarity: Low Research potential: Moderate Integrity: Low Complexity: Low Connectedness: Moderate
LIDSE-OS1	Open Site / Lithic Scatter	Low	Low	Representativeness: Low Rarity: Low Research potential: Low Integrity: Low Complexity: Low Connectedness: Low

Table 7: Significance of previously recorded sites on the AHIMS database.

Site Number	Site Type / Feature	Scientific Significance	Public Significance	Original Assessed Scientific (?) Significance	Remarks
37-3-1136; LID ES1	Open Site / Lithic Scatter	Moderate	Low	Low	Site significance has been re-evaluated and changed to moderate as the research potential and connectedness of the site are moderate due to its occurrence within the context of a sensitive archaeological landscape.
37-3-1137; LID ES2	Open Site / Lithic Scatter	Low	Low	Low	Site was not re-located and original assessment of significance is maintained.
37-3-1150; LID 34	Open Site / Lithic Scatter	Moderate to High (preliminary)	Low	Low	There is a strong possibility the site has a high research potential due to its size, integrity and possibly extensive sub-surface archaeological deposit. Test excavation is required to confirm this assessment.
37-3-0057; HAZ-OS1	Open Site / Lithic Scatter	High (preliminary)	Low	?	There is a strong possibility the site has a high research potential due to its size and possibly extensive sub-surface archaeological deposit. Test excavation is required to confirm this assessment.
37-3-0452; LID 3	Open Site / Lithic Scatter	High (preliminary)	Low	Moderate	The scientific significance of this site has been preliminarily reassessed as high. There is a strong possibility the site has a high research potential due to its size and possibly extensive sub-surface archaeological deposit. Additionally, the site has moderate representativeness and intactness but low rarity. Test excavation is required to confirm this assessment.
37-3-0453; LID 2	Open Site / Lithic Scatter	Moderate	Low	Low	Site significance has been re-evaluated and changed to moderate as the research potential and connectedness of the site are moderate due to its occurrence within the context of a sensitive archaeological landscape.
37-3-0419; Rav 24 east	Open Site / Lithic Scatter	Moderate	Low	High	The scientific significance of the site has been reassessed from high to moderate. The sites research potential is low due to limited sub-surface deposition; however, shallow deposits may be present. The sites large size and moderate representativeness are both factors that give the site moderate significance.
37-3-1152; LID 36	Open Site / Lithic Scatter	Low	Low	Low	No re-evaluation was necessary.
37-3-1151; LID 35	Open Site / Lithic Scatter	Low	Low	Low	Site was not re-located and original assessment of significance was maintained.

Site Number	Site Type / Feature	Scientific Significance	Public Significance	Original Assessed Scientific (?) Significance	Remarks
37-3-0426; LID 30	Open Site / Lithic Scatter	Low (Considered destroyed)	Low	Moderate	Re-evaluation was necessary as site has been salvaged and is now destroyed according to AHIMS
37-3-0428; LID 31	Isolated Artefact	Low (Considered destroyed)	Low	Low	Re-evaluation was necessary as site has been salvaged and is now destroyed according to AHIMS
37-3-0464; LID 32	Open Site / Lithic Scatter	Low (Considered destroyed)	Low	Moderate	Re-evaluation was necessary as site has been salvaged and is now destroyed according to AHIMS
37-3-0690; Glendell G13	Open Site / Lithic Scatter	Low	Low	Low	Re-evaluation was necessary as site has been salvaged and is now destroyed according to AHIMS
37-3-0457; SP 1	Open Site / Lithic Scatter	Low	Low	Low	Site is considered destroyed and no re-location or re-evaluation of significance is provided.
37-3-0455; SP 3	Isolated Artefact	Low	Low	Low	Site is considered destroyed and no re-location or re-evaluation of significance is provided.
37-3-0450; LID 5	Isolated Artefact	Low	Low	Low	Site is considered destroyed and no re-location or re-evaluation of significance is provided.
37-3-0463; LID 33	Open Site / Lithic Scatter	Low	Low	Low	No re-evaluation was necessary.
37-3-0454; LID 1	Open Site / Lithic Scatter	Low	Low	Low	Site is considered destroyed and no re-location or re-evaluation of significance is provided.
37-3-0430; LID 27	Open Site / Lithic Scatter	Low	Low	Low	Site was not re-located and original assessment of significance was maintained.
37-3-0037; Ravensworth A	Open Site / Lithic Scatter	Low	Low	Low	Site was not re-located and original assessment of significance was maintained.
37-3-0439; LID 15	Open Site / Lithic Scatter	Low	Low	Low	Site is considered destroyed and no re-location or re-evaluation of significance is provided.
37-3-0739; LHP1	Open Site / Lithic Scatter	None	None	None	Artefacts are from an unknown location and have been deposited in their present location on top of fill material that covers the natural ground surface.

6.7 LIKELY IMPACTS TO ABORIGINAL HERITAGE FROM THE PROPOSAL

A hand held Magellan Mobile Mapper (with GIS software) was carried in the field enabling a relatively accurate prediction of project impacts on sites (refer to **Figures 8 and 9**). **Table 8** summarises the impacts.

Table 8: Impact assessment

Site Number	Type of Harm (Direct/Indirect / None)	Likelihood of Harm (Probable / Possible / Unlikely / Unknown)	Degree of Harm (Total / Partial / None)	Remarks / Nature of Impact
LIDEE-OS1	Direct	Probable	Total	In impact zone of proposed Entrance pit open cut mining activity. Complete destruction of site probable if works should proceed.
LIDEE-OS2	Direct	Probable	Total	In impact zone of proposed open cut mining activity. Complete destruction of site probable if works should proceed.
LIDEE-IF1	Direct	Probable	Total	In impact zone of proposed Entrance pit open cut mining activity. Complete destruction of site probable if works should proceed.
LIDEE-IF2	Direct	Probable	Total	In impact zone of proposed Entrance pit open cut mining activity. Complete destruction of site probable if works should proceed.
LIDEE-IF3	None	Unlikely	None	Outside impact zone of Entrance pit proposed open cut mining activity.
LIDSE-OS1	Direct	Probable	Total	In impact zone of proposed South Pit open cut mining activity. Complete destruction of site probable if works should proceed.
37-3-0037; Ravensworth A	Direct	Probable	Total	In impact zone of proposed South Pit open cut mining activity. Complete destruction of site probable if works should proceed.
37-3-0057; Foy Brook / HAZ-OS1	None	Unlikely	None	Outside impact zone of Entrance pit proposed open cut mining activity. Site is currently impacted by a vehicle track.
37-3-0419; Rav 24 east	Direct	Probable	Total	In impact zone of proposed Entrance pit open cut mining activity. Complete destruction of site probable if works should proceed.
37-3-0426; LID 30	N/A	N/A	Total	Site has current AHIP covering its destruction and the area is likely to be impacted before this Development Modification is approved.
37-3-0428; LID 31	N/A	N/A	N/A	Site salvaged under section 90 consent #2348 in 2006. Site was identified as destroyed during the current field assessment.
37-3-0430; LID 27	Direct	Probable	Total	In impact zone of proposed open cut mining activity. Complete destruction of site probable if works should proceed.
37-3-0439; LID 15	N/A	N/A	N/A	Deemed as salvaged and destroyed.
37-3-0450; LID 5	N/A	N/A	N/A	Site salvaged under section 90 consent #2896 in 2008. Site was identified as destroyed during the current field assessment.
37-3-0452; LID 3	Direct	Probable	Partial	In impact zone of proposed open cut mining activity. Partial destruction of site probable if works should proceed.
37-3-0453; LID 2	None	Unlikely	None	Outside impact zone of Entrance pit proposed open cut mining activity.
37-3-0454; LID 1	N/A	N/A	N/A	Site salvaged under section 90 consent #1443 in 2002. Site was identified as destroyed during the current field assessment.
37-3-0455; SP 3	N/A	N/A	N/A	Site salvaged under section 90 consent #2896 in 2008. Site was identified as destroyed during the current field assessment.
37-3-0457; SP 1	N/A	N/A	N/A	Site salvaged under section 90 consent #2896 in 2008. Site was identified as destroyed during the current field assessment.

Site Number	Type of Harm (Direct/Indirect / None)	Likelihood of Harm (Probable / Possible / Unlikely / Unknown)	Degree of Harm (Total / Partial / None)	Remarks / Nature of Impact
37-3-0463; LID 33	Direct	Probable	Total	In impact zone of proposed open cut mining activity. Complete destruction of site probable if works should proceed.
37-3-0464; LID 32	N/A	N/A	Total	Site has current AHIP covering its destruction and the area is likely to be impacted before this Development Modification is approved.
37-3-0690; Glendell G13	Direct	Probable	Total	In impact zone of proposed open cut mining activity. Complete destruction of site probable if works should proceed.
37-3-0739; LHP 1	Direct	Probable	Total	In impact zone of proposed open cut mining activity. Complete destruction of site probable if works should proceed.
37-3-1136; LID ES1	Direct	Possible	Partial	Partially in impact zone of proposed dump and auxiliary surface disturbance. Partial destruction of site probable if works should proceed.
37-3-1137; LID ES2	Direct	Probable	Total	In impact zone of proposed dump and auxiliary surface disturbance. Complete destruction of site probable if works should proceed.
37-3-1150; LID 34	Direct	Possible	Partial	Partially in impact zone of proposed dump and auxiliary surface disturbance. Partial destruction of site probable if works should proceed.
37-3-1151; LID 35	Direct	Probable	Total	In impact zone of proposed dump and auxiliary surface disturbance. Complete destruction of site probable if works should proceed.
37-3-1152; LID 36	Direct	Probable	Total	In impact zone of proposed dump and auxiliary surface disturbance. Complete destruction of site probable if works should proceed.

It is important to note that following the field survey of the proposed Entrance Pit Extension (refer to **Figure 6** for detail of field survey) the design has since been modified and reduced by LCO to allow for partial avoidance of sites LID 3, LID 34, LID ES1 and total avoidance of sites LIDEE-IF3, LID 2 and Foy Brook / HAZ-OS1.

7 MANAGEMENT AND MITIGATION: ABORIGINAL HERITAGE

7.1 GENERAL PRINCIPLES FOR THE MANAGEMENT OF ABORIGINAL SITES

Appropriate management of cultural heritage items is primarily determined on the basis of their assessed significance as well as the likely impacts of the proposed development. **Sections 6.5** and **6.6** described respectively the significance / potential of the recorded sites and the likely impacts of the development. The following management options are general principles, in terms of best practice and desired outcomes, rather than mitigative measures against individual site disturbance.

- Avoid impact by altering the development proposal or in this case by avoiding impact to a recorded Aboriginal site. If this can be done, then a suitable curtilage around the site must be provided to ensure its protection both during the short-term construction phase of development and in the long-term use of the area. If plans are altered, care must be taken to ensure that impacts do not occur to areas not previously assessed.
- If impact is unavoidable then an Aboriginal Heritage Impact Permit (AHIP) may be applied for from the NSW OEH and approval will depend on many factors including the site's assessed significance. To obtain an AHIP Aboriginal community consultation will need to occur following the OEH *Aboriginal Cultural Heritage Consultation Requirements* (ACHCRs). If granted, the local Aboriginal communities may wish to collect or relocate any evidence of past Aboriginal occupation (Aboriginal object), whether temporarily or permanently, if necessary⁷.

7.2 MANAGEMENT AND MITIGATION OF RECORDED ABORIGINAL SITES

Within the parameters of the Proposal, complete impact avoidance of the LID-CPCS, LID-BC-SAL and LID-BC-RS management areas is considered unlikely given that all of the sites that make up these management areas lie partially or completely within the limits of the impact zones. Additionally, given the size of the impact zones there are no other suitable locations for the proposed Entrance and South extension open cut pits within the current extent of the LCO development consent and mining lease boundaries. It is strongly recommended that changes be made to the proposed works in all cases where the impact zone of the proposed work can be altered to avoid sites. It is noted however, that following the results of the field survey, the proposed extent of the Entrance Pit Extension was reduced to ensure the avoidance of the majority of sites within the LID-BC-SAL.

⁷ The fate of all artefacts remains within the statutory control of the NSW OEH. A care and control permit may be issued to local Aboriginal groups or, with Aboriginal community consent, to other parties, for educational or display purposes.

It is possible all sites within the LID-CPCS will be completely destroyed⁸ while multiple sites within the LID-BC-SAL and LID-BC-RS will be directly impacted and destroyed by the Proposal. Additionally, several more isolated sites have not been included within these management areas but will also be impacted if the proposed works are to proceed. In all cases where recommendations for the management of these sites indicate salvage is necessary, an application to the OEH for an Aboriginal Heritage Impact Permit (AHIP) will need to be prepared and approved in consultation with the Aboriginal community stakeholders prior to the commencement of the salvage activity and proposed impact works.

The recommendation for preservation or salvage of these sites falls under three different primary management recommendation groups:

- **Group 1 - Sites requiring protection from inadvertent impact:** Includes sites not directly impacted but within 50 m of proposed impacts. Recommendations include inductions and suitable curtilage to make workers aware of site locations to prevent inadvertent impacts. No AHIP required.

Group 2 - Sites requiring surface collection and/or artefact relocation: All previously recorded or newly identified sites within the impact zones where cultural material was identified as part of the current assessment or where cultural material can be expected but identification was constrained by limited surface visibility. Test excavations carried out at LCO confirmed that this group of sites does not overall have associated deposit, hence collection is appropriate as the primary management option for these sites. This group includes sites previously salvaged under a section 90 consent where additional material was identified during the re-location portion of the current assessment. An AHIP is required for all actions under this recommendation. The collected artefacts would be analysed on-site at LCO immediately following collection and RAPs would be offered an opportunity to participate in this analysis. A short addendum to this report would be written in order to incorporate the findings of the surface collection into this report. Artefacts would need to remain in the care of LCO, until all activities associated with the project over the salvaged sites are complete, at which time a location for the reburial of the artefact collection would be determined. A Care and Control agreement would then be submitted and a selection of the artefacts recovered would be placed in the custody of Wanaruah LALC for educational use. Greater detail surrounding this management protocol would be contained within the future AHIP application, but it is noteworthy that this overall strategy comprises that put forward during the December 2012 AFGM.

- **Group 3 - No further salvage activity required:** Includes sites salvaged as part of a previous section 90 consent where impacts have caused complete ground disturbance and have removed any material evidence enabling identification of the site. No AHIP required.

⁸ Note, Sites LID 30, 31, 32 and GI13 already have an active AHIP over them (#2348, active till 2016) and are likely to have been destroyed prior to Development Modification 5 being approved. If they have not been destroyed by that time, they could be incorporated into a new AHIP application if necessary.

Multiple sites that have been determined to fall within management recommendation **Group 2** have also been assigned a secondary management sub-group that defines options for subsequent salvage activity that will be a necessary component of any required AHIP applications; these include:

- **Sub-group A - Grader scraping:** In situations where terrain allows, grader scrapes should be employed following surface collection to remove vegetation and top soil (<10 cm below surface) in order to recover artefacts on sites where limited sub-surface deposition can be expected (cases where deposition is not expected to exceed 10 cm below surface). Grader scraping must only occur following surface collection.
- **Sub-group B – Soil Stockpiling:** In cases where test excavations have not identified intact sub-surface archaeological features (i.e. hearths, knapping floors, etc.) but artefacts are present at low density, during initial surface disturbing works the topsoil from the impact footprint that is to be removed for the project, should be windrowed nearby and specifically used to re-dress areas in the vicinity of the impacted sites during the rehabilitation phase when the project works are complete. All topsoil excavated from these two sites should remain in the local vicinity of the site.
- **Sub-group C – Vegetation clearance:** Extant AHIMS sites unable to be re-located in the field may require vegetation to be cleared prior to surface collection salvage to increase ground surface visibility. This may be accomplished by a variety of means and will need to be arranged with the LCO taking into consideration safety issues of site access.

Table 9 provides detail of appropriate management options for each site.

Table 9: Management Options.

Site Number	Impact Zone	Nature of Impact (Total / Partial / Inadvertent)	Management Options		Remarks
			Primary	Secondary	
Bowmans Creek Sensitive Archaeological Landscape					
37-3-1136; LID ES1	Entrance Pit	Partial	1 and 2	N/A	Site requires surface collection salvage prior to proposed impacts. Site has limited potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation. Test excavation for site LID 34 with PAD may encroach on the boundaries of this site to better understand the deposition of the LID-BC-SAL.
37-3-1137; LID ES2	Entrance Pit	Total	2	C	Site requires surface collection salvage prior to proposed impacts. Site has limited potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation. Vegetation clearance may be required prior to surface collection as site was unable to be re-located during field survey due to poor surface visibility. Test excavation for site LID 34 with PAD may encroach on the boundaries of this site to better understand the deposition of the LID-BC-SAL.

Site Number	Impact Zone	Nature of Impact (Total / Partial / Inadvertent)	Management Options		Remarks
			Primary	Secondary	
37-3-1150; LID 34 with PAD	Entrance Pit	Partial	1 and 2	B	Site was initially identified as a PAD; however, test excavation of portions of the site within the proposed impacts revealed a deflated site with minimal sub-surface artefact deposition. The site is partially within the proposed impacts. Site requires surface collection salvage prior to proposed impacts. Soil stockpiling should be employed to return any unrecovered sub-surface artefacts to the area during the post mining rehabilitation. Site has limited potential for sub-surface artefact deposition. Surface collection, and soil stockpiling are considered adequate mitigation.
37-3-0057; HAZ-OS1	Entrance Pit	Inadvertent	1	N/A	Site is located outside the impact zone and is considered avoidable. Closure of the access track that runs through the site is required to avoid further damage to the site.
37-3-0452; LID 3	Entrance Pit	Partial	1 and 2	B	Site was initially identified as a PAD; however, test excavation of portions of the site within the proposed impacts revealed a deflated site with minimal sub-surface artefact deposition. The site is partially within the proposed impacts. Site requires surface collection salvage prior to proposed impacts. Soil stockpiling should be employed to return any unrecovered sub-surface artefacts to the area during the post mining rehabilitation. Site has limited potential for sub-surface artefact deposition. Surface collection, soil stockpiling are considered adequate mitigation.
37-3-0453; LID 2	Entrance Pit	Inadvertent	1	N/A	Site is located within 50 m of proposed impact zone. Worker induction and curtilage should be utilised to prevent inadvertent impacts.
Bowmans Creek Ridge Sites					
LIDEE-OS1	Entrance Pit	Total	2	N/A	Site requires surface collection salvage prior to proposed impacts. Site has limited potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation.
LIDEE-OS2	Entrance Pit	Total	2	N/A	Site requires surface collection salvage prior to proposed impacts. Site has limited potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation.
LIDEE-IF1	Entrance Pit	Total	2	N/A	Site requires surface collection salvage prior to proposed impacts. Site has no potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation.
LIDEE-IF2	Entrance Pit	Total	2	N/A	Site requires surface collection salvage prior to proposed impacts. Site has no potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation.

Site Number	Impact Zone	Nature of Impact (Total / Partial / Inadvertent)	Management Options		Remarks
			Primary	Secondary	
LIDEE-IF3	Entrance Pit	N/A	3	N/A	Site is an Isolated Find located outside proposed impacts and has low overall significance.
37-3-0419; Rav 24 east	Entrance Pit	Total	2	A and B	Site requires surface collection salvage prior to proposed impacts. Soil stockpiling should be employed to return any unrecovered sub-surface artefacts to the area during the post mining rehabilitation. Site has limited potential for sub-surface artefact deposition; however, shallow deposits may be present. Surface collection and grader scraping or limited testing (dependent on accessibility) are considered adequate mitigation, together with soil stockpiling and reuse.
37-3-1152; LID 36	Entrance Pit	Total	2	N/A	Site requires surface collection salvage prior to proposed impacts. Site has limited potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation.
37-3-1151; LID 35	Entrance Pit	Total	2	C	Site requires surface collection salvage prior to proposed impacts. Site has limited potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation. Vegetation clearance may be required prior to surface collection as site was unable to be re-located during field survey due to poor surface visibility.
Chain of Ponds Creek Sites					
37-3-0426; LID 30	South Pit	Total	2	N/A	Site has already undergone salvage (AHIP#2348). Additional artefacts present on surface. Collection of these under current AHIP is planned for late 2013. Listed as Destroyed on AHIMS.
37-3-0428; LID 31	South Pit	N/A	3	N/A	Site has been significantly impacted by previous works and has been previously salvaged making additional salvage unnecessary. Listed as Destroyed on AHIMS.
LIDSE-OS1	South Pit	Total	2	N/A	Site requires surface collection salvage prior to proposed impacts. Site has limited potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation.
37-3-0464; LID 32	South Pit	Total	2 or 3	N/A	Site has already undergone salvage (AHIP#2348). Additional artefacts present on surface. Collection of these under current AHIP is planned for late 2013. Listed as Destroyed on AHIMS.
37-3-0690; Glendell G13	South Pit	Total	3	N/A	Site has been significantly impacted by previous works and has been previously salvaged making additional salvage unnecessary. Listed as Destroyed on AHIMS.
Additional Sites in Impact Zone					
37-3-0457; SP 1	Tailings Dam	N/A	3	N/A	Site has been destroyed by previous works and has been previously salvaged making additional salvage unnecessary.

Site Number	Impact Zone	Nature of Impact (Total / Partial / Inadvertent)	Management Options		Remarks
			Primary	Secondary	
37-3-0455; SP 3	Tailings Dam	N/A	3	N/A	Site has been destroyed by previous works and has been previously salvaged making additional salvage unnecessary.
37-3-0450; LID 5	South Pit	N/A	3	N/A	Site has been significantly impacted by previous works and has been previously salvaged making additional salvage unnecessary.
37-3-0463; LID 33	South Pit	Total	2	C	Site requires surface collection salvage prior to proposed impacts, but will require vegetation clearance first as it was not able to be relocated.
37-3-0454; LID 1	Entrance Pit	N/A	3	N/A	Site has been significantly impacted by previous works and has been previously salvaged making additional salvage unnecessary.
37-3-0430; LID 27	Entrance Pit	Total	2	C	Site requires surface collection salvage prior to proposed impacts. Site has limited potential for sub-surface artefact deposition. Surface collection is considered adequate mitigation.
37-3-0037; Ravensworth A	South Pit	Total	2	C	Site requires surface collection salvage prior to proposed impacts, but will require vegetation clearance first as it was not able to be relocated.
37-3-0439; LID 15	South Pit	N/A	3	N/A	Site has been significantly impacted by previous works and has been previously salvaged making additional salvage unnecessary.
37-3-0739; LHP1	CHPP Pit	Total	3	N/A	Site has been significantly impacted by previous works and has been previously salvaged making additional salvage unnecessary.
Sites within 50 m of proposed South Pit Extension impact zone					
37-3-0461; Brayshaw A	South Pit	Inadvertent	1	N/A	Site is located within 50 m of proposed impact zone. Worker induction and curtilage should be utilized to prevent inadvertent impacts.
37-3-0460; Brayshaw B	South Pit	Inadvertent	1	N/A	Site is located within 50 m of proposed impact zone. Worker induction and curtilage should be utilized to prevent inadvertent impacts.
37-3-0459; Brayshaw C	South Pit	Inadvertent	1	N/A	Site is located within 50 m of proposed impact zone. Worker induction and curtilage should be utilized to prevent inadvertent impacts.
37-3-0458; Brayshaw D	South Pit	Inadvertent	1	N/A	Site is located within 50 m of proposed impact zone. Worker induction and curtilage should be utilized to prevent inadvertent impacts.

Multiple sites within the LID-BC-SAL will be partially impacted by the current design of the proposed works. It is recommended that all portions of the LID-BC-SAL not within the designated impact zone of the proposed Entrance Pit Extension be fenced and workers be inducted to the location of these preserved portions. The current project design for the proposed

Entrance Pit Extension preserves 30.2 ha of the 35.7 ha (84.5%) area that encompasses the LID-BC-SAL.

Two of the three identified PADs within the LID-BC-SAL (LID 3 and LID 34) have been test excavated in accordance with the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (OEH 2010). The test excavation programme at sites LID 3 and LID 34 from the 16th to the 20th April 2012 determined there remains a low likelihood for there being further undetected Aboriginal stone artefacts within the portions of this site in the Project's impact footprint. Further, it was assessed that sufficient archaeological knowledge has been gained from the site making further, detailed, archaeological investigation unwarranted.

It is OzArk's knowledge that site avoidance is not an option and that an AHIP application will be made to salvage the site prior to the commencement of the proposed works.

7.3 GENERAL MANAGEMENT MEASURES

7.3.1 Unanticipated Finds Protocol

Should any previously unidentified Aboriginal object or site be revealed during construction, then work in the area should cease and the local vicinity of the find should be cordoned off until the object / site can be confirmed by a RAP representative and an archaeologist.

If the object or site is Aboriginal in origin, a detailed recording of the object(s) will be prepared, and RAPs and OEH contacted to discuss how best to proceed. Such measures may include management as per Group 2 above (**Section 7.2**), should OEH and RAPs concur once development of the AHIP application and ACHMP revision is in progress.

Should suspected ancestral human remains be encountered, the following process should be adhered to:

- Do not further disturb or move the remains;
- Immediately cease work in the vicinity and cordon area off;
- Notify the NSW Police;
- Notify the OEH's Environment Line on 131555 as soon as practicable and provide available details of the remains and their location; and
- Do not re-commence work in the area unless authorised in writing by OEH.

8 HISTORIC HERITAGE ASSESSMENT: BACKGROUND

8.1 INTRODUCTION

The three remaining buildings of the former Chain of Ponds Inn were constructed in the 1840s on the Old New England Highway, north of the town of Singleton and south of Muswellbrook. The main Inn building (Building A) and the lock up (Building B) are of ashlar stone construction, the stable (Building C) is constructed of brick with stone quoins and lintels and a later addition at the rear of the Inn building is constructed of brick. Historic settlement in the Project Area is closely related to that of the pastoral and mining activity that characterises the region's economy.

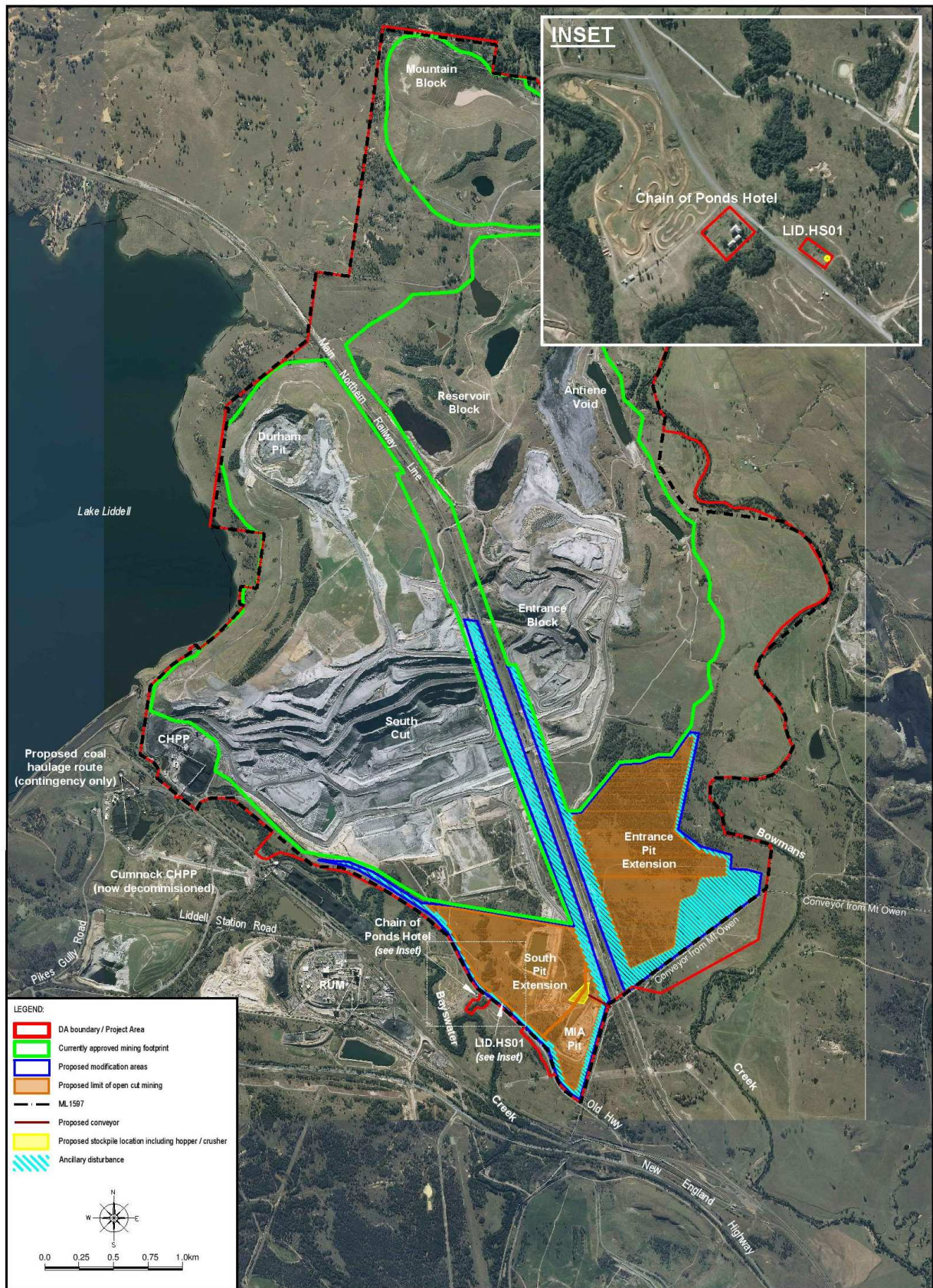
The Chain of Ponds Inn is a State listed heritage item located on the western bank of Chain of Ponds Creek near its confluence with Bayswater Creek. It is situated on land owned by Coal and Allied, adjacent to the LCO development consent boundary and the proposed South Pit Extension, as illustrated in **Figure 18**.

8.2 HISTORIC SETTLEMENT IN THE REGION

A penal settlement was established at Newcastle in 1804. Offenders, considered too dangerous to remain within contact of the colony in Sydney were transported to Newcastle where they were engaged in coal mining and timber cutting. The fertile Hunter Valley remained closed to free settlers to protect the isolated penal colony. However, a successful expedition from Windsor reached the Hunter River in 1820 and provided a viable route to the region. Several members of the exploratory party, including Benjamin Singleton, George and Andrew Loder and Thomas Dargin, were rewarded with land grants. Between 1821 and 1825, almost 300 land grants were made in the region and by 1830 the majority of the fertile alluvial lands were privately owned (ERM 2008:10).

Some of the land that encompasses the Project Area is part of a land holding that was granted to Dr James Bowman in 1824 and 1825. Bowman came to New South Wales in 1819 as the colony's chief surgeon and in 1823 he married Mary, daughter of John Macarthur who brought with her a dowry of 2000 sheep and 200 head of cattle. He then proceeded to apply for further land grants in the Hunter and by the time of his death in 1846 had amassed a land holding of 12160 acres (5120 hectares) named Ravensworth (ADB 2012).

Figure 18: Non-Indigenous heritage items in relation to proposed impacts (shaded area).



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To be printed A3



Non-Indigenous Heritage Items
FIGURE 18

Captain William Russell purchased the Ravensworth property which he merged with his other holdings in the area giving him a total 92000 acres of land primarily devoted to sheep grazing. Russell and his heirs held the Ravensworth estate until 1882. The Mackay family then retained ownership for 28 years, and continued grazing cattle and sheep on the land. In 1910, FJL Measures bought the property and the land was used for farming of fodder, cash crops and grazing beef cattle until around 1944. At that time the small holding regime began to disappear as the process of aggregation of surface titles commenced in anticipation of widespread open cut coal mining at Liddell.

The coal deposits of the Singleton-Muswellbrook area were initially identified in the late 1820s, but coal mining operations did not begin in Singleton until the 1870s and at Muswellbrook in the 1890s. Coal mining in the 19th century initially consisted of small underground operations, but after a geological survey in 1923 confirmed the extent of the coal seams, larger scale underground operations immediately followed and the first open-cut operations commenced at Liddell in 1946.

8.3 LOCAL CONTEXT

The land on which the Chain of Ponds Inn is located remained Crown land until the early 1840s when it was purchased by Henry Nowland. Nowland was a wheelwright and publican who moved from Wilberforce with his wife and young family to the newly gazetted town of Muswellbrook in the early 1830s. He was one of the first to purchase land and take up business interests including obtaining a publican's license, blacksmithing and conducting a coaching company (ERM 2008:11).

In 1842 the Government decided to establish a new village, to be named "Liddell", between the growing towns of Singleton and Muswellbrook. Nowland recognized the strategic potential of the proposed township, located around the confluence of Chain of Ponds Creek and Bayswater Creek, as a significant stopover on the Maitland—Tamworth Road. He purchased a majority of the allotments and as a result, the village of Liddell did not eventuate (Parkinson 1986). Bowman and Russell's property was located immediately to the south and west of the proposed village of Liddell.

Nowland's first construction on his property was a stone lockup located adjacent to the creek to house prisoners who were being moved under escort and as a temporary gaol. The Government rented the lockup for many years, and with a steady income established, Nowland constructed an impressive double story inn, or half-way house to provide accommodation and food for travellers as well as yards and feed for bullocks and horses on the main route between Singleton and Muswellbrook (Dawson, Brown and Ackert 1990: 8). A stone and brick stables building were also constructed to the rear of the inn.

Anecdotal evidence states that Nowland's Inn was built of stone that was excavated from nearby quarries by convict labourers. The three original buildings formed an 'L' shape around a brick paved courtyard and a large underground cistern. The Inn later gained a double story brick addition to the rear, timber stables and outhouses. Historic descriptions of the inn complex and plans of the site prepared by Dawson, Brown and Ackert (1990) demonstrate that there were a number of other buildings constructed on the allotment including a sheering shed, men's accommodation, windmill and numerous cattle yards and holding pens. In 1901 the ornate front balcony/veranda was added (Thorp 1990: Appendix 5:88).

Nowland did not take up a license for the new inn, but retained the license for his Muswellbrook hotel until his death in 1866. He also conducted a highly profitable coaching business and mail contract that was closely linked to the inn at the Chain of Ponds. The inn was managed by a series of licensees. The first, James Watson, began business at the *Lady Gipps Inn*, in January 1845, within two years Watson had changed the name of the inn to the *Lady Mary Fitzroy* and successive managers named the inn *The Coach and Horses*, *Star of the North* and *The Traveller's Inn* (ERM 2008:15).

The Great Northern Railway was opened through the Muswellbrook area in 1869, which had an adverse impact on coaching businesses and inns along the rail route. The Chain of Ponds Inn and much of Nowland's property were sold off during the late 1860s and successive owners used the property as a wine shop, post office, horse and cattle farm and private residence.

The inn, which had been made redundant by the railway in the 1860s, became further isolated when the route of the highway was changed in the 1960s. During this time the remaining 4,506 acre estate was subdivided into seven blocks. The Electricity Commission of New South Wales purchased 1764 acres containing the inn and numerous outbuildings, which were in a poor state of repair in 1966. The property was leased, however the condition of the buildings continued to deteriorate, leading the lessee to terminate the lease in 1974. With the buildings standing empty, vandalism followed with the loss of all internal and external cedar doors from the main building, all newel posts, balusters and handrails from the main staircase, skirting boards, architraves, fixtures and fittings (ERM 2008:20). Elcom carried out a program of restoration works in 1987 valued at almost \$83,000 to repair roofing and gutters and generally make the building safe. (Dawson, Brown and Ackert 1990: 35). The buildings currently have all windows and doors boarded up and the property is surrounded by security fencing to prevent access.

8.4 SURVEY METHODOLOGY

Non-indigenous field assessment of the Project Area was conducted concurrently with the Aboriginal heritage survey described in **Section 4.5**. Non-indigenous heritage items were identified, mapped and recorded by field officers walking transects spaced 10-15 m over all intact portions of the impact zone.

An additional heritage assessment of the inn complex was conducted on 24 October 2012 by Karyn McLeod (Historic Archaeologist - BA (Hons) – University of Sydney; MA Cultural Heritage - Deakin University). Additional historic heritage reporting component of the current project was undertaken by Karyn McLeod.

9 RESULTS OF HISTORIC HERITAGE ASSESSMENT

9.1 HISTORIC SITES RECORDED

The Chain of Ponds Inn heritage site is located just outside of the proposed South Pit Extension on the west side of the Old New England Highway, and on land not owned by LCO. The Chain of Ponds Inn (**Plate 26**) is listed on both the Register of the National Estate (#001400) and the State Heritage Register (#00242) and assessed as having State Significance (**Appendix 2**).

During the survey one historic heritage site was recorded within the proposed South Pit Extension on the east side of the Old New England Highway. Several locally made bricks were also noted on the west bank of Chain of Ponds Creek.

Figure 19: Non-Indigenous heritage items in relation to proposed impacts (shaded area).



LID-HS01

Site type: Stock yard / holding pen

GPS Coordinates: GDA 94 Zone 56, E314511 / N6412850

Location of site: East side of the Old New England Highway 100 m south of Chain of Ponds Creek.

Description of site: Remains of what appears to be a stockyard or holding pen. Consists of multiple timber posts and wire mesh, arranged in a rectangular shape approximately 30 x 20 m in dimension and has evidence of a loading ramp. The timber frame of an entryway / gate also remains standing (**Plate 27**). The original construction date of this feature is unknown but is likely to date between the 1920s and 1960s due to its deteriorated condition. There is also a strong possibility that it may have been modified over its use life as a range of construction techniques and materials was present in the area.

9.2 DISCUSSION

Although not situated on land to be directly impacted as part of this project, the non-Indigenous built heritage in the area is dominated by the remains of the former Chain of Ponds Inn complex. The Chain of Ponds Inn is representative of the early European settlement of New South Wales.

Site LID-HS1 is a ruined stockyard located less than 200 m east of the Chain of Ponds Hotel. The allotment on which the stockyards are located was purchased by Henry Nowland in the 1840s and the land has remained part of the acreage connected with the inn until the 1960s despite numerous subdivisions. Historic documents state that the Chain of Ponds Inn complex included numerous stockyards and holding pens and a number of owners of the property were engaged in grazing and stock farming.

9.3 ASSESSMENT OF HISTORIC HERITAGE SIGNIFICANCE

9.3.1 General Principles

In determining the appropriate process for significance assessment, it must be determined whether the identified items should be classified as 'archaeological'.

The assessment of heritage significance is a process of examining the various factors and values which bear upon a place, building or structure and determining what level of significance, if any, the item may have with respect to an established set of heritage criteria. Broadly speaking, these criteria are based on the four values set out in the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter and are the methodology accepted by heritage authorities and professional consultants. These criteria are:

- historic significance;
- aesthetic significance;
- scientific significance; and
- social significance.

The Heritage Council of NSW has defined a set of heritage significance criteria against which the heritage significance of an item may be judged. The use of standardised criteria helps achieve consistency in the assessment process and provides a basis for comparative assessment between types or classes of items.

The Heritage Council significance criteria are as follows.

- **Criterion (a)**—an item is important in the course, or pattern, of NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (b)**—an item has strong or special association with the life or works of a person, or group of persons, of importance in NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (c)**—an item is important in demonstrating aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area);
- **Criterion (d)**—an item has strong or special association with a particular community or cultural group in NSW (or the local area) for social, cultural or spiritual reasons;
- **Criterion (e)**—an item has potential to yield information that will contribute to an understanding of NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (f)**—an item possesses uncommon, rare or endangered aspects of NSW's cultural or natural history (or the cultural or natural history of the local area);
- **Criterion (g)**—an item is important in demonstrating the principal characteristics of a class of NSW's:
 - cultural or natural places; or
 - cultural or natural environments; or
 - a class of the local area's cultural or natural places; or
 - cultural or natural environments.

In many cases, items or places will be significant under only one or two of these criteria. Structures or items that do not function in their original context are much less able to demonstrate the qualities for which they were originally designed and this thereby reduces their heritage significance.

9.3.2 Significance Assessment

The assessed significance of the Chain of Ponds Inn and the stock yard LID-HS1 is based on the criteria described in **Section 9.3.1**. The significance assessment for the Inn complex is from the most recent Conservation Management Plan (CMP) for the site prepared by ERM (2008).

- **Criterion (a)**— The Chain of Ponds Inn is important for its ability to demonstrate the travelling habits and the wayside coaching industry of the mid nineteenth century prior to the introduction of the railway. The Stone lockup within the grounds is also of importance for its ability to demonstrate the difficulties of transporting criminals in the early mid nineteenth century and the need for secure accommodation on long journeys. This ability to demonstrate accommodation for both the general public and criminals is considered to be of State significance as these are both important historical aspects of the state of New South Wales.

LID-HS1, while associated with the Chain of Ponds Inn, is a common feature of rural NSW and does not hold any particular importance in regard to the cultural or natural history of the region. LID-HS1 does not fulfil this criterion;

- **Criterion (b)**— The Inn is associated with local pioneer and earlier settler Henry Nowland who received land grants in the region and developed the Inn complex as part of his wider business interests. Nowland was an important local figure who aided the development of many of the neighbouring towns. This level of association is therefore considered to be of importance at a local level.

It is unlikely that Henry Nowland constructed LID-HS1 and there is no association with any person or group of importance to NSW cultural or natural history. LID-HS1 does not fulfil this criterion;

- **Criterion (c)**— Despite the scale of the inn, which was large for this type of building and the presence of a lockup, the inn complex does not demonstrate aesthetic characteristics and/or a high degree of creative or technical achievement in NSW (or the local area). The Chain of Ponds Inn does not fulfil this criterion.

LID-HS1 does not fulfil this criterion;

Criterion (d)— The inn is not associated with any particular community or cultural group in NSW for social, cultural or spiritual reasons. The Chain of Ponds Inn does not fulfil this criterion;

LID-HS1 does not fulfil this criterion;

- **Criterion (e)**— The archaeological resource of the site provides information regarding the progressive development of the site. The site has the potential to provide information relevant to the role and use of mid-nineteenth century coaching inns in rural New South Wales. The archaeological resource may also provide further information about aspects of rural life such as water and waste management. Given

that other Inn sites are likely to be able to provide further information with regards to this aspect of the archaeological resources, the Chain of Ponds Inn complex is considered to be of importance at a local level.

LID-HS1 does not fulfil this criterion;

- **Criterion (f)**— The lockup within the Chain of Ponds Inn complex provides evidence of the difficulties of moving criminals by horse drawn coach and the need for secure places for resting during what would be considered today a relatively short journey but at the time would have taken several days. This aspect of the place's history is considered to be of importance at a State Level. The Chain of Ponds Inn is considered to be a rare surviving example of a coaching inn with outbuildings which provided a resting place for coach and horse borne traffic on the Great Northern Road prior to the establishment of the railway. This aspect of the places history is considered to be of importance at a local level.

Timber stockyards are common features in the NSW rural landscape. LID-HS1 does not fulfil this criterion.

- **Criterion (g)**— It is considered that the Chain of Ponds Inn is a typical example of a 1840s two story coaching inn. The building's ability to demonstrate the stylistic qualities of a 1840s Inn is considered to be of State significance. The Inn building and Stone lockup are also examples of the Old Colonial Georgian style buildings which were popular in the first 60 years of settlement. The building's ability to demonstrate the Old Colonial Georgian Style is considered to be significant at a Local Level.

LID-HS1 does not fulfil this criterion.

The assessed significance of each item is as follows:

- Chain of Ponds Inn is assessed as having State and local heritage significance.
- LID-HS1 is not assessed as having State or local heritage significance.

9.4 POTENTIAL IMPACTS

The Chain of Ponds Inn is located just outside the proposed South Pit Extension but within 65 m of the proposed extent of open cut mining. It would be at risk of indirect impacts associated with operational blasting if the works are to proceed. The buildings have been in a dilapidated condition for many years and all have extensive termite damage to structural and joinery timbers.

While much of the Inn complex is likely to withstand the proposed blast impact from LCO (Bill Jordan 2013), parts of the current buildings are considered to be in poor condition. Stabilisation

of those parts of the complex considered to be at risk due to the proposed mining activity will be undertaken by LCO, while long term restoration and adaptive re-use of the buildings will be the responsibility of the owners, Coal and Allied.

LID-HS1 is located directly within the proposed South Pit Extension and is likely to be destroyed if the works proceed.

9.4.1 Summary of Previous Reports – Chain of Ponds Inn

A number of reports have been commissioned by LCO to assess the condition of the buildings, blast impact and stabilisation measures to mitigate potential impacts from the mining operations. In addition, Coal and Allied commissioned a Stabilisation report based on the CMP (ERM 2008). These documents are summarised below.

9.4.1.1 Dilapidation Report Former Chain of Ponds Inn & Outbuildings, Old New England Highway

EJE Heritage - prepared for Liddell Coal Operations, March 2013

This is a report of the visible condition and features of the buildings. It provides a detailed photographic log of the buildings and scale drawings. The authors do not offer structural opinions on the adequacy and integrity of the buildings.

9.4.1.2 Former Chain of Ponds Inn Buildings – Investigation of Blast Vibration Vulnerability

Bill Jordan & Associates Engineers - prepared for Liddell Coal Operations, April 2013

This report provides detailed analysis and advice on the vibration vulnerability monitoring of the three buildings. A total of five blast events were measured from 4-5 locations on each building by highly sensitive accelerometers. Blast impacts were measured in the form of ground vibration peak particle velocity (PPV) and air pressure (Pascals) that was converted to decibels (dBL).

New blasting levels of up to 50 mm/s PPV have been proposed by LCO and the assessment concludes that the three buildings are unlikely to suffer significant damage from ground vibration providing a number of defects in the structures are rectified prior to the commencement of the proposed close range blasting program. It is possible that some walls may not withstand PPV levels over 25 mm/s while the chimneys may be affected by PPV levels as low as 12 mm/s, if the buildings are not stabilised through structural works.

All defects in the building group are outlined in the Dilapidation Report (EJE Heritage 2013). The buildings are in variable condition with a large number of defects, however only a few of the

existing major structural defects / deficiencies need primary attention. The report assessed the following elements as requiring attention for blast impact between 12-20 mm/s PPV.

Main Inn (Building A)

- The front veranda needs re-supporting if exposed to close range blasting. The veranda is in a dilapidated state mainly due to termite action and timber weathering.
- The chimneys will require support laterally across most of their height.

Stables (Building C)

- Internal first floor fireplace is collapsing due to rotten timbers. The chimney is leaning and needs immediate attention. If not corrected the chimney will potentially collapse during significant vibration exposure. Both lateral and vertical support is required.

The report states that design of additional support for blast impacts over 25 mm/s PPV can be done progressively as blasting gets closer and further analysis and data has been collected. It is imperative that the blast impact towards the Chain of Ponds Inn is gradual and fully monitored.

9.4.1.3 Stabilisation Works

ERM (incorporating Bligh & Tanner Engineers - Structural Remediation Works) prepared for Coal and Allied, June 2012

The report identifies structural remediation works and repairs to assist the ongoing structural stability of the Chain of Ponds buildings into the future. The measures proposed are made with consideration of the heritage listing of the buildings. The report did not specifically address mitigation measures required to withstand blast vibrations, but did identify high priority, medium and long term repairs. High priority repairs include;

- Replacement of termite damaged timber in the veranda or temporary propping at the front of the main inn building,
- Remove the current metal cross tie rods in the Lockup and replace with new internal bracing and;
- Stabilise the chimney and fireplace. The fireplace could also be propped and the collapsed joists replaced.

Bligh and Tanner state that the majority of the crack widths are within an acceptable range and there is currently no risk of collapse. The conclusion of the report (ERM 2012 Appendix 1:48) states regular monitoring in the form of observation by a qualified structural engineer and installation of crack width monitors which would be regularly checked. If necessary, appropriate additional stabilisation measures could be installed over time.

9.5 PROPOSED STABILISATION WORKS

On the basis of the above reports, several defects have consistently been identified as requiring immediate structural stabilisation to avoid or minimise potential impact by the proposed LCO mining activities. The Blast Vibration Study (**Section 9.4.1.3**) states that mining in the vicinity of the Inn complex could proceed without any major risk of damage provided a number of major defects in the structures are rectified prior to the commencement of the proposed close range blasting program, and that blasting is carried out in a controlled manner ensuring that vibration levels are below 50 mm/s. Subsequently, a Blast Impact Strategy was developed for the Chain of Ponds Inn (Enviro Strata Consulting, 2013) to ensure that blast related impacts are minimised on the Chain of Pond Inn. This strategy is based on an adaptive management approach, undertaking an ongoing review of structural assessments and blast processes as blasting locations get closer to the Inn and vibration levels increase.

The blast vibration study recommended a number of stabilisation measures which are to be carried on the Inn in a progressive manner, as further monitoring data is obtained and as mining gets closer to the Inn and is producing larger ground vibration magnitudes. Based on the monitoring results obtained as part of the Blast Vibration Study (Jordan and Associates, 2013), vibration trigger values have been set for undertaking these stabilisation measures as follows:

- 12mm/s:
 - o support front verandah with scaffold falsework. All attachment should be with straps or ties, not fasteners;
 - o wrap the chimney of Building C (stables) in pallet-wrapping plastic and timber cribbing and strapping. Support the chimney with external counter-weighted scaffold tower with cantilevered support for chimney and install internal falsework beneath base of chimney.
- 25 mm/s
 - o support chimneys of the main building (Building A); this may be possible using pre-tensioned internal ties, rather than external scaffolding, after further investigation and detailed design.
- 50 mm/s
 - o measures for this level are tentative only and will be subject to further monitoring and design.
 - o support any vulnerable walls with propped or tied timbers.

10 STATEMENT OF HERITAGE IMPACT

10.1 PROPOSED MITIGATIVE MEASURES

Appropriate management of heritage items is determined primarily on the basis of their assessed significance as well as the likely impacts of the proposed development. Where a historic feature has not been identified as having heritage significance, no mitigation is required. Where a place or feature has been identified as holding either local or State significance, a Statement of Heritage Impact (SoHI) is required to describe what impact the proposed works will have on that significance, what measures are proposed to mitigate negative impacts and whether more sympathetic solutions are viable.

The Chain of Ponds Inn which is listed on the State Heritage Register is located within 65 m of the proposed South Pit Extension and may be at risk of indirect impacts if the works are to proceed. The proposed remediation works (Section 9.5) would temporarily introduce new materials to some parts of the buildings. To that end, a number of strategies are recommended to minimise the impact of these alterations on the heritage value of the Inn complex. Such considerations would include:

- The proposed works should not change the overall appearance and significance of the Chain of Ponds Inn complex. Stabilisation and repair work should conserve, or preferably enhance, the heritage value of an item.
- Measures to protect the buildings should be guided by the Burra Charter, replace like with like and be temporary and/or easily removed. Propping, straps and ties applied to the buildings should be minimised to that which is necessary to stabilise buildings during the phase of nearby blasting.
- Direct impact to heritage items must be avoided where possible. Sites that will not be directly impacted by mining activity should be avoided.
- Monitoring of the buildings at risk should be undertaken on an ongoing basis during and after periods of blast impact.
- As a prominent structure within the area, it is likely that the local community would share some sense of identification with the history and significance of the Chain of Ponds Inn complex. Consultation with the community could be considered as a means of informing the community of the proposed works and mining activity.

10.2 ASSESSMENT OF IMPACT

What aspects of the proposal respect or enhance the heritage significance of the study area?

The proposed works consist of temporary low impact structural measures such as strapping or propping to ensure the stability of various elements of the buildings at risk. The proposed stability designs have been designed to incorporate respect for the heritage significance of the Inn complex.

The proposed works do not entail a significant alteration to the overall appearance of the buildings, will not diminish the intactness or integrity of the total site as a cohesive entity and will not remove, displace or destroy surviving significant fabric. The proposed works would have no impact on the function of the buildings as they are not inhabited or open to the public.

These temporary measures will ensure the structural integrity of various building elements, prevent further deterioration and protect parts of the buildings from the possibility of collapse.

What aspects of the proposal could have a detrimental effect on the heritage significance of the study area?

It is unlikely the proposed mitigative measures will have any detrimental impact on the heritage significance of the buildings. The proposed works will temporarily protect the dilapidated buildings from further deterioration and any impact from the proposed mining activity. These measures may potentially assist the long term restoration and reuse of the buildings.

Have more sympathetic options been considered and discounted?

A number of previous reports considered various options for the support and protection of the buildings at risk, however the currently proposed mitigative measures have considerably less potential impact on the heritage values of the Chain of Ponds Inn site.

External bracing or propping of all the buildings at risk is both costly and impractical. Regular monitoring of the buildings during close range mining and blasting activity is recommended so that, if necessary, appropriate additional stabilisation can be applied over time.

In conclusion;

- None of the proposed works would be likely to have an impact the aesthetics of the buildings or views of the buildings in the long term.
- None of the proposed works would impact on the current function of the building.
- None of the proposed works would impact on the historical significance of the site and its structures.

- Site LID-HS1 is located directly in the impact zone of the proposed South Pit Extension and would likely be destroyed if the works proceed. The site has been assessed as having no heritage significance, and can be destroyed without a Statement of Heritage Impact (SoHI).

10.3 CONCLUSION

Having reviewed the history of the Project Area in detail, as well as having assessed its significance, it is considered that potential impacts to the site can be adequately managed through blast design controls (as per recommendations in Jordan 2013) and the proposed stability measures (Section 9.5) and these measures will be temporary and have minimal impact on the significance values of the Chain of Ponds Inn complex.

This work may be exempted from the requirement to submit a Section 60 Application under the *Heritage Act 1977*. Clause 16 (1b) of the Schedule of Standard Exemptions (Safety and Security) applies whereby:

Development, including emergency stabilisation, necessary to secure safety where a building or work or part of a building or work has been irreparably damaged or destabilised and poses a safety risk to its users or the public.

11 RECOMMENDATIONS

11.1 ABORIGINAL HERITAGE

All of the recommendations concerning Aboriginal heritage identified in this report were formed on the basis of the proposed impact zones illustrated in **Figures 4 / 5**, and according to the Aboriginal site locations identified in the field (site locations illustrated in **Figures 7 - 9**).

It is important to note that avoidance is the preferred option for all extant Aboriginal sites identified in this assessment. In the case of the Bowmans Creek Sensitive Archaeological Landscape (LID-BC-SAL), LCO has engaged in consultation with OzArk EHM and the Aboriginal community stakeholders to modify the proposed Entrance Pit Extension impact zone (refer to **Figure 17**) to allow for partial or total avoidance (refer to **Section 6.4.1**) of all but one site (LID 27; 37-3-0430) in this management area.

If works are to proceed as proposed in **Section 1.2** then it is recommended that the following management be applied:

2. Management Group 1: Sites that are avoided but need protection from potential inadvertent impacts through inductions and/or the use of curtilages (refer to **Section 7.2** and **Table 9**):
 - a. Bowmans Creek SAL sites: Foy Brook / HAZ-OS1 and the remaining areas of the partially impacted sites of this area (LID ES1, LID 3 with PAD, and LID 34 with PAD).
 - b. Brayshaw sites (A, B, C, and D), LID 2, Foy Brook / HAZ-OS1 and remaining areas of the partially impacted LID-BC-SAL sites (LID ES1, LID 3 with PAD, and LID 34 with PAD).
3. Management Group 2: Sites that require the salvage of surface artefacts under an AHIP prior to construction impacts occurring (refer to **Section 7.2** and **Table 9**). These sites include:
 - a. Bowmans Creek Ridge Sites management area – Sites Rav 24 East, LID 35, LID 36, LID EEOS1, LID EEOS2 and LID EEIF1 and IF2 (refer to **Section 6.4.2**);
 - i. Management sub-group A: Site Rav 24 East will also require grader scrape salvage in addition to surface collection as limited subsurface deposits (less than 10 cm below surface) and artefacts embedded in the topsoil are expected to occur at this site (refer to **Section 7.2**).
 - ii. Management sub-group B: Site Rav 24 East will also require soil stockpiling of the top soil during initial impact as limited subsurface deposits (less than 10 cm below surface) and artefacts embedded in the topsoil are expected to occur at this site.

- b. Chain of Ponds Creek Sites management area – Sites LID 30, LID 31, LID 32 (this collection will occur under current valid AHIP #2348 prior to Development Modification 5 being assessed) and LIDSE OS1 (refer to **Section 6.4.3**);
- c. Bowmans Creek SAL sites LID ES1, LID ES2, LID 34, and LID 3 with PAD (refer to **Section 6.4.1**);
 - i. Management sub-group B: Sites LID 3 and LID 34 will also require soil stockpiling of the top soil during initial impact as low density subsurface deposits were identified by a April 2012 test excavation programme (**Attachment 1**).
 - ii. Management sub-group C: Site LID ES2 will also require vegetation clearance prior to surface collection as the site was unable to be re-located in the field due to poor surface visibility.
- d. Of the lone sites, site LID 33 will require collection while Site Rav A and LID 27 fall into management sub-group C and will require vegetation clearance prior to surface collection as the sites were unable to be re-located in the field due to poor surface visibility.
- 4. Management Group 3: No further salvage activity required: Includes sites salvaged as part of a previous section 90 consent where impacts have caused complete ground disturbance and have removed any material evidence enabling identification of the site. Works may proceed with no further management for all sites that are considered destroyed under previous AHIPs as identified in **Section 7.2** and **Table 9**. These sites include:
 - o LID EE-IF3;
 - o LID 1; 37-3-0454
 - o LID 5; 37-3-0450
 - o LID 15; 37-3-0439
 - o LID 31; 37-3-0428
 - o LHP 1; 37-3-0739
 - o SP 1; 37-3-0457
 - o SP 3; 37-3-0455

The recommendations of this assessment should be included in the Aboriginal Cultural Heritage Management Plan (ACHMP) for LCO, which would be amended to incorporate the proposed modification.

11.2 HISTORIC HERITAGE

The Chain of Ponds Inn which is listed on the State Heritage Register is located within 65 m of the South Pit Extension and is at risk of indirect impacts if the works are to proceed. The Blast

Vibration Study (**Section 9.4.1.2**) states that mining in the vicinity of the Inn complex could proceed without any major risk of damage provided that blast design control is implemented and a number of major defects in the structures are rectified prior to the commencement of the proposed close range blasting program. Subsequently, a Blast Impact Strategy was developed for the Chain of Ponds Inn (Enviro Strata Consulting, 2013) to ensure that blast related impacts are minimised on the Chain of Pond Inn. This strategy is based on an adaptive management approach, undertaking an ongoing review of structural assessments and blast processes as blasting locations get closer to the Inn and vibration levels increase.

Initial stabilisation measures are recommended by the Blast Vibration Study, including support of badly termite-damaged timber structures such as the front verandah, and support of all Chimney's vertically, and in the case of Chimney in Building C, vertically. As blasting gets closer to the Inn and vibration levels increase, it is likely that further structural support will be required, subject to ongoing review of the Inn and blasting processes.

The following recommendations apply:

- It is imperative that the blast impact towards the Chain of Ponds Inn is gradual and fully monitored. A structural engineer should be engaged to monitor the condition of the buildings on an ongoing basis and if necessary, further stabilisation measures should be put in place.
- Measures to protect the buildings should be guided by the Burra Charter, replace like with like, be temporary and/or easily removed and works should be limited to those parts of the buildings that are at risk.
- An Exemption form and Statement of Heritage Impact should be submitted to the Director, Heritage Branch to notify the Heritage Council of a proposed development that may be exempt under section 57(2) of the Heritage Act.
- Ensure consultation with Singleton Council is undertaken.
- Consultation with other relevant stakeholders should also be considered.

In relation to LID-HS1 (stockyards):

This site has been assessed as having no heritage significance. It can be destroyed without a Statement of Heritage Impact (SoHI) or any further actions.

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Umwelt 2011	Umwelt (Australia) Pty Ltd. <i>Due Diligence Inspection of proposed exploration works, Bayswater Creek Area, Liddell Colliery</i> . Report prepared for Liddell Coal Operations Limited.
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PLATES



Plate 1: Bowmans Creek floodplain



Plate 2: Undulating hills near Bowmans Creek



Plate 3: LIDEE-OS1



Plate 4: LIDEE-OS2.



Plate 5: LIDEE-IF1



Plate 6: LIDEE-IF2



Plate 7: LIDEE-IF2



Plate 8: LIDEE-IF3



Plate 9: LIDEE-IF3



Plate 10: LID ES2 location



Plate 11: Surface visibility



Plate 12: LID 3



Plate 13: LID 34



Plate 14: LID ES1

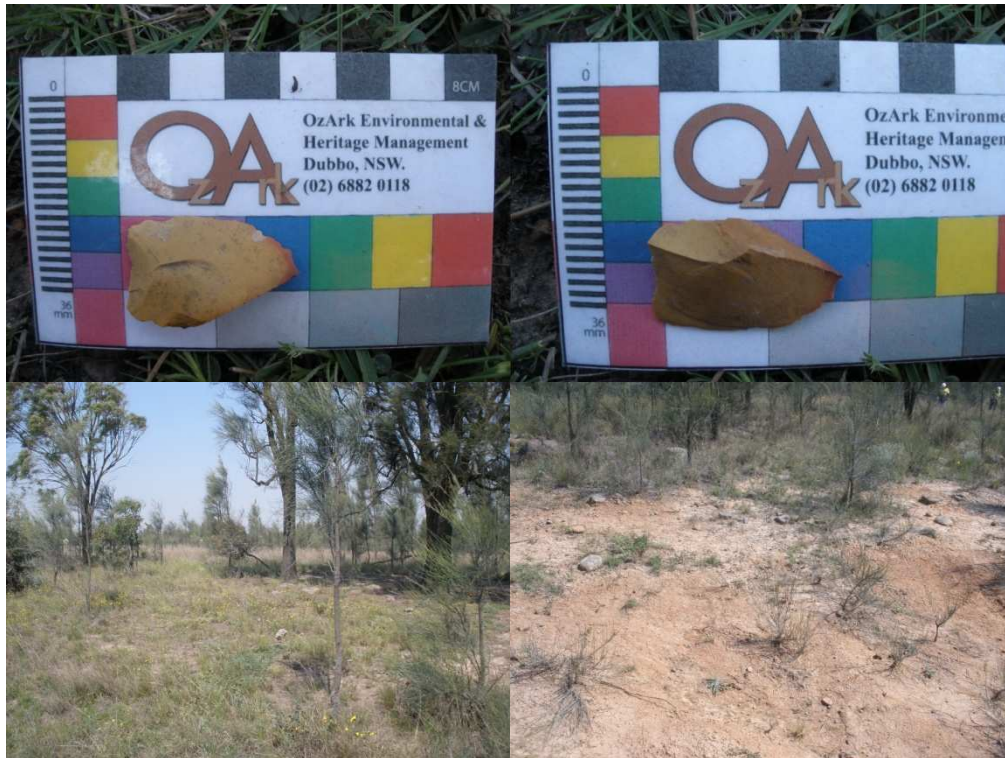


Plate 15: Rav 24 east



Plate 16: LID 36



Plate 17: HAZ-OS1



Plate 18: LID 2



Plate 19: Ravensworth A



Plate 20: LID 30



Plate 21: LID 31 location



Plate 22: LID 32



Plate 23: LID 33



Plate 24: SP 3 location.



Plate 25: CHPP Pit area.



Plate 26: Chain of Ponds Inn.



Plate 27: LID-HS1

APPENDIX 1: ABORIGINAL COMMUNITY CONSULTATION LOG

LIDDELL - COMMUNITY CONSULTATION				
Date	Organisation /	Contact Name	Comment	OzArk staff/me thod
13.05.11	Singleton Argus	Julie Corrigan 'classifieds.singletonargus@ruralpress.com' Phone: 02 6572 2611	Placed advert to appear in Singleton Argus Tuesday 17 th May - EOI closure date 1 st June 2011	
13.05.11	Hunter Valley News	Classifieds Phone: 02 6543 3011 'classifieds.hvn@ruralpress.com'	Placed advert to appear in Hunter Valley News - EOI Closure date 1 st June 2011	
Aboriginal Community Consultation Stage 1				
12.05.11	Office of The Registrar, ALRA	Attn: Ms T Dantoine Office of the Registrar, ALRA (PO Box 112) 11 - 13 Mansfield Street Glebe NSW 2037	Mailed Stage 1 letter. EOI date 1 st June 2011	post - CB
12.05.11	NTSCORP	Admin/Notification Team PO box 2105 Strawberry Hills 2012	Mailed Stage 1 letter. EOI date 1 st June 2011	post - CB
12.05.11	OEH – North East Branch	Attn: Aboriginal Heritage Officer OEH – North East Branch Locked Bag 914 Coffs Harbour NSW 2450	Mailed Stage 1 letter. EOI date 1 st June 2011	post - CB
12.05.11	Muswellbrook Shire Council	Attn: General Manager Muswellbrook Shire Council PO Box 122 Muswellbrook NSW 2333	Mailed Stage 1 letter. EOI date 1 st June 2011	post - CB
12.05.11	Singleton Council	Attn: Mr S Greensill General Manager Singleton Council PO Box 314 Singleton NSW 2330	Mailed Stage 1 letter. EOI date 1 st June 2011	post - CB
12.05.11	National Native Title Tribunal	Attn: Ms Sylvia Jagtman NNTT Level 25, 25 Bligh Street Sydney NSW 2000	Emailed Stage 1 letter. EOI date 1 st June 2011	email - CB
12.05.11	Hunter-Central Rivers CMA	Attn: Chairperson Aboriginal Reference Group Hunter-Central Rivers CMA 816 Tocal Road (Private Bag 2010) Paterson NSW 2421	Mailed Stage 1 letter. EOI date 1 st June 2011	post - CB

12.05.11	Wonn1 Consultants	Arthur Fletcher 619 Main Road GLENDALE NSW 2285	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Aboriginal Native Title Elders Consultants	John & Margaret Matthews 69 Tobruk Avenue MUSWELLBROOK NSW 2333	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Ungooroo Cultural and Community Services	Rhonda Ward 8 Blaxland Ave SINGLETON NSW 2330	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Mingga Consultants	Clifford (Mick) Matthews 11 Coolibah Close MUSWELLBROOK NSW 2333	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Hunter Valéry Cultural Surveying	Luke & Pansy Hickey 297 Pioneer Road SINGLETON NSW 2330	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Giwiirr Consultants	Rodney Matthews/ Michelle Stair 8 Fitzgerald Avenue MUSWELLBROOK NSW 2333	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Hunter Valley Aboriginal Corporation	Julie Griffiths PO Box 579 MUSWELLBROOK NSW 2333	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Hunter Valley Cultural Consultants	Christine Archbold 40 Humphries Street MUSWELLBROOK NSW 2333	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Ungooroo Aboriginal Corporation	Dahlene Hall PO Box 3095 SINGLETON NSW 2330	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Upper Hunter Heritage Consultants	Darrel Mathews 160 Sydney St MUSWELLBROOK NSW 2333	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Upper Hunter Wonnarua Council Inc	Victor Perry PO Box 184 SINGLETON NSW 2330	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Valley Culture	Larry Van Vliet 140 Sydney St MUSWELLBROOK NSW 2333	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Wanaruah Custodians	Barbara Foot 35 Acacia Circuit, SINGLETON NSW 2330	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB

12.05.11	Wanaruah Local Aboriginal Land Council	Mr Noel Downs PO Box 127 MUSWELLBROOK NSW 2333	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Wattaka Wonnarua Cultural C. Service	Des Hickey 4 Kennedy St SINGLETON NSW 2330	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Wonnarua Culture Heritage	Joe Hampton/ Joseph Griffiths 19 O'Donnell Crescent METFORD NSW 2323	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
12.05.11	Yarrawalk Enterprises	Mr Scott Franks ~~PO Box 906~~ ~~MUSWELLBROOK NSW 2330~~	As per list of previous registered stakeholders, mailed Stage 1 letter - formal registration of interest in this project CLOSES Wednesday 1st June 2011	post - CB
16.05.11	National Native Title Tribunal	Kimberley Wilson e: 'Kimberley.Wilson@nntt.gov.au'	Advised of results and sent appropriate maps - noted claim of Plains Clans of the Wonnarua People.	
17.05.11	Ungooroo Cultural and Community Services	Rhonda Ward ph: 0450 754 199	Rhonda contacted the office on behalf of UC&CS to formally register interest in the project. Note this response was generated from advert in Singleton Argus.	
17.05.11	Yarrawalk Enterprises	Scott Franks PO Box 76 Caringbah NSW 2229 ph: 0404 171 544 e: 'yarrawalk@tpg.com.au'	Scott contacted the office on behalf of Yarrawalk to formally register interest in the project. He also noted that himself and Robert Lester recently had a claim lodged & accepted (NNTT) over the Ashton Mine area and this incorporated the Study Area.	
19.05.11	KAYAWAY ECO CULTURAL & HERITAGE SERVICES	Mark Hickey Phone 0432 829 335	Please include, KAYAWAY ECO CULTURAL & HERITAGE SERVICES on your data base for expressions of interest in regards to all Cultural & Heritage works' received correspondence via email.	
19.05.11	Wattaka Wonnarua Cultural C. Service	Des Hickey 4 Kennedy St SINGLETON NSW 2330	Wattaka wish to register our interest in this project. Received correspondence via email.	

23.05.11	Ungooroo Aboriginal Corporation (UAC)	Taasha Layer PO Box 3095 26 George St SINGLETON NSW 2330 Ph: 02 65 71 5111 Fax: 02 65 71 5777 taasha@ungooroo.com.au	Ungooroo Aboriginal Corporation would like to register our interest in this current project and have no objections in providing our details as registered stakeholders to Office of Environment & Heritage (OEH). We can also recommend the Wanaruah Land Council in Muswellbrook to be contacted as the other community organisation and register stakeholder in our area. Received correspondence via email.
23.05.11	Wonn1 Consultants	Arthur Fletcher 619 Main Road GLENDALE NSW 2285	Contacted Jodie on her mobile and left message, indicating Wonn1 would like to register interest and he would phone the office to confirm. Phone back and indicated Wonn1 would formally like to register interest in the project. Received formal letter via fax 1 June 2011.
24.05.11	Wonnarua Culture Heritage	Joseph Griffiths 19 O'Donnell Crescent METFORD NSW 2323 ph: 0401 028 807	Joseph contacted the office to formally register interest in this project.
24.05.11	Hunter Valley Aboriginal Corp,	Elaine Freihaut 180-182 Bridge St PO Box 579 Muswellbrook 2333 e; h973809@bigpond.net.au	Received correspondence via fax advising HVAC would like to register interest in the project. Elaine also phoned to verbally confirm. Also gave email address for future correspondence,
26.05.11	Cacatua Culture Consultants	c/- Donna Sampson 22 Ibis Parade Woodberry 2322 e: 'cacatua@resetdsl.net.au'	
30.05.11	Yinarr Cultural Services	Kathie Steward Kinchela 0432720623	Received formal EOI correspondence via email with associated insurance paperwork.
31.05.11	Wanaruah LALC	Noel Downs	Received formal EOI correspondence and list of Aboriginal stakeholder groups/individuals who may hold cultural knowledge of the area.
31.05.11	OEH – North East Branch	Rosalie Neve OEH – North East Branch ph: 6651 5946	Was directed to speak to Rosalie who has received the correspondence today due to staff change. Rosalie will endeavour to reply in the next day.
STAGE 1 ROUND 2			
31.05.11	Bullen Bullen Heritage Consultants	c/- Mr Lloyd Matthews 16a Mahogany Cresc Muswellbrook 2333	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Carrawonga	c/ Justin Matthews 16b Mahogany Avenue Muswellbrook 2333	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011

31.05.11	Culturally Aware	c/- Tracey Skene 7 Crawford Place Millfield 2325	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Gidawaa Walang Cultural Heritage Consultancy	c/- Annie Hickey 76 Lang St Kurri Kurri 2327	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Hunter Valley Cultural & Natural Resources	c/- David French 3/60 Tindale St Muswellbrook 2333	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Lower Hunter Wonnarua Council	c/- Lea-Ann Ball (Miller) 142 Northcote St Kurri Kurri 2327	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Lower Wonnarua Tribal Consultancy P/L	c/- Barry Anderson 156 The Inlet Rd Bulga 2333	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Muswellbrook Cultural Consultants	c/- Brian Horton 10 Scott St Muswellbrook 2333	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	St Clair Singleton Aboriginal Corp	c/- Rene Molineaux 30 Carrington St Singleton 2330	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Wonnarua Elders Council	c/- Rhoda Perry/Tom Miller Po Box 184 Singleton 2330	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Wonnarua Nation Aboriginal Corporation	c/- Laurie Perry/Sandra Miller Po Box 3066 Singleton DC 2330	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Office of Environment and Heritage	Rosalie Neve Rosalie.Neve@environment.nsw.gov.au	Received response from OEH recommending we contact an additional 33 organisations/individuals who may have an interest in the project. The majority of these organisations have been contacted, the list below is the organisations who have not. EOI close 16 th June 2011.
31.05.11	Black Creek Aboriginal Corp	c/- Tracey White PO Box 168 Kurri Kurri 2327	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Cacatua Culture Consultants	c/- Donna Sampson 22 Ibis Parade Woodberry 2322	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011

31.05.11	Hunter Traditional Owners	c/- Paulette Ryan 14 Barton Avenue Singleton Heights 2330	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Mindaribba LALC	C/- Chairperson/Secretary PO Box 401 East Maitland 2323	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
31.05.11	Widescope Indigenous Group P/L	c/- Amanda Hickey 73 Russell Street Emu Plains 2750	Advised organisation/individual of project as per advice from WLALC, offering them opportunity to register as a Stakeholder. EOI close 16 th June 2011
07.06.11	Wonnarua Nation Aboriginal Corporation	Laurie Perry Ground Floor 254 John St Singleton NSW PO BOX 3066 Singleton Delivery Centre 2330 Ph: 02 6571 8595 Fax: 026 6571 8551 Mob : 0412 593 020	The Wonnarua Nation Aboriginal Corporation are interested in being consulted for this project, I have included Maree Waugh and Tracey Skene from our culture and heritage unit in this email. Cheers Laurie Perry
14.06.11	Widescope Indigenous Group P/L	c/- Amanda Hickey 73 Russell Street Emu Plains 2750	Dear, OzArk Thank you for your consideration, Widescope would like to register their interest to participate in the process of determining the cultural significance of Aboriginal objects and places in a Aboriginal Heritage assessment and land survey.
15.06.11	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda left a message on the answer machine, however it was difficult to hear which organisation she was from. Rhonda phoned to confirm that her organisation had expressed interest and also mentioned they have the excavation coming up next week?? She will phone the office on Friday, Rhonda did not leave a return number.
16.6.11	Hunter Traditional Owners	Paulette Ryan hto.paulette@gmail.com 0432 672 273	Paulette called to express interest. She said she has sent an email to Cheryl but got no reply and so was not sure if it had come through. We worked out she had sent it to the wrong email address and hence we had not received it. I said that was no problem and that she was now on the Registered Stakeholder list.
17.06.11	Hunter Valley Aboriginal Corp,	Elaine Freihaut	Phoned the office to confirm that the HVAC had expressed interest in this project. She had a message left for her from Rhonda (Griffiths) however there are many projects in the Hunter at the moment and it is a bit confusing.

12.08.11	Cacatua Culture Consultants	Members – Cacatua Culture Consultants c/- Ms Donna Sampson 22 Ibis Parade Woodberry NSW 2322 e: 'cacatua@resetdsl.net.au	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Wattaka Wonnarua TO Services	Members – Wattaka Wonnarua TO Services c/- Mr Des Hickey 4 Kennedy Street Singleton NSW 2330 e: 'deshickey@bigpond.com	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Hunter Traditional Owners	Members – Hunter Traditional Owners c/- Ms Paulette Ryan 14 Barton Avenue Singleton Heights 2330 e: 'hto.paulette@gmail.com	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Hunter Valley Aboriginal Corporation	Members – Hunter Valley Aboriginal Corporation c/- Mrs Elaine Freihaut 182 Bridge Street (PO Box 579) Muswellbrook NSW 2333 e: 'h973809@bigpond.net.au	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Kayaway Eco Cultural & Heritage Services	Members – Kayaway Eco Cultural & Heritage Services c/- Mr M Hickey 6/20-22 Government Rd Thornton NSW 2322 e: 'kayaway@rocketmail.com'	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Ungooroo Aboriginal Corporation	Members – Ungooroo Aboriginal Corporation c/- Ms Taasha Layer 26 George St (PO Box 3095) Singleton NSW 2330 e: 'taasha@ungooroo.com.au'	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Ungooroo Cultural and Community Services	Members – Ungooroo Cultural and Community Services c/- Ms Rhonda Ward 8 Blaxland Ave SINGLETON NSW 2330	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Widescope Indigenous Group P/L	Members – Widescope Indigenous Group P/L c/- Ms A Hickey 73 Russell Street Emu Plains 2750 e: 'Widescope.group@live.com	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.

12.08.11	Wanaruah LALC	Members – Wanaruah LALC c/- Mr Noel Downs / CEO PO Box 127 Muswellbrook NSW 2333 e: 'wanarua@bigpond.net.au' e: suzieworth17@bigpond.com	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Wonn1 Contracting Corporation	Members – Wonn1 Contracting Corporation c/- Mr Arthur Fletcher 619 Main Road Glendale NSW 2285 e: 'wonn1sites@gmail.com'	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Wonnarua Culture Heritage	Members – Wonnarua Culture Heritage c/- Mr Gordon Griffiths & Mr Joseph Griffiths 19 O'Donnell Crescent METFORD NSW 2323 ph: 0401 028 807	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Wonnarua Nation Aboriginal Corporation	Members – Wonnarua Nation Aboriginal Corporation c/- Laurie Perry Ground Floor 254 John St Singleton NSW PO BOX 3066 Singleton Delivery Centre 2330 e: 'l.perry@optusnet.com.au' e: 'mareewaugh30@hotmail.com' e: 'anigunya@hotmail.com'	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Yarrawalk Enterprises	Members – Yarrawalk Enterprises c/- Mr Scott Franks PO Box 76 Caringbah NSW 2229 e: 'yarrawalk@tpg.com.au'	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.
12.08.11	Yinarr Cultural Services	Members – Yinarr Cultural Services c/- Ms Kathie Steward Kinchela 111 Westwood Road GUNGAL NSW 2333 e: 'yinarrculturalservices@gmail.com'	Mailed and emailed advice of inception meeting 1 st September with proposed methodology (draft document to be discussed at meeting). Subsequent to the meeting comments on methodology due by 9th September 2011.

14.08.11	Wattaka Wonnarua TO Services	Mr Des Hickey	Hi Cheryl Could you please register Wattaka's interest in this project, I will be attending the meeting on 1 st September 2011 Cheers" Des	cb - email
15.08.11	Wonnarua Nation Aboriginal Corporation	Laurie Perry	Received email from Laurie indicating a representative from WNAC will be at the meeting.	cb - email
16.8.11	Yarrawalk Enterprises	Scott Franks	Scott contacted the office, requested the conversation not be disclosed in this log.	HK - phone
17.08.11	Ungooroo Aboriginal Corp.	Taasha Layer Manager	Received RSVP via fax advising a representative is available to attend the meeting.	CB - fax
17.08.11	Yinarr Cultural Services	Kathie Steward Kinchela	Kathie contacted the office to advise that she will attend the upcoming inception meeting, received RSVP via fax 18.08.11	CB - phone
19.08.11	Wanaruah LALC	Suzie Worth	Received email with RSVP, Suzie Worth will be attending the meeting on behalf of WLALC.	CB - EMAIL
19.08.11	Yarrawalk Enterprises	Scott Franks 0404 171 544	Left message on mobile to advise we would like to conduct a meeting on same day @ 2.30 pm. Will run the same as meeting with other stakeholders and include site visit, requested that Scott contact the office to confirm availability. Meet in car park @ Liddell, hope to conclude meeting/site visit by 4pm.	CB - PHONE
23.8.11	Hunter Valley Aboriginal Corporation	Members – Hunter Valley Aboriginal Corporation c/- Mrs Elaine Freihaut 182 Bridge Street (PO Box 579) Muswellbrook NSW 2333 e: 'h973809@bigpond.net.au	Rhonda Griffith rang to say she will be attending the meeting. She is faxing some information through. Rhonda rang a second time indicating she was having trouble faxing the information.	HK - phone
25.08.11	Hunter Valley Aboriginal Corporation	Rhonda Griffiths	Received fax confirming that Rhonda will attend the 1 st September meeting	CB - fax

25.08.11	Yarrowalk Enterprises	Sarah	Hi Cheryl, Scott is away at the moment, as you are aware. I am just confirming if this is the meeting with all of the community and not a meeting with just the Native Title Claimant group? If so, I will confirm with Raymond French if he is available to attend on either day, on behalf of Tocumwal. If it is for the claimant group, I will check with Scott for his availability. Regards, Sarah EMAILED RESPONSE advising I will let either Sarah or Scott know if it is Wednesday or Thursday afternoon meeting.	cb - email
25.08.11	Wonn1	Lynne Fletcher	In response to email requesting RSVP - Dear Cheryl , The report on disc would be good (NB this refers to another XCN project) At this stage Arthur will be at the meeting. (Assuming this is in response to my email & referring to this meeting) Regards Arthur and Lynne	cb - email
25.08.11	Kayaway Eco Cultural & Heritage Services	Mark Hickey e: 'kayaway@rocketmail.com'	Hi Cheryl, I have received the draft and have gone over the document. I will be sending a Rep on the day, but will inform you if there are any changes by Tuesday the 30 th August. Regards Mark.	cb - email
25.08.11	Cacatua Culture Consultants	Donna Sampson e: 'cacatua@resetdsl.net.au'	Cheryl, Sorry rang office yesterday with regards to Liddell Colliery stating not received. please disregard as found it Trainee already filed under completed. George Sampson or myself at this point it time will be attending the meeting on behalf of CCC the 1 st Sept. Thank you Donna	cb - email
25.08.11	Widescope	Amanda Hickey e: 'widescope.group@live.com' ph: 0434 480 558	Emailed to request confirmation that a representative will attend the meeting next Thursday 1 st September, also contacted mobile number, unable to leave verbal message, return phone number registered only. NB received 'read receipt' from email.	CB - phone / email

26.08.11	Hunter Traditional Owners	Paulette Ryan 0432 672 273	Phoned Paulette who advised she will be attending the meeting next Thursday.	CB - phone
26.08.11	Wonnarua Culture Heritage	Mr Gordon Griffiths ph: 0401 028 807	Contacted Gordon who confirmed that he will be attending the meeting.	CB - phone
26.08.11	Ungooroo Cultural and Community Services	Rhonda Ward ph: 0450 754 199	Contacted Rhonda who advised that someone from UC&CS will attend, it will either be herself or another representative.	CB - phone
26.08.11	T&G Cultural Consulting	Tony Griffiths 19 O'Donnell Crescent METFORD NSW 2323 ph: 0428 147 417	Tony contacted the office to RSVP for the meeting at the same time as expressing a late registration of interest.	
29.08.11	Yarrawalk Enterprises	Scott Franks	Contacted Scott who advised Raymond French will be attending the Stakeholder meeting on Thursday along with everyone else. As it is not involving the Native Title Claim Group it is not necessary to hold a closed meeting.	
1.9.11	Ungooroo Cultural and Community Services	Rhonda Ward ph: 0450 754 199	Jess rang and spoke to Josh, re not being able to make the meeting today.	Phone - JN
1.9.11	Upper Hunter Wonnarua Council	Mrs Perry	Rang to say she could not make the meeting today (as she had only just received the letter today). Also confused as to the works. I suggested she read the documents that OzArk sent and all would be explained within these.	Phone - HK (NOT THIS PROJECT)
MEETING HELD 1ST SEPTEMBER - SEE SIGN ON SHEET FOR ATTENDEES				
12.09.11	T&G Cultural Consultants	Greg Griffiths	Greg phoned to submit comments in relation to the cultural values of the site although he acknowledged that this information covers a broad area, it is still relevant and important. He mentioned the Dreaming in the Hunter River and the tributaries that run through it, also there are Dreaming stories in existence of how coal was made, it is important the cultural values of the area are considered.	CB - phone
13.09.11	Cacatua Culture Consultants	Ms Donna Sampson e: 'cacatua@resetdsl.net.au	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email

13.09.11	Wattaka Wonnarua TO Services	Mr Des Hickey e: 'deshickey@bigpond.com'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	Hunter Traditional Owners	Ms Paulette Ryan e: 'hto.paulette@gmail.com'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	
13.09.11	Hunter Valley Aboriginal Corporation	Mrs Elaine Freihaut Mrs Rhonda Griffiths e: 'h973809@bigpond.net.au'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	Kayaway Eco Cultural & Heritage Services	Mr Mark Hickey e: 'kayaway@rocketmail.com'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	Ungooroo Aboriginal Corporation	Ms Taasha Layer e: 'taasha@ungooroo.com.au'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	Ungooroo Cultural and Community Services	Ms Rhonda Ward 8 Blaxland Ave SINGLETON NSW 2330	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	post
13.09.11	Widescope Indigenous Group P/L	Ms Amanda Hickey 73 Russell Street Emu Plains 2750 e: 'Widescope.group@live.com'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	post email
13.09.11	Wanaruah LALC	Mr Noel Downs / Ms Suzie Worth e: 'wanarua@bigpond.net.au' e: 'suzieworth17@bigpond.com'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	Wonn1 Contracting Corporation	Mr Arthur Fletcher e: 'wonn1sites@gmail.com'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	Wonnarua Culture Heritage	c/- Mr Gordon Griffiths & Mr Joseph Griffiths 19 O'Donnell Crescent METFORD NSW 2323 ph: 0401 028 807	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	post

13.09.11	Wonnarua Nation Aboriginal Corporation	Laurie Perry e:'l.perry@optusnet.com.au' e: 'mareewaugh30@hotmail.com'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	Yarrawalk Enterprises	Mr Scott Franks e: 'yarrawalk@tpg.com.au'	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	Yinarr Cultural Services	Ms Kathie Steward Kinchela e:'yinarrculturalservices@gmail.com mob: 0432 720 623	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	email
13.09.11	T&G Cultural Consultants	Tony Griffiths 19 O'Donnell Crescent METFORD NSW 2323 ph: 0428 147 417	Correspondence sent out advising rotation of FW dates commencing 20 th September, minutes to meeting also sent out. Confirmation due by Friday 16 th September.	post
RESPONSES				
13.09.11	T&G Cultural Consultants	Greg Griffiths mob: 0428 147 747	Fax received & discussed in relation to the Hunter area.	
14.09.11	Yinarr Cultural Services	Ms Kathie Steward Kinchela e:'yinarrculturalservices@gmail.com mob: 0432 720 623	Kathie returned my call and confirmed she will have site officers to participate in the survey @ Liddell next week.	
15.09.11	Cacatua Culture Consultants	Ms Donna Sampson e: 'cacatua@resetdsl.net.au	Email from Donna to confirm George as Site Officer for survey 20 th & 21 st	
15.09.11	Wonnarua Culture Heritage	Gordon Griffiths ph: 0401 028 807	Phoned to confirm that both WCH & T&G Consulting will send a rep for the survey dates.	
15.09.11	Widescope Indigenous Group P/L	Carolyn Hickey e: 'Widescope.group@live.com	Received email indicating Steven Hickey would be participating Thursday 22&Friday 23 in the survey	
	Wanaruah LALC	Ms Suzie Worth ph: 6543 1288 mob: 0457 707 565	Phoned and left message on Suzie's mobile (Noel was unable to assist with this information) also emailed Suzie to request confirmation.	

16.09.11	Yinarr Cultural Services	Kathie Steward Kinchela	Kathie phoned to update me & advised that the Ashton Coal work that was supposed to finish today (Friday 16 th) will continue into next week. I confirmed that the rate of pay for the Liddell Colliery job had been incorrect, as an aside conversation Kathie advised the Ashton Coal project offered \$660 for Site Officers, plus travel, other mines in the area are setting their rates @ \$110.00 per hour in addition to travel per kilometre.
16.09.11	Emailed the following Stakeholder to request confirmation of a site officer and confirm the rate of pay should be \$540 (excl) + \$50 travel, was incorrect in original correspondence		Wanaruah LALC Wattaka Wonnarua CCS Hunter Valley Ab Corp. Yarrowalk Enterprises Kayaway Eco Ungooroo Aboriginal Corp. Wonn1 Wonnarua Nation Aboriginal Corp. Hunter Traditional Owners
16.09.11	Ungooroo Cultural and Community Services	Ms Rhonda Ward ph: 0450 754 199	Phoned Rhonda who advised she will try to get out to the fieldwork herself on her nominated days - Thursday & Friday. Should she have any time management issues on the morning of, I advised her to contact Jodie.
16.09.11	Hunter Traditional Owners	Paulette Ryan hto.paulette@gmail.com 0432 672 273	Paulette confirmed has not other commitments on Thursday & Friday next week and will be available for FW. Went through time and meeting place and advised I had sent through email about incorrect fee.
16.09.11	Ungooroo Aboriginal Corp.	Taasha Layer ph: 6571 5111	Taasha confirmed that they will have a Site Officer both Thursday & Friday, either Allen Pagent or Trevor (?), Taash to send confirmation email.
16.09.11	Wanaruah LALC	Ms Suzie Worth mob: 0457 707 565	Suzie confirmed Les Atkinson will be representing WLALC @ the survey Tuesday/Wednesday.
16.09.11	Wattaka Wonnarua TO Services	Mr Des Hickey ph: 0432 977 178	Des is unsure if he is able to send a representative, RAV works are still happening, Des will endeavour to find a Site Officer available & investigate over the weekend, will be a good idea if I phone back on Monday as he will know by then.
16.09.11	KAYAWAY ECO CULTURAL & HERITAGE SERVICES	Mark Hickey Phone 0432 829 335	Left return number on mobile.
16.09.11	Hunter Valley Aboriginal Corp,	Rhonda Griffiths ph: 6543 2290 mob: 0429 989 878	Left message with Rhonda's husband & he will ensure she checks the email. Left message also on Rhonda's mobile

16.09.11	Yarrowalk Enterprises	Scott Franks ph: 0404 171 544	Left message on mobile requesting Scott phone the office to confirm availability of a Yarrowalk Site Officer next week.
16.09.11	Wonnarua Nation Aboriginal Corporation	Laurie Perry Ph: 02 6571 8595 0412 593 020	Left message on mobile requesting Laurie phone the office to confirm availability of a WNAC Site Officer next week. Laurie phoned back and stated they have a lot on at the moment however he will try and find a representative (Maree) to participate in the survey.
SURVEY TUESDAY 20TH SEPTEMBER TO FRIDAY 23 SEPTEMBER -			
29.11.11	All Stakeholders advised of post survey meeting to be held Tuesday 13th December @ Liddell Colliery to discuss the results of the survey & management recommendations.		
29.11.11	Wattaka Wonnarua TO Services	Mr Des Hickey ph: 0432 977 178	Hi Cheryl I will be attending the meeting for Tuesday 13 th December 2011 Cheers' Des
30.11.11	Cacatua Culture Consultants	Ms Donna Sampson e: 'cacatua@resetdsl.net.au	Cheryl, Cacatua Culture Consultants (CCC) will have a representative at the meeting on the 13 th at this point in time it will be Donna Sampson. Thanks Patricia
02.12.11	Yinarr Cultural Services	Kathie Kinchela 0432720623	Via email - response Dear Cheryl, How's it going hope all is well. Just letting you know that I will be attending the meeting on Tuesday 13 th December. Take Care Kathie
07.12.11	Hunter Valley Aboriginal Corp,	Rhonda Griffiths ph: 6543 2290 mob: 0429 989 878	Rhonda phoned to advise she would be attending the meeting next Tuesday 13 th .
08.12.11	Ungooroo Aboriginal Corp.	Jess Garland ph: 6571 5111	RSVP VIA EMAIL According to the Site Work Journal Mr Allen Paget will be in attendance at the Liddell Colliery Meeting next Tuesday. 8:30am for a 9 am start? LATER RESPONSE Our apologies, unfortunate we have double booked Allen Paget and our other site worker is also rostered out. My apologies for this late notice.
08.12.11	EMAILED reminder to the following Stakeholder seeking RSVP *Paulette Ryan * Widescope * Mark Hickey *Scott Franks *Ungooroo Cultural and Community Services * Wanaruah LALC * WNAC		
09.12.11	Ungooroo Cultural and Community Services	Ms Rhonda Ward ph: 0450 754 199	Left message on mobile requesting Rhonda contact the office to RSVP. 12.12.11

09.12.11	Wanaruah LALC	Ms Suzie Worth mob: 0457 707 565	Unable to attend meeting, received email 12.12.11
09.12.11	KAYAWAY ECO CULTURAL & HERITAGE SERVICES	Mark Hickey Phone 0432 829 335 e: 'kayaway@rocketmail.com	Left short 10 second message which will be sent as a text, requested Mark contact the office, Mark phoned back & confirmed Kayaway's attendance tomorrow
09.12.11	Widescope Indigenous Group P/L	c/- Amanda Hickey 73 Russell Street Emu Plains 2750 ph; 0434 480 558 e: 'Widescope.group@live.com	Left message on mobile requesting Amanda contact the office to RSVP. 12.12.11
09.12.11	Hunter Traditional Owners	Paulette Ryan hto.paulette@gmail.com 0432 672 273	Left message on mobile requesting Paulette contact the office to RSVP, 12.12.11
12.12.11	T&G Cultural Consultants	Tony Griffiths ph: 0428 147 417	Spoke to Tony who confirmed that someone will be at the meeting on behalf of T&G
12.12.11	Wattaka Wonnarua TO Services	Des Hickey e: <deshickey@bigpond.com	Received email @ 6.37pm indicating Des had another meeting to attend and had double booked.
13.12.11	DAY OF MEETING - stakeholders attended Kathie Kinchela/Tegan McCormack/Tennille McCormack/Gordon Griffiths/Abie Wright*/Warren Schillings*/Cody Faulkner		
13.12.11	Hunter Valley Aboriginal Corp,	Rhonda Griffiths ph: 6543 2290 mob: 0429 989 878	Phoned Rhonda & left message on mobile. Rhonda phoned back & spoke with Jodie, apologised as she had forgotten about the meeting.
13.12.11	KAYAWAY ECO CULTURAL & HERITAGE SERVICES	Mark Hickey Phone 0432 829 335	Contacted Mark Hickey, unfortunately due to vehicle issues he was unable to attend the meeting.
13.12.11	Wattaka Wonnarua TO Services	Mr Des Hickey ph: 0432 977 178	Phoned Des who advised he had sent the email through (after hours) and was unable to attend this meeting as he had double booked himself.
13.12.11	T&G Cultural Consultants	Gordon Griffiths ph: 0401 028 807	Although Gordon was already present at the meeting he contacted additional people to advise them the Liddell meeting was taking place, Gordon noted that these organisations will be registering interest in the project & their representatives were able to be present at our meeting since they were unable to participate in the Bulga survey today as they did not have required paperwork. *Myland Cultural & Heritage Group *Ngarramang-Kuri Aboriginal Cultural Heritage Group.
15.02.12	ALL STAKEHOLDERS SENT A HARD COPY OF THE DRAFT REPORT in addition to the METHODOLOGY for the Test Excavation. Invitation to DISCUSS AT MEETING WEDNESDAY 29TH February @ Liddell Colliery		

20.02.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths mob: 0429 989 878 e; h973809@bigpond.net.au	Rhonda phoned, left message on answerphone, advised she would be at meeting on 29 th Feb
20.02.12	T&G Cultural Consultants	Greg Griffiths	Greg phoned to advise that T&G would have a representative attend the meeting on the 29 th Feb.
28.02.12	Ungooroo Aboriginal Corporation (UAC)	Jess Garland <admin@ungooroo.com.au	Received email from Jess Garland, UAC are unable to send a rep to the meeting tomorrow.
28.02.12	Yinarr Cultural Services	Kathie Steward Kinchela	Emailed Kathie in relation to another matter and requested RSVP re: meeting tomorrow, Kathie replied saying she will be there representing Yinarr
28.02.12	Cacatua Culture Consultants	Ms Donna Sampson e: 'cacatua@resetdsl.net.au	Emailed to request confirmation that a representative will attend the meeting tomorrow.
28.02.12	Widescope Indigenous Group P/L	Donna	Phoned the office and advised that Steven Hickey would be at the meeting on behalf of Widescope.
03.03.12	Tocomwall	Scott Franks	In response to an email confirming that Tocomwall would have two reps on site Scott advised that both his site officers would need to do an XCN generic first, he would be booking them in and seeking reimbursement from XSTRATA.
	MEETING HELD AT LIDDELL COLLIERY 29 FEBRUARY - ATTENDEES AS LISTED ON SIGN IN SHEET - MINUTES TAKEN		
13.03.12	ALL STAKEHOLDERS SENT A HARD COPY AND EMAIL OF NOTIFICATION OF AN ORIENTATION DAY TO BE HELD 22ND MARCH - SPECIFICALLY FOR STAKEHOLDERS WHO HAVE NOT PARTICIPATED IN THE PROJECT THUS FAR.		
13.03.12	Cacatua Culture Consultants	Ms Donna Sampson e: 'cacatua@resetdsl.net.au	Received correspondence via email commenting on the proposed methodology and discussions @ the meeting, CCC support the Test Excavation sampling and excavation program.
13.03.12	Yinarr Cultural Services	Kathie Steward Kinchela	<i>Dear Cheryl</i> <i>I cannot attend this day as I have to be in Newcastle to attend meeting is there another day I could attend</i> <i>Cheers</i> <i>Kathie</i> Advised Kathie this was intended to be the only date, however since she has been to the sites & meeting before let her know it was optional and for those who had not been involved up until this point.

14.03.12	Wonn1 Contracting Corporation	Arthur Fletcher	Arthur called to note that the 22nd March is the morning that the Minister is signing a biobanking agreement with ARTC and it involves Aboriginal people in Hunter area and he plans to attend and thinks others may too. Because of this he would not be able to attend the visit as planned, and possibly others may not be able to either. He suggests any day the following week. My response was that as the letters have gone out we will wait and see maybe whether we get other calls in relation to the meeting or not, e.g. If 5 people say they will make it, then we will still run with it. I noted that Ben, (Xstrata) may then be able to take him out separately at another date. He said he may check what others are doing and get back to me.
14.03.12	Ungooroo Aboriginal Corporation	Jessi Garland	<i>Good morning Cheryl,</i> <i>We have had a few problems the last few days as our phone and internet lines were cut over the weekend.</i> <i>I have just received your email from yesterday, Re: Liddell Colliery Development Modification. I am unsure if we have already sent a representative from Ungooroo Aboriginal Corporation previously and am wondering if you could advise me if we wither have or have not for this project.</i> <i>Thank you very much.</i> <i>Regards</i> Responded advising that UAC did have a site officer attend the site work back in September, response as follows: <i>At this time our other site workers are engaged otherwise we may have sent someone.</i> <i>At the moment there is so much work around that we are spread a little thin, however please keep us in mind for any future works.</i>
22.3.12	Wanaruah LALC	Crystal	Called to say that she had a representative at Liddell for the site . I noted that as they had not RSVP'd - and neither had anyone else - the site visit had been cancelled, as per the letter. She said she thought she had faxed us but that their fax machine was playing up. I noted we had not received a fax and that it could be easier to either email or call, to ensure positive contact is made. I apologised and noted that we were rescheduling the meeting for Wed 28th and that we would be sending out another letter today.

16.03.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths mob: 0429 989 878 e; h973809@bigpond.net.au	Rhonda phoned to advise that the HVAC are in support of what the WLALC have to say about the report and test excavation methodology, HVAC do not make decisions independent of the WLALC and agree with whatever they submit. Rhonda also noted that she would not be attending the site visit, she participated in the fieldwork, has been to previous meetings and was also at the original inception meeting when a site visit was undertaken.
23.03.12	Site orientation date re-scheduled to Wednesday 28 th March, notice emailed to all stakeholders notification of test excavation also sent to all stakeholders RSVP by Tuesday 10 th April 2012		
23.03.12	Wonn1 Consultants	Arthur Fletcher ph: 0402 146 193	Phoned Arthur to advise of date and let him know he will be receiving this and additional information via email today. Arthur confirmed that both he and Suzie Worth will attend the site visit.
23.03.12	Tocomwall	Scott Franks	Via email <i>Cheryl,</i> <i>Thank you for this email. Could you please ensure that Yarrawalk is now refer to as Tocomwall. Also further to Tocomwall working position with Xstrata Operation in the hunter valley, Tocomwall is managing the field involvement for the Plans Clans of the Wonnarua people and as with our commitment to the BOP and Rav North project we will be insisting that this position is carried threw all Xstrata operation.</i> <i>Tocomwall will have the following.</i> <i>3 reps on site from start to finish at our pre-set cost as struck with Bop. Could you please ensure that this is committed it agreed to for this project before the start to avoid any delays, at this stage we will be committing the following to the project.</i> <i>Danny Franks Senior Field Manager</i> <i>Steven Verey Field Officer</i> <i>3rd person to be advised if available.</i> <i>Regards,</i> <i>Scott Franks</i> Note that Scott Franks had also contacted Jodie Benton (out of the office at the time) and basically reiterated the above information.

27.03.12	Wonn1 Consultants	Arthur Fletcher ph: 0402 146 193	Arthur phoned the office to advise his preferences for the excavation, although he is not rostered on the Monday & Tuesday he would prefer to come that day (due to the orientation scheduled then). Arthur also queried how the roster was formulated and discussed issues about who was entitled to speak for Country etc.
28.03.12	<i>Site Orientation attended by Arthur Fletcher, Suzie Worth, Jodie Benton, Jenn McGhee, Ben de Somer</i>		
29.3.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths mob: 0429 989 878 e; h973809@bigpond.net.au	Rhonda phoned to check about the upcoming excavations and to make sure the meeting yesterday was not one she was meant have attended. I noted it was an orientation and she didn't need to come as she had been there for the survey. She will be teaming up with Ungooroo for the excavation positions.
	Yinarr Cultural Services	Kathie Steward Kinchela mob: 0432 720 623	Kathie phoned and advised that Owen Davison will be representing YCC on the three days they are rostered.
30.03.12	Myland Cultural & Heritage Group	Mr Warren Schillings ph: 0431 392 554	Warren phoned about the site orientation day and queried the excavation, advised if he did have a site officer please ensure they had done the XCN generic.
30.03.12	T&G Cultural Consultants	Greg Griffiths	Greg contacted the office to advise that he would be the cultural (knowledge) contact for their organisation, T&G will also be able to send a representative on the dates.
07.04.12	Wattaka Wonnarua TO Services	Mr Des Hickey ph: 0432 977 178	via email - response <i>Hi Cheryl</i> <i>I try very hard to get a rep there on the two days that Wattaka is on.</i> <i>Why do I have two days and the others have three days</i> <i>Cheers"</i> <i>Des</i> replied to Des & requested that he confirm a site officer as Liddell required this information for the site famil and we needed numbers confirmed so we were not short.
08.04.12 EASTER SUNDAY ...	EMAILED ALL STAKEHOLDERS as a reminder that stakeholders who had not responded needed to do so by COB Tuesday 10 th April to advise of availability of site officers for excavation commencing 16 th April 2012. Noted again requirements pertaining to XCN inductions and site famil on the first day.		

09.04.12	Cacatua Culture Consultants	Donna Sampson e: 'cacatua@resetdsl.net.au	via email response <i>Hi Cheryl, Though I was the only one worked all the time even on holidays. As per early email we will have a rep on site on our days as per roster, Monday Thursday Friday. At this point in time it will be the manager George Sampson or the supervisor Adam Sampson.</i>
09.04.12	Widescope	Carolyn Hickey e: 'Widescope.group@live.com	via email response <i>Hi Cheryl, This is Confirmation on Widescopes attendance for the Test Excavation held at Liddell. Attending Site Officer; Steven Hickey Thank you Carolyn Hickey</i>
09.04.12	Wonnarua Nation Aboriginal Corporation	Laurie Perry	response via email <i>Thanks Cheryl, I have included Rebecca Lester our other sites officer and Fiona our bookkeeper in this email for there response to your email below Cheers Laurie Perry</i>
10.04.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda phoned to confirm that Kylie Saunders will be participating in the dig on behalf of HVAC Mond-Wednesday and on behalf of UAC on Thursday & Friday.
10.04.12	Myland Cultural & Heritage Group	Warren Schillings e: <schillo@yarnteen.com.au	VIA EMAIL <i>Hi, Cheryl Its Warren Schillings from Myland Cultural & Heritage Group, I don't think im going To be able to get someone there whos inducted for tomorrow. Very Sorry for the late notice. Yours in Culture Warren Schillings</i>
11.04.12	Wanaruah LALC	Krystal 02 6543 1288	Krystal phoned to confirm Nerida Saunders as the WLALC rep. I advised that Nerida may potentially be required on Thursday and Friday however this would be discussed & decided with the team in the field.
11.04.12	Ngarramang-Kuri Aboriginal Culture & Heritage	Mr Abie Wright Ph: 0466 589 238	Phoned to advise that Lenard Wright would be the rep for the FW, however was asked to confirm if Lenard had his XCN generic as without it they will not allow him to work on site. Abie said he would check and call back.

11.04.12	T&G Cultural Consultants	Greg Griffiths	Phoned Greg to confirm if they had a site officer available for the excavation, he advised their rep would be Bobby Smith and assured me that Bobby had completed the XCN generic and would be right to come on Monday
12.04.12	Yinarr Cultural Services	Kathie Steward Kinchela mob: 0432 720 623	Phoned to advise that Owen will not be able to participate in the dig next week (rostered 3 days), YCC will be represented by Kay Boney who Kathie was having complete an XCN induction in the next couple of days.
12.04.12	Ungooroo Cultural and Community Services	Ms Rhonda Ward e: <ungooroo5969@hotmail.com	EMAILED UCCS noting that due to lack of response we can only assume that they do not have a rep available for the excavation. Received email from Rhonda advising she UCCS did not have site officers available however she indicated if the days were extended it may be worthwhile & she could find someone. In return email I reminded Rhonda that if she had a site officer they would need to have completed the XCN induction as per every Xstrata site and the correspondence which was sent out.
12.04.12	Kawaway	Mark Hickey	EMAILED Kayaway noting that due to lack of response we can only assume that they do not have a rep available for the excavation via email response <i>So sorry Cheryl you are correct in your assumption for the life of me I could not find anyone to cover the work and it seems to be the going thing these days, not to worry.</i> <i>I look forward to working with you and Oz Ark some time in the future thanks for the heads up.</i> <i>Kind Regards,</i> <i>Mark.</i>
12.04.12	Wattaka Wonnarua Cultural C. Service	Des Hickey <wonnaruato@bigpond.com>	EMAILED WWCCS noting that due to lack of response we can only assume that they do not have a rep available for the excavation <i>Hi Cheryl</i> <i>I tried, I do not have anybody available at this time maybe on the next roster days I will have someone please keep me informed</i> <i>Regards" Des</i>
12.04.12	Wonnarua Nation Aboriginal Corporation	Laurie Perry Rebecca Lester	EMAILED WNAC noting that due to lack of response we can only assume that they do not have a rep available for the excavation

12.04.12	Ngarramang-Kuri Aboriginal Culture & Heritage	Mr Abie Wright e: <abie@yarnteen.com.au Ph: 0466 589 238	EMAILED Abie noting that due to lack of response we can only assume that they do not have a rep available for the excavation
12.04.12	Myland Cultural & Heritage Group	Mr Warren Schillings e: <schillo@yarnteen.com.au	EMAILED Myland noting that due to lack of response we can only assume that they do not have a rep available for the excavation
13.04.12	Notified mine of confirmed site officers. Issues around inductions etc. discussed.		
13.04.12	T&G Cultural Consultants	Tony Griffiths ph: 0428 147 417	Several phone calls whereby a few site officer names were given however they had not done their XCN generics, Tony adamant that he had done one however this did not seem to be the case, T&G advised in the end that Terry Matthews would be on site, however this was late in the day and since no one could check in at Liddell Terry Matthews would be turning up on Monday for the site famil.
13.04.12	Widescope	Carolyn Hickey 0434 480 558	Emailed Widescope, spoke to Steven & left verbal message on Carolyn's mobile. Apparently Steven does not have an XCN generic and if he doesn't he is not able to participate in the works next week.
	Widescope	Donna 0434 480 558	Spoke to Donna @ Widescope to clarify that without the generic Steven could not work on site, noted that this a applicable to all Xstrata sites and was quite clear in the correspondence which was distributed to all stakeholders. Emailed Donna another copy of the letter and contact details for Tesa training who hold the XCN inductions.
13.04.12	Tocomwall	Scott Franks ph: 0404 171 544	Phoned Scott, unable to source additional site officers due to the induction requirement.
17.04.12	Tocomwall	Scott Franks ph: 0404 171 544	via email <i>Dear Cheryl,</i> <i>Could you please confirm the following.</i> <i>A basalt Axe was located yesterday near or on a road were the Liddell team were setting up. I have been advised that Arthur Fletcher found this item and the from what I understand Arthur and Josh (your Josh) took the item bagged it and placed it in a Ozark Vech. What I am trying to ascertain is if the object was with in the approved area to be recovered.</i> <i>Regards,</i> <i>Scott Franks</i> <i>Director & Aboriginal Heritage Manager</i> in addition to this email Maria Cotter contacted the office and Jodie Benton (although on annual leave) to discuss this issue and advise that they would be

			reporting it to OEH.
18.04.12	Wonn1 Consultants	Arthur Fletcher	Arthur contacted the office to check on the work for tomorrow, queried weather situation as Rebecca had advised it was fairly wet where she was working and wondered if the excavation was still going (Rebecca Lester, rostered on Thur/Friday). Arthur also noted the fact that Tocomwall had two reps and felt that this was not fair, also talked about representation of the 'Nation' his people who seemed to be underrepresented and he did not mean to give grief to our team on site with this issue but wanted it bought up, in addition to the fact that another group had four reps rostered on Thursday & Friday and were thus over-represented.
19.04.12	T&G Cultural Consultants	Gordon Griffiths 4934 4244	Gordon phoned 18/4 re: payment for meeting in December which he had never billed for, advised I would fax information to him, Gordon also queried if they needed another worker for the dig tomorrow to contact him and he would have someone available
02.05.12	Wattaka Wonnarua Cultural C. Service	Des Hickey 4 Kennedy St SINGLETON NSW 2330 ph: 0432 977 178 <wonnaruato@bigpond.com>	Sent Via mail and email cultural knowledge request letter. *Note only sent to selected stakeholders as per decision made at last meeting.
02.05.12	Widescope Indigenous Group P/L	c/- Amanda Hickey 73 Russell Street Emu Plains 2750 ph; 0434 480 558 e: 'Widescope.group@live.com	Sent Via mail and email cultural knowledge request letter. *Note only sent to selected stakeholders as per decision made at last meeting.
02.05.12	Wonn1 Consultants	Arthur Fletcher 619 Main Road GLENDALE NSW 2285 ph: 0402 146 193 <wonn1sites@gmail.com>	Sent Via mail and email cultural knowledge request letter. *Note only sent to selected stakeholders as per decision made at last meeting.
02.05.12	Kayaway Eco Cultural & Heritage Services	Members – Kayaway Eco Cultural & Heritage Services c/- Mr Mark Hickey 6/20-22 Government Rd Thornton NSW 2322 e: 'kayaway@rocketmail.com' Phone 0432 829 335	Sent Via mail and email cultural knowledge request letter. *Note only sent to selected stakeholders as per decision made at last meeting.
13.07.12			Stakeholders emailed (and faxed) notification of an upcoming meeting on 14 th August to discuss the draft report which is due to be released soon.
20.07.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda phoned to advise that unfortunately she has another commitment on that date and cannot make the scheduled meeting.

24.07.12	Yinarr Cultural Services	Kathie Kinchela	Emailed to advised she was available for the meeting 14/8/12
31.07.12	ALL STAKEHOLDERS sent a hard copy of the draft report: Archaeological Test Excavations at LID 3 (#37-3-0452) AND LID 34 (#37-3-1150)', OzArk Environmental & Heritage Management P/L 2012, and invited to attend a meeting scheduled Tuesday 14 th August. Meeting is to discuss the results of the test ex and possible management strategies for the AHIP application. Comments on report due Friday 31 st August and RSVP for meeting due 9 th August, 2012.		
07.08.12	Ungooroo Aboriginal Corporation (UAC)	Jessi Garland	Good morning Cheryl, I am unsure if have already RSVP'd for this meeting and my apologies if I have doubled up. Mr Allen Paget is rostered to attend this meeting on 14 th August 2012 at Liddell Colliery. I will forward Mr Paget's comments on draft report before the date of the meeting. If you require anything further please let me know.
07.08.12	ALL stakeholders emailed (& faxed) notification that the meeting has been rescheduled until Tuesday 28th August		
07.08.12	Ungooroo Aboriginal Corporation (UAC)	Jessi Garland	Hi Cheryl, That is fine. I have booked Allen to attend meeting on re-scheduled date.
07.08.12	Wattaka Wonnarua Cultural C. Service	Des Hickey	Hi Cheryl I will be attending the meeting on the 28 th August 2012 Cheers" Des
07.08.12	Wonnarua Nation	Laurie Perry	Thanks Cheryl, I have forward to our team Cheers Laurie Perry
10.08.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Good Morning Cheryl, Tuesday 28 th August for the meeting at Liddell Colliery suits Hunter Valley Aboriginal Corporation. Rhonda Griffiths will be in attendance. Regards Rhonda Griffiths Director/Chairperson VIA EMAIL
13.08.12	Widescope Indigenous Group P/L	c/- Donna Hickey e: 'Widescope.group@live.com	Hi Cheryl, Widescope will be attending the meeting on the 28 th August, Steven Hickey will be Widescopes representative Please feel free to contact me on the details supplied above. Thank you Donna Hickey
17.08.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda phoned the office to confirm she is able to attend the meeting on the 28 th August.

23.08.12	Wanaruah LALC	Mr Noel Downs 02 6543 1288	Spoke to Noel who intends on attending on behalf of WLALC.
23.08.12	Yinarr Cultural Services	Kathie Steward Kinchela	Kathie phoned to advise she will be attending the meeting. Unfortunately her father has recently passed away and since she has been with family she has not had much of an opportunity to go over the report. If an extension is needed she will notify us at the meeting next week.
23.08.12			EMAILED ALL stakeholders who have not yet RSVP'd (due by COB today) as a reminder to RSVP
23.08.12	Cacatua Culture Consultants	Donna Sampson	Donna phoned and advised George will be attending the meeting next week.
23.08.12	Kayaway	Mark Hickey	Mark emailed and advised he will be at the meeting.
23.08.12	Tocomwall	Scott Franks	Scott emailed and advised that hopefully Mr French can attend.
27.08.12	Myland Cultural & Heritage Group	Mr Warren Schillings ph: 0431 392 554	Warren phoned to advise David Ahoy will be attending the meeting on behalf of Myland
27.08.12	Wonn1 Consultants	Arthur Fletcher ph: 0402 146 193	No active voicemail
27.08.12	T&G Cultural Consultants	Tony Griffiths ph: 0428 147 417	Advised they will try and have a representative there, could not confirm who it may be at present.
27.08.12	Ungooroo Cultural and Community Services	Ms Rhonda Ward ph: 0450 754 199	10.27 am engaged
27.08.12	Ngarramang-Kuri Aboriginal Culture & Heritage	Mr Abie Wright Ph: 0466 589 238	Left detailed message on mobile to contact office and RSVP, please.
27.08.12	Wonnarua Nation Aboriginal Corporation	Laurie Perry Mob : 0412 593 020	Left message on mobile message bank. Laurie returned the call and advised Rebecca Lester is likely to attend on behalf of the Wonnarua Nation.
28.08.12	DAY OF MEETING - stakeholders attended Kathie Kinchela/ Rebecca Lester / David Ahoy / Ben Quinlan / Donna Sampson / Rhonda Griffiths / Allen Paget / Des Hickey		
28.08.12	Kayaway	Mark Hickey 0432 829 335	Phoned mobile, not answering left message.
28.08.12	Wonnarua Culture Heritage	Gordon Griffiths ph: 0401 028 807	Contacted @ 9.05am, something else has come up, unable to make this meeting.
28.08.12	Yarrawalk Enterprises	Scott Franks ph: 0404 171 544	Phoned mobile, not answering, left message @ 9.15am
28.08.12	Wonn1 Consultants	Arthur Fletcher	Advised by those at the meeting that Arthur was at another meeting today.

		ph: 0402 146 193	
21.09.12		ALL STAKEHOLDERS	All Stakeholders mailed a copy of the following documents: 1. Minutes from the AFGM held 28 th August 2012; 2. Hard copy of the PowerPoint presentation from the August meeting with RAPs; 3. Feedback form; and 4. Liddell Colliery Aboriginal Cultural Heritage Management Plan (Jan 2008). Comments due by COB 12th October, 2012.
25.09.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda phoned the office to confirm that HVAC had received the paperwork. Rhonda noted that it is their policy to concur with the comments that the WLALC submits.
12.10.12		ALL STAKEHOLDERS	All Stakeholders emailed a reminder that comments on the proposed management recommendations are due by COB today. (T&G no email, faxed reminder to this organisation)
12.10.12	Wanaruah LALC / Hunter Valley Aboriginal Corp.	Noel Downs e<wanarua@bigpond.net.au	received letter via email with comments on the recommendations set out in the test excavation draft report (see Attachment 1)
12.10.12	Ungooroo Aboriginal Corporation (UAC)	Jessi Garland Administration Coordinator e <admin@ungooroo.com.au	VIA EMAIL Hi Cheryl, I have just spoken to Mr Paget and he made the following comment; "I agree with the methodology for the proposed Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth" If you require anything further, please let us know. Regards Jessi Garland Administration Coordinator
15.10.12	Wonnarua Nation Aboriginal Corporation	Laurie Perry e <l.perry@optusnet.com.au	VIA EMAIL Hi Cheryl I have read the report and satisfied with the management recommendations in the report. Cheers Laurie Perry CEO

15.10.12	Wonn1 Sites Arthur Fletcher	Suzie Worth (on behalf of Arthur Fletcher)	VIA EMAIL - letter attachment Hi Cheryl Attached is Arthur Fletcher's comments – sorry I didn't get them to you earlier – had massive computer problems, but all fixed now!!!:) Kind regards, Suzie Worth
16.10.12	Cacatua Culture Consultants	Patricia Kennedy e <cacatua@resetdsl.net.au	VIA EMAIL Sorry we have not replied sooner to the report the manager is away I have contacted her, she has read and discussed the paper work. Cacatua is happy with the information supplied and agree. Yours Truly Patricia Kennedy. Accounts Dept
17.10.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda left a message on the answerphone, advised she will speak with Noel Downs and phone back.
07.11.12	all stakeholders who had not responded to the initial invitation to comment were emailed another reminder and asked to submit feedback by Friday 9th November.		
07.12.12	TOCOMWALL PTY LTD	Scott Franks e: yarrowalk@tpg.com.au	Cheryl, I do recall reading the report and feel with this area in particular we could not agree or support the recommendation. The area in question is not understood with regard to the cultural importance of the area most of the stake holders making statements have known known cultural knowledge or are they in fact excepted as having a continued physical connection to the area but are suggesting off setts and agreeing to the destruction of a place that my direct family have been associated with and is extremely important. Regards, Scott Franks
07.12.12	TOCOMWALL PTY LTD	Scott Franks ph: 9542 7714	Scott phoned the office as a follow up to this email to advise he was not launching a personal attack, however discussed the incident where the stone axe had been picked up and removed at the commencement of the excavation. Scott is of the opinion that this indicates that the mine are all too happy to go ahead and 'rip up the land' and it was a rushed project where they just wanted to hurry it along to get the project finished to the detriment of the true Aboriginal custodians of the land.

08.11.12	Hunter Traditional Owners	Ms Paulette Ryan 0432 672 273	Left detailed message on mobile to contact office and advise if HTO have any comments on the report and management recommendations discussed at the meeting, outlined in the report and summarised in the package sent out recently.
08.11.12	Kayaway Eco Cultural & Heritage Services	Mr Mark Hickey Phone 0432 829 335	Left 10 second message asking Mark to contact the office.
08.11.12	T&G Cultural Consultants	Greg Griffiths ph: 0428 147 417 (not on this number today) ph: 0401 028 807	contacted Greg's mobile number, after asking what it was about I advised it was about comments for the Liddell Coal Project, the gentleman advised Greg was 'not on this number today', advised I should contact the mobile number we have for Shannon. Contacted the second mobile number and left a 10 second message asking either Shannon or Greg to contact the office.
08.11.12	Ungooroo Cultural and Community Services	Ms Rhonda Ward ph: 0450 754 199	Left 10 second message asking Rhonda to contact the office.
08.11.12	Wattaka Wonnarua Cultural C. Service	Des Hickey ph: 0432 977 178	Spoke to Des and as a reminder I said I would email through the summary of the recommendations so that he could look at it. Des agreed that would be good and that he will take a look at them and respond by tomorrow. Emailed through the summary and feedback form as sent out to all stakeholders in September.
08.11.12	Wonnarua Culture Heritage	Shannon Griffiths ph: 0401 028 807	Shannon returned the call and advised that he was happy with the management recommendations set out in the report and had no additional comment
08.11.12	Widescope Indigenous Group P/L	c/- Amanda Hickey 73 Russell Street Emu Plains 2750 ph; 0434 480 558 e: 'Widescope.group@live.com	VIA EMAIL Hi Cheryl, yes Widescope is satisfied with the management recommendations as written in the Test Excavation Report. Regards D Hickey
08.11.12	Wattaka Wonnarua Cultural C. Service	Des Hickey <deshickey@bigpond.com	Received letter via email with comments on the recommendations set out in the test excavation draft report (see Appendix 3)
10.9.13	All Stakeholders sent a letter advising them of the progress of the Project. This detailed the fact of the project EA having been through adequacy and moving towards Public Exhibition. Hard copies of the report and all appendices/attachments sent as well.		

APPENDIX 2: LISTINGS FOR CHAIN OF PONDS INN AND AHIMS SEARCHES

Chain of Ponds Hotel and Outbuildings, Old Singleton Rd, Liddell, NSW , Australia	
Photographs	
List	Register of the National Estate
Class	Historic
Legal Status	Registered (18/04/1989)
Place ID	1400
Place File No	1/09/077/0006
Statement of Significance	An inn complex which is historically significant as a rare survivor of such complexes which served the coach and horse borne traffic in the mid nineteenth century between Morpeth and Tamworth. The hotel is architecturally significant as a late example of the Georgian Regency style. The stone outbuilding, believed to be a farm house which predates the hotel, and the brick stables, possibly a former mounted police barracks, are also significant as examples of that style. Also of interest as part of the complex are the remains, including brick paving, of timber stables and a domed well in the hotel courtyard.
Official Values Not Available	
Description	This building, first appearing as a licence renewal to Richard Alcorn in 1848, is of finely worked stone, is two storey and is essentially Georgian in presentation and flavour. It comprises eight principal rooms and a massive stone built cellar. Originally without balconies, the verandah is stone paved and an early inscription Pure Australian Wines, Wine Cellars is clearly legible around the Georgian fanlight above the entrance door. Across the brick paved courtyard to the rear (at the centre of which is a domed well) exist two outbuildings. Both conform to the dictates of Georgian design. They are held to be vital to the worth of the site. There is an attractive c 1885 service wing.
History Not Available	
Condition and Integrity	
	The building is only in fair repair, much of the joinery having been removed in recent times. An attractive two storey service wing has been added in c 1885.
Location	
	Comprising Inn and two stone buildings to its south, Old Singleton Road at Chain of Ponds Creek, Liddell, 5km north-west of Ravensworth.
Bibliography Not Available	
Report Produced Thu Nov 3 16:50:51 2011	

State Heritage Register Inn & Outbuildings (former)

Item

Name of Item:	Inn & Outbuildings (former)
Other Name/s:	Chain of Ponds Inn & Outbuildings
Type of Item:	Built
Group/Collection:	Commercial
Category:	Inn/Tavern
Location:	Lat:151.02510232 Long:-32.40569406
Primary Address:	Old New England Highway, Chain of Ponds, NSW
Local Govt. Area:	Singleton

Property Description:

Lot/Volume Code	Lot/Volume Number	Section Number	Plan/Folio Code	Plan/Folio Number
LOT	211	-	DP	975271
LOT	212	-	DP	975271

All Addresses

Street Address	Suburb/Town	LGA	Parish	County	Type
Old New England Highway	Chain of Ponds	Singleton	Liddell	Durham	Primary
Old New England Highway	Liddell	Singleton	Liddell	Durham	Alternate

Note: There are incomplete details for a number of items listed in NSW. The Heritage Branch intends to develop or upgrade statements of significance and other information for these items as resources become available.

Assessment Criteria

Items are assessed against the  **State Heritage Register (SHR) Criteria** to determine the level of significance. Refer to the Listings below for the level of statutory protection.

Procedures / Exemptions

Section of Act	Description	Title	Comments	Action Date
57(2)	Exemption to allow work	Standard Exemptions	SCHEDULE OF STANDARD EXEMPTIONS HERITAGE ACT 1977 Notice of Order Under Section 57 (2) of the Heritage Act 1977 I, the Minister for Planning, pursuant to subsection 57(2) of the Heritage Act 1977, on the recommendation of the Heritage Council of New South Wales, do by this Order: 1. revoke the Schedule of Exemptions to subsection 57(1) of the Heritage Act made under subsection 57(2) and published in the Government Gazette on 22 February 2008; and 2. grant standard exemptions from subsection 57(1) of the Heritage Act 1977, described in the	Sep 5 2008

			Schedule attached. FRANK SARTOR Minister for Planning Sydney, 11 July 2008 To view the schedule click on the Standard Exemptions for Works Requiring Heritage Council Approval link below.	

 **Standard Exemptions** for Works Requiring Heritage Council Approval

Listings

Heritage Listing	Listing Title	Listing Number	Gazette Date	Gazette Number	Gazette Page
<i>Heritage Act - State Heritage Register</i>		00242	02 Apr 99	27	1546
<i>Heritage Act - Permanent Conservation Order - former</i>		00242	19 Nov 82	157	5292

References, Internet links & Images

None

Note: Internet links may be to web pages, documents or images.

PLAN
UNDER THE
HERITAGE ACT.
1977

(Click on Thumbnail for Full Size Image and Image Details)

Data Source

The information for this entry comes from the following source:

Name: Heritage Office
Database Number: 5045615
File Number: S90/03318 & HC 32615

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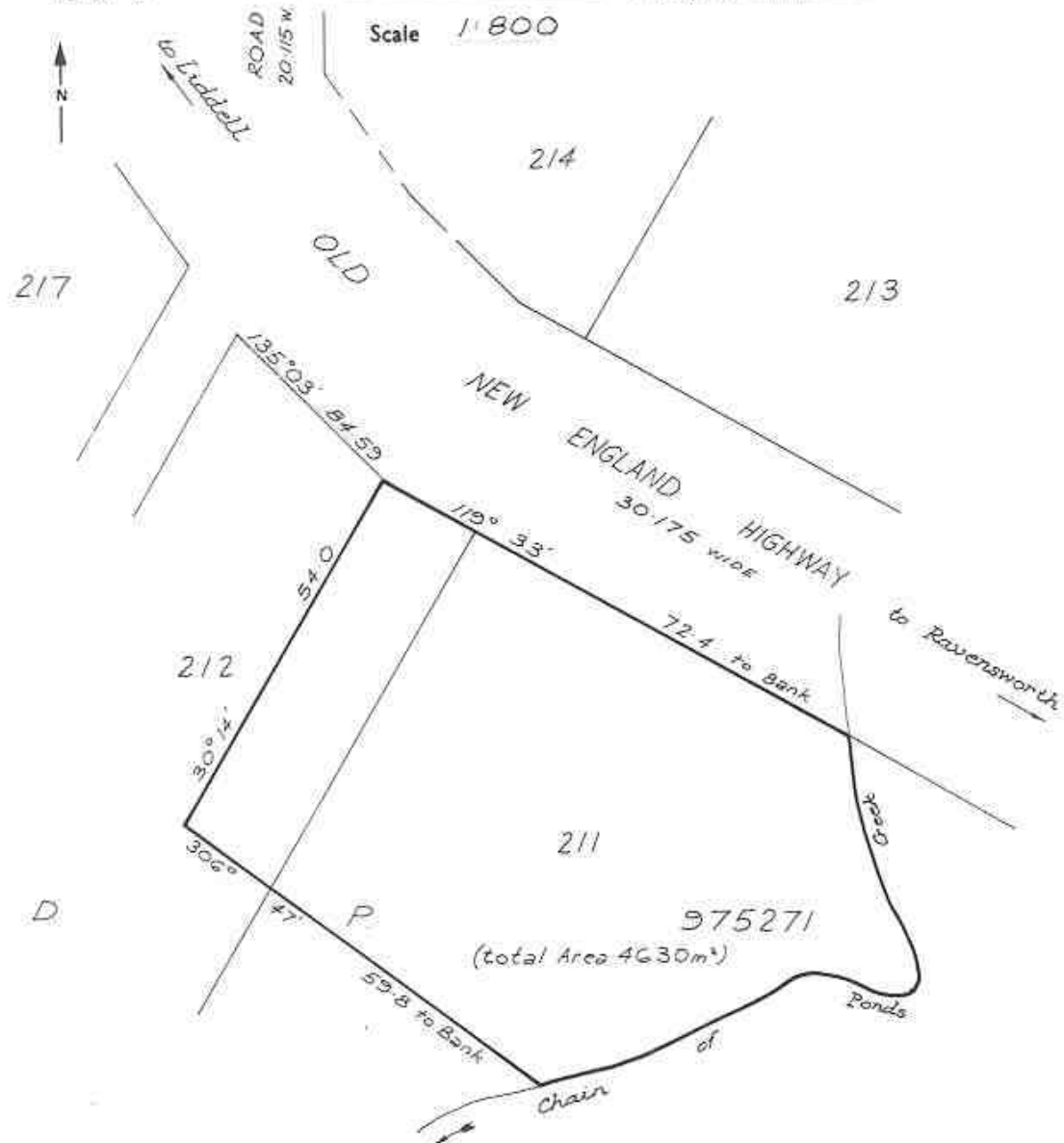
| [Privacy](#)

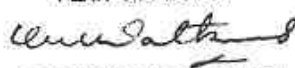
Heritage Council of New South Wales PLAN

Under the Heritage Act, 1977

Description PARTS OF LOTS 211 & 212, D.P. 975271
('OLD CHAIN OF PONDS HOTEL')

Mun/Shire/City SINGLETON Locality LIDDELL
 Parish of LIDDELL County of DURHAM



COMPILED FROM INFORMATION IN <u>D.P. 975271 & Surrey L154</u>	FILE REFERENCE <u>H.C. 32615</u>	PLAN APPROVED  for SECRETARY, HERITAGE COUNCIL	PLAN NUMBER <u>H.C. 550</u>
BY <u>D.A.L.</u>	DATE <u>2.9.80</u>		

THIS IS THE PLAN REFERRED TO IN ~~INTERIM~~ **PERMANENT CONSERVATION** ORDER No. 242.

N. S. W. GOVERNMENT GAZETTE No. 157 OF 19th November, 1982

SUBJECT LAND SHOWN THUS: 



Office of
Environment
& Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell

Client Service ID : 50214

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0397	Carrington Mines CM 44, same as 37-3-0392	AGD	56	311906	6412591	Open site	Valid	Artefact : -	Isolated Find	
	<u>Contact</u>	<u>Recorders</u>		ASRSYS				<u>Permits</u>		
37-3-0339	Cumnock South 2;	AGD	56	312780	6411510	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Ms.Jill Ruig				<u>Permits</u>		
37-2-0915	CUM-26;Ravensworth;	AGD	56	311790	6411010	Open site	Valid	Artefact : -	Open Camp Site	3984
	<u>Contact</u>	<u>Recorders</u>		Iain Stuart				<u>Permits</u>		
37-2-0917	CUM-28;Ravensworth;	AGD	56	311910	6411060	Open site	Valid	Artefact : -	Open Camp Site	3984
	<u>Contact</u>	<u>Recorders</u>		Iain Stuart				<u>Permits</u>		
37-3-0669	ND 5	AGD	56	312053	6413697	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		ERM-Thornton				<u>Permits</u>		
37-3-0638	ND 1	AGD	56	311960	6413690	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Mr.Andy Collis				<u>Permits</u>	2114	
37-3-0639	ND 2	AGD	56	312060	6413530	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Mr.Andy Collis				<u>Permits</u>	2114	
37-3-0640	ND 3	AGD	56	312050	6413630	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Mr.Andy Collis				<u>Permits</u>	2114	
37-3-0677	Newpac Stockpile IF 2	AGD	56	312865	6412701	Open site	Valid	Artefact : 1		99846
	<u>Contact</u>	<u>Recorders</u>		Austral Archaeology Pty Ltd				<u>Permits</u>	2385	
37-3-0678	Newpac Stockpile IF 3	AGD	56	312797	6412628	Open site	Valid	Artefact : 1		99846
	<u>Contact</u>	<u>Recorders</u>		Austral Archaeology Pty Ltd				<u>Permits</u>	2385	
37-2-2213	AN3 (Energy Australia)	GDA	56	311726	6418781	Open site	Valid	Artefact : 33		100354
	<u>Contact</u>	<u>Recorders</u>		Umwelt (Australia) Pty Limited				<u>Permits</u>		
37-3-0738	Liddell Fines 1	AGD	56	312539	6414150	Open site	Destroyed	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>		Umwelt (Australia) Pty Limited				<u>Permits</u>	2896	
37-3-0739	LHP1	AGD	56	311960	6414330	Open site	Destroyed	Artefact : 3		
	<u>Contact</u>	<u>Recorders</u>		Umwelt (Australia) Pty Limited				<u>Permits</u>	2896	
37-3-0945	REA25	GDA	56	312982	6411346	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>		Umwelt (Australia) Pty Limited				<u>Permits</u>		
37-3-0340	Cumnock South 3;	AGD	56	312680	6411560	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>		Ms.Jill Ruig				<u>Permits</u>		
37-2-0914	CUM-25;Ravensworth;	AGD	56	311780	6411200	Open site	Valid	Artefact : -	Open Camp Site	3984
	<u>Contact</u>	<u>Recorders</u>		Iain Stuart				<u>Permits</u>		

Report generated by AHIMS Web Service on 30/08/2011 for Jodie Benton for the following area at Datum :GDA, Zone : 56, Eastings : 311000 - 313000, Northings : 6411000 - 6420000 with a Buffer of 50 meters.Additional Info : EIS. Number of Aboriginal sites and Aboriginal objects found is 64

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell

Client Service ID : 50214

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-2-0916	CUM-27;Ravensworth;	AGD	56	311850	6410990	Open site	Valid	Artefact : -	Open Camp Site	3984
	Contact	Recorders	Iain Stuart					Permits		
37-3-0709	AN1 (Liddell Mine)	GDA	56	312884	6417959	Open site	Valid	Artefact : 1		100354
	Contact Searle	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0641	ND 4	AGD	56	312040	6413690	Open site	Valid	Artefact : -		
	Contact T Russell	Recorders	Mr.Andy Collis					Permits	2114	
37-2-3917	REA22	GDA	56	311957	6411226	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0947	REA28	GDA	56	312461	6411225	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0338	Cumnock South 1;	AGD	56	312670	6411600	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Ms.Jill Ruig					Permits		
37-2-0924	CUM-38;Ravensworth;	AGD	56	311800	6411100	Open site	Valid	Artefact : -	Open Camp Site	3984
	Contact	Recorders	Iain Stuart					Permits		
37-2-0910	CUM-21;Ravensworth;	AGD	56	311080	6411270	Open site	Valid	Artefact : -	Isolated Find	3984
	Contact	Recorders	Iain Stuart					Permits		
37-3-0676	Newpac Stockpile IF 1	AGD	56	312687	6412825	Open site	Valid	Artefact : 1		99846
	Contact Searle	Recorders	Austral Archaeology Pty Ltd					Permits	2385	
37-2-3914	REA13	GDA	56	311807	6411479	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-2-3916	REA21	GDA	56	312037	6411339	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-2-3918	REA26	GDA	56	311875	6411179	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0948	REA31	GDA	56	312368	6411018	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0391	Carrington Mine CM 43	AGD	56	312022	6412566	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	Mrs.Angela Besant					Permits		
37-3-0337	Cumnock South 4;	AGD	56	312530	6411430	Open site	Valid	Artefact : -	Isolated Find	
	Contact	Recorders	Ms.Jill Ruig					Permits		
37-3-0273	Cumnock South	AGD	56	311250	6411300	Open site	Valid	Artefact : -	Open Camp Site	2535,4525
	Contact	Recorders	Sue Effenberger					Permits	878	

Report generated by AHIMS Web Service on 30/08/2011 for Jodie Benton for the following area at Datum :GDA, Zone : 56, Eastings : 311000 - 313000, Northings : 6411000 - 6420000 with a Buffer of 50 meters.Additional Info : EIS. Number of Aboriginal sites and Aboriginal objects found is 64

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Office of
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& Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell

Client Service ID : 50214

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0053	Liddell Bayswater Creek.	AGD	56	312893	6413965	Open site	Valid	Artefact : -	Open Camp Site	138,391,4525,10088 6
	Contact	Recorders	ASRSYS					Permits		
37-2-0920	CUM-34;Ravensworth;	AGD	56	311800	6410900	Open site	Valid	Artefact : -	Isolated Find	3984
	Contact	Recorders	Iain Stuart					Permits		
37-3-0937	REA15	GDA	56	312538	6411476	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0944	REA24	GDA	56	312496	6411348	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-2-3920	REA30	GDA	56	312034	6411067	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0489	NARDELL DAM SITE (Nardell/Newpac Archaeological Deposit)	AGD	56	312430	6412350	Open site	Destroyed	Artefact : -		99844
	Contact	Recorders	Ray Fife, Victor Perry					Permits	2231,2384	
37-2-0543	Telecom site 3;	AGD	56	311600	6418700	Open site	Valid	Artefact : -	Open Camp Site	2032
	Contact	Recorders	S Davies,Davies Heritage Consultants Pty Ltd					Permits		
37-3-0192	Telecom site 4;	AGD	56	312800	6417900	Open site	Valid	Artefact : -	Isolated Find	2032
	Contact	Recorders	S Davies,Davies Heritage Consultants Pty Ltd					Permits		
37-3-0052	Liddell Bayswater Creek	AGD	56	312893	6413965	Open site	Valid	Artefact : -	Open Camp Site	138,391,1851,4525, 100666,100886
	Contact	Recorders	ASRSYS					Permits		
37-2-0921	CUM-35;Ravensworth;	AGD	56	311900	6410900	Open site	Valid	Artefact : -	Open Camp Site	3984
	Contact	Recorders	Iain Stuart					Permits		
37-2-2214	AN4 (Energy Australia)	GDA	56	311670	6418816	Open site	Valid	Artefact : 2		100354
	Contact Searle	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-2-2216	AN6 (Energy Australia)	GDA	56	311143	6419062	Open site	Valid	Artefact : 2		100354
	Contact Searle	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-2-3915	REA14	GDA	56	311770	6411473	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0938	REA16	GDA	56	312907	6411438	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0943	REA23	GDA	56	312081	6411271	Open site	Valid	Artefact : -		
	Contact	Recorders	Umwelt (Australia) Pty Limited					Permits		
37-3-0378	CUM-29;Ravensworth;	AGD	56	312620	6411180	Open site	Valid	Artefact : -	Open Camp Site	3984

Report generated by AHIMS Web Service on 30/08/2011 for Jodie Benton for the following area at Datum :GDA, Zone : 56, Eastings : 311000 - 313000, Northings : 6411000 - 6420000 with a Buffer of 50 meters.Additional Info : EIS. Number of Aboriginal sites and Aboriginal objects found is 64

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AHIMS Web Services (AWS)**Extensive search - Site list report**

Your Ref Number : Liddell

Client Service ID : 50214

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart					<u>Permits</u>		
37-2-1441	Liddell Coal;	AGD	56	311870	6414500	Open site	Valid	Artefact : -	Isolated Find	
	<u>Contact</u>	<u>Recorders</u>	Ms.Jill Ruig					<u>Permits</u>		
37-2-1442	Liddell Coal 1;	AGD	56	311870	6414470	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Ms.Jill Ruig					<u>Permits</u>		
37-2-0911	CUM-22;Ravensworth;	AGD	56	311120	6411140	Open site	Destroyed	Artefact : -	Open Camp Site	3984
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart					<u>Permits</u>	184	
37-2-0922	CUM-36;Ravensworth; same as 37-2-0923	AGD	56	311900	6411100	Open site	Valid	Artefact : -	Open Camp Site	3984
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart					<u>Permits</u>		
37-3-0674	Newpac Stockpile OS 1	AGD	56	312771	6412731	Open site	Valid	Artefact : 2		99846
	<u>Contact</u> Searle	<u>Recorders</u>	Austral Archaeology Pty Ltd					<u>Permits</u>	2385	
37-2-0912	CUM-23;Ravensworth;	AGD	56	311540	6411220	Open site	Valid	Artefact : -	Open Camp Site	3984
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart					<u>Permits</u>		
37-3-0936	REA12	GDA	56	312888	6411780	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0946	REA27	GDA	56	312142	6411191	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0055	Liddell;Bayswater Creek;	AGD	56	312800	6414055	Open site	Valid	Artefact : -	Open Camp Site	4525,100666,100886
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
37-2-0923	CUM-37;Ravensworth; same as 37-2-0922	AGD	56	311900	6411100	Open site	Valid	Artefact : -	Open Camp Site	3984
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart					<u>Permits</u>		
37-2-0913	CUM-24;Ravensworth;	AGD	56	311080	6411270	Open site	Destroyed	Artefact : -	Open Camp Site	3984
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart					<u>Permits</u>	184	
37-2-2215	AN5 (Energy Australia)	GDA	56	311642	6418872	Open site	Valid	Artefact : 3		100354
	<u>Contact</u> Searle	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-2-3919	REA29	GDA	56	312047	6411160	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-1126	REA254	GDA	56	312865	6413315	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-1127	REA255	GDA	56	313004	6413255	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0392	Carrington Mine CM 44, same as 37-3-0397	AGD	56	311906	6412591	Open site	Valid	Artefact : -	Isolated Find	

Report generated by AHIMS Web Service on 30/08/2011 for Jodie Benton for the following area at Datum :GDA, Zone : 56, Eastings : 311000 - 313000, Northings : 6411000 - 6420000 with a Buffer of 50 meters.Additional Info : EIS. Number of Aboriginal sites and Aboriginal objects found is 64

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell
Client Service ID : 50214

<u>SiteID</u>	<u>SiteName</u>	<u>Datum</u>	<u>Zone</u>	<u>Easting</u>	<u>Northing</u>	<u>Context</u>	<u>Site Status</u>	<u>SiteFeatures</u>	<u>SiteTypes</u>	<u>Reports</u>
	<u>Contact</u>	<u>Recorders</u>	Mrs.Angela Besant					<u>Permits</u>		

Report generated by AHIMS Web Service on 30/08/2011 for Jodie Benton for the following area at Datum :GDA, Zone : 56, Eastings : 311000 - 313000, Northings : 6411000 - 6420000 with a Buffer of 50 meters.Additional Info : EIS. Number of Aboriginal sites and Aboriginal objects found is 64

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Office of
Environment
& Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell

Client Service ID : 50217

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0336	Rail Facility 1	AGD	56	314600	6411910	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>									
37-3-0036	Ravensworth,Ravensworth B;	AGD	56	313744	6412518	Open site	Valid	Artefact : -	Open Camp Site	4525
	<u>Contact</u>									
37-3-0463	LID33	AGD	56	314795	6412208	Open site	Destroyed	Artefact : -		100666,100886
	<u>Contact</u>									
37-3-0464	LID32	AGD	56	314400	6412800	Open site	Destroyed	Artefact : -		100666,100886
	<u>Contact</u>									
37-3-0490	NARDELL -N1	AGD	56	313650	6412250	Open site	Valid	Artefact : -		
	<u>Contact</u>									
37-3-0491	NARDELL N2	AGD	56	314000	6412100	Open site	Valid	Artefact : -		
	<u>Contact</u>									
37-3-0492	NARDELL N4	AGD	56	313050	6412500	Open site	Valid	Artefact : -		
	<u>Contact</u>									
37-3-0493	NARDELL N5	AGD	56	313100	6412300	Open site	Valid	Artefact : -		
	<u>Contact</u>									
37-3-0797	Liddell EW 14	GDA	56	314359	6412006	Open site	Valid	Artefact : 5		101420
	<u>Contact</u>									
37-3-0677	Newpac Stockpile IF 2	AGD	56	312865	6412701	Open site	Valid	Artefact : 1		99846
	<u>Contact</u> Searle									
37-3-0744	York Creek 1	GDA	56	317334	6411165	Open site	Valid	Artefact : 6		
	<u>Contact</u>									
37-3-0754	York Creek 11	GDA	56	317676	6412252	Open site	Valid	Artefact : 9		
	<u>Contact</u>									
37-3-0758	York Creek 15	GDA	56	317743	6411011	Open site	Valid	Artefact : 7		
	<u>Contact</u>									
37-3-0759	York Creek 16	GDA	56	317721	6411306	Open site	Valid	Artefact : 2		
	<u>Contact</u>									
37-3-0768	Bowmans Ck_13	GDA	56	315982	6412940	Open site	Valid	Artefact : 5		
	<u>Contact</u>									
37-3-0770	Bowmans Ck 11	GDA	56	315824	6412493	Open site	Valid	Artefact : 50		
	<u>Contact</u>									

Report generated by AHIMS Web Service on 30/08/2011 for Jodie Benton for the following area at Datum :GDA, Zone : 56, Eastings : 313000 - 318000, Northings : 6411000 - 6413000 with a Buffer of 50 meters.Additional Info : EIS. Number of Aboriginal sites and Aboriginal objects found is 75

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell

Client Service ID : 50217

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0772	Bowmans Ck 16	GDA	56	316359	6411486	Open site	Valid	Art (Pigment or Engraved) : 1		
	Contact									Permits
37-3-0927	REA3	GDA	56	314506	6412193	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-0931	REA7	GDA	56	314103	6412041	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-0939	REA17	GDA	56	313112	6411446	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-0941	REA19	GDA	56	314276	6411580	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-0945	REA25	GDA	56	312982	6411346	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-1124	REA252	GDA	56	314239	6411422	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-1128	REA256	GDA	56	313859	6412438	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-1130	REA258	GDA	56	314332	6411699	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-0037	Ravensworth;Ravensworth A;	AGD	56	314658	6412535	Open site	Valid	Artefact : -	Open Camp Site	
	Contact									Permits
37-3-0686	Bowmans Ck 13	AGD	56	315877	6412751	Open site	Valid	Artefact : 5		
	Contact T Russell									Permits
37-3-0747	York Creek 4	GDA	56	317267	6411131	Open site	Valid	Artefact : 12		
	Contact									Permits
37-3-0755	York Creek 12	GDA	56	317740	6412390	Open site	Valid	Artefact : 3		
	Contact									Permits
37-3-0765	Bowmans Ck 9	GDA	56	316878	6412410	Open site	Valid	Artefact : 2		
	Contact									Permits
37-3-0932	REA8	GDA	56	314085	6412031	Open site	Valid	Artefact : -		
	Contact									Permits
37-3-0934	REA10	GDA	56	313886	6411821	Open site	Valid	Artefact : -		
	Contact									Permits

Report generated by AHIMS Web Service on 30/08/2011 for Jodie Benton for the following area at Datum :GDA, Zone : 56, Eastings : 313000 - 318000, Northings : 6411000 - 6413000 with a Buffer of 50 meters.Additional Info : EIS. Number of Aboriginal sites and Aboriginal objects found is 75

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Office of
Environment
& Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell

Client Service ID : 50217

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-1129	REA257	GDA	56	314026	6411356	Open site	Valid	Artefact : -		
	Contact									
37-3-0590	MG#3	AGD	56	316473	6410951	Open site	Valid	Artefact : -		99021
	Contact									
37-3-0749	York Creek 6	GDA	56	317377	6411583	Open site	Valid	Artefact : 5		
	Contact									
37-3-1131	REA259	GDA	56	314311	6411700	Open site	Valid	Artefact : -		
	Contact									
37-3-0795	Newdell Junction (NJ1)	GDA	56	315966	6411656	Open site	Valid	Artefact : 10		
	Contact									
37-3-0750	York Creek 7	GDA	56	317378	6411979	Open site	Valid	Artefact : 18		
	Contact									
37-3-0751	York Creek 8	GDA	56	317392	6411616	Open site	Valid	Artefact : 1		
	Contact									
37-3-0926	REA2	GDA	56	314754	6412273	Open site	Valid	Artefact : -		
	Contact									
37-3-0930	REA6	GDA	56	314073	6412039	Open site	Valid	Artefact : -		
	Contact									
37-3-0940	REA18	GDA	56	314202	6411536	Open site	Valid	Artefact : -		
	Contact									
37-3-1155	MT OWEN ISOLATED FIND2	GDA	56	317854	6411236	Open site	Valid	Artefact : 1		
	Contact									
37-3-0560	Nard 8, same as 37-3-0292	AGD	56	313903	6412307	Open site	Valid	Artefact : -		
	Contact									
37-3-0522	Nard 11	AGD	56	313675	6412400	Open site	Destroyed	Artefact : -		
	Contact									
37-3-0341	Rail Facility 2	AGD	56	314450	6412150	Open site	Valid	Artefact : -		
	Contact									
37-3-0688	G12	AGD	56	315700	6412500	Open site	Valid	Artefact : -		
	Contact T Russell									
37-3-0753	York Creek 10	GDA	56	317759	6412075	Open site	Valid	Artefact : 7		
	Contact									

Report generated by AHIMS Web Service on 30/08/2011 for Jodie Benton for the following area at Datum : GDA, Zone : 56, Eastings : 313000 - 318000, Northings : 6411000 - 6413000 with a Buffer of 50 meters. Additional Info : EIS. Number of Aboriginal sites and Aboriginal objects found is 75

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell

Client Service ID : 50217

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0933	REA9	GDA	56	314316	6411847	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0935	REA11	GDA	56	314243	6411762	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0950	REA33	GDA	56	317104	6411125	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0193	Telecom site 5; same as 37-3-0462	AGD	56	316000	6411500	Open site	Valid	Artefact : -	Open Camp Site	2032,100666
	<u>Contact</u>	<u>Recorders</u>	S Davies,Davies Heritage Consultants Pty Ltd					<u>Permits</u>		
37-3-0028	Liddell Bayswater Creek	AGD	56	313740	6412701	Open site	Valid	Artefact : -	Open Camp Site	165,4525
	<u>Contact</u>	<u>Recorders</u>	ASRSYS					<u>Permits</u>		
37-3-0760	York Creek 17	GDA	56	317449	6411306	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
37-3-0761	York Creek 18	GDA	56	317606	6411967	Open site	Valid	Artefact : 1		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
37-3-0764	Bowmans Ck 8	GDA	56	317205	6412329	Open site	Valid	Artefact : 4		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
37-3-0766	Bowmans Ck 10	GDA	56	316833	6412566	Open site	Valid	Artefact : 7		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
37-3-0767	Bowmans Ck 12	GDA	56	315581	6412437	Open site	Valid	Artefact : 2		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson					<u>Permits</u>		
37-3-0925	REA1	GDA	56	315410	6412344	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0929	REA5	GDA	56	314065	6412053	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-1123	REA251	GDA	56	314083	6411495	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-1125	REA253	GDA	56	313835	6411790	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0462	Davies Site 5, same as 37-3-0193	AGD	56	316000	6411500	Open site	Valid	Artefact : 60		100666
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited					<u>Permits</u>		
37-3-0561	Nard 9	AGD	56	313834	6412483	Open site	Destroyed	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart					<u>Permits</u>		

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Office of
Environment
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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : Liddell

Client Service ID : 50217

SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
37-3-0523	Nard 12	AGD	56	313590	6412450	Open site	Destroyed	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited							
								<u>Permits</u>	1414	
37-3-0796	Liddell EW 13	GDA	56	314359	6412006	Open site	Valid	Artefact : 1		101420
	<u>Contact</u>	<u>Recorders</u>	Insite Heritage Pty Ltd							
								<u>Permits</u>		
37-3-0675	Newpac Stockpile OS 2	AGD	56	312985	6412575	Open site	Valid	Artefact : 4		99846
	<u>Contact</u> Searle	<u>Recorders</u>	Austral Archaeology Pty Ltd							
								<u>Permits</u>	2385	
37-3-0748	York Creek 5	GDA	56	317259	6411280	Open site	Valid	Artefact : 16		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson							
								<u>Permits</u>		
37-3-0752	York Creek 9	GDA	56	317579	6411121	Open site	Valid	Artefact : 6		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson							
								<u>Permits</u>		
37-3-0771	Bowmans Ck 15	GDA	56	315825	6412677	Open site	Valid	Artefact : 55		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson							
								<u>Permits</u>		
37-3-0928	REA4	GDA	56	316119	6412162	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited							
								<u>Permits</u>		
37-3-0942	REA20	GDA	56	314213	6411498	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited							
								<u>Permits</u>		
37-3-0949	REA32	GDA	56	313131	6411007	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Umwelt (Australia) Pty Limited							
								<u>Permits</u>		
37-3-0292	Nard 8; same as 37-3-0560	AGD	56	313903	6412307	Open site	Valid	Artefact : -	Open Camp Site	
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart							
								<u>Permits</u>		
37-3-0470	Nard 13	AGD	56	313560	6412510	Open site	Destroyed	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Iain Stuart							
								<u>Permits</u>	1362,1363	

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APPENDIX 3: ABORIGINAL COMMUNITY CORRESPONDENCE / MEETING MINUTES

Sample EOI advertisement which appeared in the Singleton Argus and Hunter Valley News.

OzArk Environmental & Heritage Management P/L

Is seeking Expressions of Interest from relevant Aboriginal groups or individuals interested in being consulted regarding the cultural heritage evaluation for the proposed open cut extension at Liddell Colliery, Ravensworth in the Upper Hunter Valley, NSW. This cultural heritage assessment will assist Liddell Coal Operations (LCO) to identify and manage any cultural heritage present which has the potential to be impacted by the extension.

If you hold cultural knowledge relevant to determining the cultural significance of Aboriginal objects or places in the proposed Study Area, please register your interest by fax: 02 6882 0630, post: OzArk EHM PO Box 2069 Dubbo NSW 2830, or by phoning OzArk between 9.00am and 5.00pm week days on 02 6882 0118.

All submissions should be received no later than 5pm on **Wednesday 1st June 2011.**

Correspondence to Agencies seeking knowledge of Aboriginal groups / individuals in Study Area.

12th May 2011

Attn: Aboriginal Heritage Officer
OE&H – North East Branch
Locked Bag 914
Coffs Harbour NSW 2450

Dear Sir / Madam

Re: Aboriginal Heritage Assessment for the proposed modification to DA 305-11-01, Liddell Colliery, Ravensworth.

OzArk Environmental & Heritage Management P/L is seeking knowledge of any Aboriginal groups, stakeholders or traditional knowledge holders in the Hunter Valley area with an interest in the management of Indigenous heritage matters.

We are currently undertaking Indigenous heritage consultation as per the OE&H “*Aboriginal cultural heritage consultation requirements for proponents 2010*”, for a proposed modification to development consent DA 305-11-01 to allow for the expansion of open cut mining activities at Liddell Colliery, Ravensworth (see Study Area illustrated in **Figure 1**).

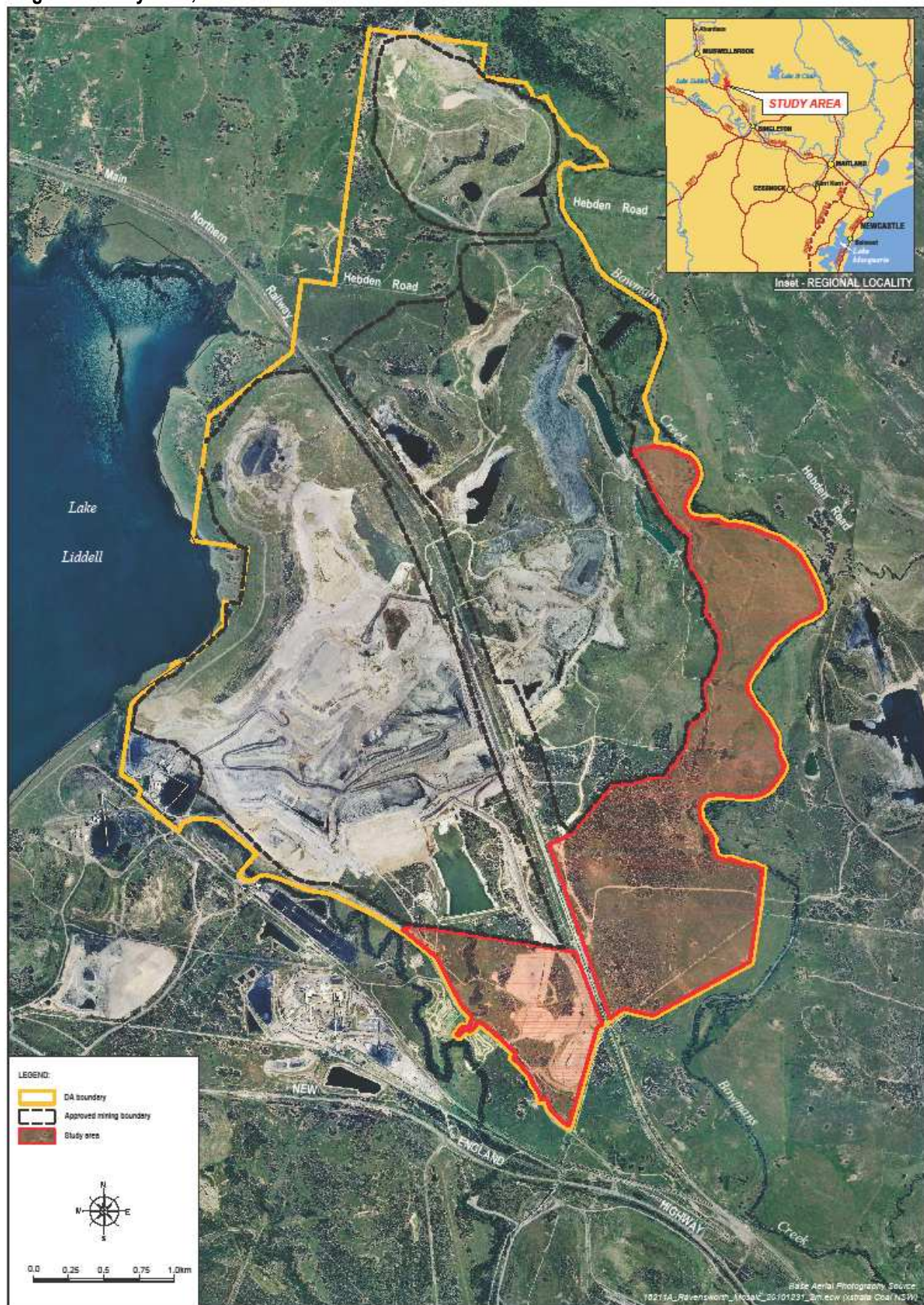
Liddell Colliery is located in the Upper Hunter region, approximately 25 km northwest of Singleton. If OE&H can recommend and provide contact details for any known Aboriginal groups with a cultural interest in this area we can then include them in the consultation process with regard to potential Indigenous heritage issues.

We would appreciate it if you could provide any feedback regarding these Indigenous stakeholder groups by **Wednesday 1st June 2011**.

Yours truly

Cheryl Burke
Administration Officer

Figure 1. Study Area, delineated in red.



V:\XCN07-014\Figures\Enrto\Fig1_XCN07-014_Development Consent_110512.dwg
To be printed A3



Liddell Coal Operations
Development Consent Modification

FIGURE 1

Correspondence to Indigenous groups / individuals in Study Area advising of project.

12th May 2011

Members – Wanaruah LALC
c/- Mr N Downes
PO Box 127
Muswellbrook NSW 2333

Dear Noel

Re: Aboriginal heritage assessment – proposed modification to Development Consent DA 305-11-01, Liddell Colliery, Ravensworth.

OzArk Environmental & Heritage Management P/L is currently seeking Expressions of Interest from relevant Aboriginal Groups and individuals in the Upper Hunter Valley area, to form a consultation group to assist in the cultural heritage evaluation for the above mentioned project.

Wanaruah LALC has previously been listed as a Registered Stakeholder group and has been consulted over potential Indigenous heritage issues relating to previous modifications to DA 305-11-01 at Liddell Colliery, Ravensworth. Liddell Coal Operations (LCO) is proposing to seek further approval for a modification to the existing development consent to allow for the extension of open cut mining operations (see Study Area illustrated in **Figure 1**).

The closing date for expressions of interest for this project will be the **Wednesday 1st June 2011**. WLALC is asked to contact our office to acknowledge receipt of this correspondence and formally confirm your interest in the current project.

Further, if WLALC can recommend any other Indigenous groups with a cultural heritage interest in this area we would appreciate their details so that we may liaise with them. Once relevant groups and individuals have been identified, they will form part of the formal consultation and evaluation process for the project.

If your organisation wishes to register interest it is noteworthy that as per the Office of Environment & Heritage (OE&H) guidelines we are required to provide your details to the OE&H unless advised you do not wish your details to be released.

Yours truly

Cheryl Burke
Administration Officer

Responses from Agencies / Registered Aboriginal Parties.



Office of
Environment
& Heritage

Our reference: DOC11/23118
Date: 31 May 2011

Ms Cheryl Burke
OzArk
PO Box 2069
DUBBO NSW 2830

Dear Ms Burke

RE: ABORIGINAL HERITAGE ASSESSMENT FOR THE PROPOSED MODIFICATION TO DA305-11-01, LIDDELL COLLIERY, RAVENSWORTH, NSW

I refer to your correspondence, dated 12 May 2011, to the Office of Environment and Heritage (OEH) for your project located within Singleton and Muswellbrook LGAs and described as Aboriginal heritage assessment for the proposed modification to DA305-11-01, Liddell Colliery, Ravensworth, NSW.

Please find attached a list of known Aboriginal parties that OEH considers is likely to have an interest in your development. I note this is not necessarily an exhaustive list of all interested Aboriginal parties. Receipt of this list does not remove the requirement for a proponent/consultant to advertise the proposal in the local print media and contact other bodies and community groups seeking interested Aboriginal parties, in accordance with *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (CRs)*.

OEH would also like to take this opportunity to remind the proponent and consultant of a number of key issues we have been encountering recently. These include:

- Please ensure the project documents the full consultation process in the Aboriginal cultural heritage assessment report or Aboriginal Heritage Impact Permit application and to include copies of all correspondence sent or received from all relevant stakeholders (including Aboriginal stakeholders and the agencies listed in section 4.1.2). *Omission of these records in the final report may cause delays in approval or require parts of the consultation process to be repeated if the evidence provided to OEH does not demonstrate that the consultation process has been fair, equitable and transparent.*
- *Unless OEH is provided with evidence that reasonable attempts have been made to contact the relevant parties associated with the CRs, then OEH will deem that the consultation process has not been complied with.*
- OEH considers evidence of reasonable efforts to contact relevant parties would include, but not be limited to, multiple forms of communication; faxes (with confirmation slips demonstrating successful transmission), an e-mail log, registered post details, copies of letters and a phone call log.

The Department of Environment, Climate Change and Water is now known as the
Office of Environment and Heritage, Department of Premier and Cabinet

Locked Bag 914, Coffs Harbour NSW 2450
Federation House Level 7, 24 Moonee Street,
Coffs Harbour NSW 2450
Tel: (02) 6651 5946 Fax: (02) 6651 6187
ABN 30 841 387 271
www.environment.nsw.gov.au

- *Please note Appendix A of the 2010 CRs contains a map illustrating which region of OEH you need to contact according to which local government area your project falls within. Full details of the consultation requirements and the relevant Fact Sheets can be located on our website at: <http://www.environment.nsw.gov.au/licences/consultation.htm>.*
- *If you encounter any changes to the contact details of interested Aboriginal parties, or become aware of additional parties, we encourage you to forward this information to OEH so we can update our records.*
- *Consultation must be fair, equitable and transparent. If the Aboriginal parties express concern or are opposed to parts or all of your project, OEH expects that evidence will be provided to demonstrate the efforts made to find common ground between the two perspectives.*

If you have any further questions regarding this matter, please contact me on (02) 66598221.

Yours sincerely



ROSALIE NEVE
Aboriginal Heritage Panning Officer
Environment Protection & Regulation Group
Office of Environment and Heritage
Department of Premier and Cabinet

Enclosure:

1. Aboriginal Native Title Elders Consultants,
Margaret Matthews
16a Mahogany St
Muswellbrook NSW 2333
0417 725 956
2. Black Creek Aboriginal Corporation,
Tracey White
PO Box 168
KURRI KURRI NSW 2327 (02) 4990 6747
blackcreek@idl.net.au
3. Bullen Bullen,
Lloyd Mathews
16B Mahogany Avenue
Muswellbrook NSW 2333
4. Cacatua Culture Consultants,
Donna Sampson
22 Ibis Parade
Woodberry NSW 2322
(02) 4964 4685
cacatua@resetsl.net.au
5. Carrawonga Consultants,
Cheryl Moodie & Justin Matthews
11 Coolibah Close
Muswellbrook NSW 2333
0411 958 511
6. Culturally Aware,
Tracey Skene
7 Crawford Place
Millfield NSW 2325
0458 983 941
anigunya@hotmail.com
7. Gidawaa Walang & Barkuma Neighbourhood Centre Inc. ,
Debbie Dacey-Sullivan
76 Lang Street
Kurri Kurri NSW 2327
(02) 4937 1094
0411 196 991
barkuma@hotmail.com
8. Giwiirr Consultants,
Michele Stair
8 Fitzgerald Avenue
Muswellbrook NSW 2333
(02) 6541 0506
0421 434 590

9. Hunter Traditional Owner,
Paulette Ryan
14 Barton Avenue
SINGLETON HEIGHTS
6574 4906
0432 672 273
10. Hunter Valley Aboriginal Corporation,
Rhonda Griffiths
PO Box 579
Muswellbrook NSW 2333
11. Hunter Valley Cultural Consultants,
Christine Matthews
40 Humphries Street
Muswellbrook NSW 2333
0438 390 882
12. Hunter Valley Natural & Cultural Resources,
David French
10 Mill Street
Muswellbrook NSW 2333
Ungooroo Aboriginal Corporation
13. Kayaway ,
Mark Hickey
6/20-22 Government Road
Thornton NSW 232
0423829335
kayaway@rocketmail.com
14. Lower Hunter Wonnarua Council Inc,
Lea-Anne Ball / Uncle Tommy Miller
51 Bowden Street
HEDDON GRETA NSW 2321
4937 2694
0447 266 590 (LM) lea-anne.ball@bigpond.com or
0402 636 521 tn.miller@bigpond.com
15. Mindaribba Local Aboriginal Land Council,
PO Box 401
EAST MAITLAND NSW 2323
(02) 4934 8511
16. Lower Wonnaruah Tribal Consultancy Pty Ltd,
Barry Anderson
156 The Inlet Road
Bulga NSW 2330
0417 403 153
barry156@bigpond.com
17. Mingga Consultants,

- Clifford Matthews
11 Coolibah Close
Muswellbrook NSW 2333
(02) 6541 0751
0413 091 527
18. Muswellbrook Cultural Consultants,
Brian Horton
10 Scott street
Muswellbrook NSW 2333
19. St Clair Singleton Aboriginal Corporation
Cultural Heritage Officer
PO Box 710
SINGLETON NSW 2330
20. Ungooroo Aboriginal Corporation
PO Box 3095
Singleton NSW 2330
(02) 6571 5111
ungooroo@bigpond.com
21. Ungooroo Cultural & Community Services,
Rhonda Ward
8 Blaxland Avenue
Singleton NSW 2330
0450 754 199
ungooroo59@hotmail.com
22. Upper Hunter Heritage Consultants,
Melissa & Darrel Matthews
14 Edinglassie Ave
Muswellbrook NSW 2333
(02) 6541 3532
0439 556 641
23. Upper Hunter Wonnarua Council Inc,
Rhoda Perry
17/174 John Street
Singleton NSW 2330
(02) 6572 1889
24. Valley Culture,
Larry Van Vliet
140 Sydney Street
Muswellbrook NSW 2333
25. Wanaruah Custodians,
Barbara Foot
35 Acacia Circuit
Singleton NSW 2330
6573 1712

0421 151 650

26. Wattaka Wonnarua C.C. Service,
Des Hickey
4 Kennedy Street
Singleton NSW 2330
(02) 6573 3786
0432 977 178
deshickey@bigpond.com
27. Widescope Indigenous Group Pty Ltd
Amanda Hickey
73 Russell St
EMU PLAINS NSW 2750
28. Wonn1 Contracting,
Arthur Fletcher
619 Main Road
Glendale NSW 2285
(02) 4954 7751
0402 146 193
Wonn1sites@gmail.com
29. Wonnarua Culture Heritage,
Gordon Griffiths
19 O'Donnell Crescent
Melford NSW 2323
(02) 4934 6437
0401 028 807
30. Wonnarua Nation Aboriginal Corporation,
Laurie Perry
PO Box 3066
Singleton NSW 2330
(02) 6571 5419
31. Wonnaruah Elders Council,
Uncle Tommy Miller
PO Box 184
Singleton NSW 2330
32. Yarrawalk (A division of TOCOMWALL PTY LTD),
Scott Franks
Po Box 76
CARINGBAH NSW 1495
0404 171 544
yarrawalk@tpg.com.au
33. Yinarr Cultural Services,
Kathleen Steward
111 Westwood Road
GUNGAL NSW 2333

02 6547 6077
0432 720 623
kathleen.steward@bigpond.com yinarrculturalservices@bigpond.com



11-13 Mannfield Street
Glebe NSW 2037
PO Box 111, Glebe NSW 2037
T 02 9556 6321 F 02 9556 6320

Cheryl Burke
OZARK ENVIRONMENTAL MANAGEMENT
PO Box 2069
Dubbo NSW 2830

Dear Cheryl

Re: Request - Search for Registered Aboriginal Owners

I refer to your letter dated 12th May 2011 regarding an Aboriginal Stakeholders in Ravensworth Hunter Valley area, NSW.

I have searched the Register of Aboriginal Owners and the project area described does not have Registered Aboriginal Owners pursuant to Division 3 of the *Aboriginal Land Rights Act 1983* (NSW).

I suggest you contact the Wanaruah Local Aboriginal Land Council. They may also be able to assist you in identifying other Aboriginal stakeholders for this project.

Yours sincerely

Tabatha Dantoine
Administration Officer
Office of the Registrar, *Aboriginal Land Rights Act* (1983)

16 May 2011



National
Native Title
Tribunal



16 May 2011

Cheryl Burke
OzArk Environment & Heritage Management P/L
PO Box 2069
DUBBO NSW 2830

**New South Wales and
Australian Capital Territory
Registry**

Level 25, 25 Bligh Street
Sydney NSW 2000
GPO Box 9973
Sydney NSW 2000
Telephone (02) 9227 4000
Facsimile (02) 9227 4030

Our Reference: 4274/11KW
Your Reference: Liddell Colliery

Dear Ms Burke

Native Title Search Results of Muswellbrook and Singleton Local Government Areas

Thank you for your letter of 12 May 2011.

My search on 16 May 2011 found:

Singleton:

Register Type	NNTT Reference Numbers
National Native Title Register	Nil.
Register of Native Title Claims	NC10/3
Unregistered Claimant applications	NC10/2
Register of Indigenous Land Use Agreements	Nil.

Muswellbrook:

Register Type	NNTT Reference Numbers
National Native Title Register	Nil.
Register of Native Title Claims	Nil.
Unregistered Claimant applications	Nil.
Register of Indigenous Land Use Agreements	Nil.

I have included a register extract, application summary, map attachments and a NNTT Registers fact sheet to help you understand the search result.

Please note that there may be a delay between a native title determination application being lodged in the Federal Court and its transfer to the Tribunal. As a result, some native title determination applications recently filed in the Federal Court may not appear on the Tribunal's databases.

Resolution of native title issues over land and waters.

Freecall 1800 640 501
www.nntt.gov.au

If you need more information please call me on 1800 640 501.

Yours sincerely



Kimberley Wilson
Search Co-ordinator

Telephone (02) 9235 6328

Facsimile (02) 9233 5613

Email Kimberley.wilson@nntt.gov.au

Encl



Cacatua Culture Consultants

Entity of Cacatua Pty Ltd ABN: 87 145 982 480 ACN: 145 982 480

26 May 2011

OzArk Environmental &
Heritage Management P/L
PO Box 2069
DUBBO NSW 2830

RE: **Culture Heritage Assessment for Liddell Coal Operations
extension area**

Cheryl,

We would like to express our interest in being involved in the above
Proposed Culture Heritage Assessment for Liddell Coal Operations
extension area that was advertised in the Singleton local paper.

Cacatua Consulting is an Aboriginal owned consulting business born out
of concerns and aspirations to advocate for best practice cultural heritage
conservation management. Our aim is to assist proponents and
Archaeologists to undertake cultural heritage archaeological assessment
according with CHMA and AHIP processes and approved conditions.
We aim to provide both quality Aboriginal cultural heritage assessment
works and reporting while ensuring compliance to work specific
practices.

Our Organisation is fully insured and registered with DECC/EPRG. Our
staff has undertaken work on all types of sites. Attached are copies of our
insurances. Please do not hesitate to contact us if you require more
information.

Yours truly



Donna Sampson
Administration

Email: cacatua@resetsl.net.au

UNIT 1b, 11 Glenwood Drive THORNTON NSW 2322	Ph: 02 4028 6942	Fax: 02 4028 6943
65 Jaeger Avenue, GUNNEDAH NSW 2380	Mob: 0403 765 019	Fax: 02 6742 1491
22 Ibis Parade WOODBERRY NSW 2322	Ph: 02 4964 4685	Fax: 02 4964 4635

24.05.2011 09:17 AM

PAGE. 1/ 1

HUNTER VALLEY ABORIGINAL CORPORATION

180-182 Bridge Street
P.O. Box 579
Muswellbrook NSW 2333



Phone: 02-65431180
Fax: 02-65431106
E-mail: h973809@bigpond.net.au
ABN: 78127059847

To
OzArk Environmental & Heritage Management Pty.
PO Box 2069
DUBBO NSW 2830
Dated:24/05/11

The Hunter Valley Aboriginal Corporation Muswellbrook would like to express their interest in the proposed open cut extension at Liddell Colliery Ravensworth.

We have suitable people with knowledge to determine the cultural significance of Aboriginal objects and places.

Yours Sincerely

Elaine Freihaut
Office Manager

A handwritten signature in cursive script, appearing to read 'Elaine Freihaut', written over a horizontal line.

On behalf of the Hunter Valley Aboriginal Corporation Muswellbrook



Building a positive future



Widescope Indigenous Group Pty Ltd
ACN : 141 530 289 ABN : 99141530289
Contact : Amanda Hickey
Address H/O: 73 Russell St, Emu Plains NSW 2750
E-mail : Widescope.group@live.com
Mobile : 0434 480 558

Tuesday, June 14, 2011
Primary Contact Person
Dear, OzArk

Thank you for your consideration, Widescope would like to register their interest to participate in the process of determining the cultural significance of Aboriginal objects and places in a Aboriginal Heritage assessment and land survey.

Widescope Indigenous Group Pty Ltd.
Directors:
Steven Hickey
Carolyn Hickey
Amanda Hickey

Widescope Indigenous Group is a 100% Indigenous, and also a family owned company .Widescopes founders are traditional owners of the hunter valley, they are direct descendants of the native peoples (Wonnarua) who have resided and reside in the hunter valley. The experience Widescope will bring to this process is 6 traditional owners, working together, combining there skills and cultural knowledge that has been pasted down through generations, Widescope also employs local indigenous people from the hunter valley.

Steven Hickey, one of widescopes directors has being involved and worked in aboriginal heritage assessments and land survey for over 20 years. If widescope is asked to complete survey works, Steven will be leading the widescope team.

Luke Hickey, one of widescopes employees, has also being involved in aboriginal heritage assessments and land survey for over 20 years. First starting in the Western Suburbs of NSW then working in the hunter region.

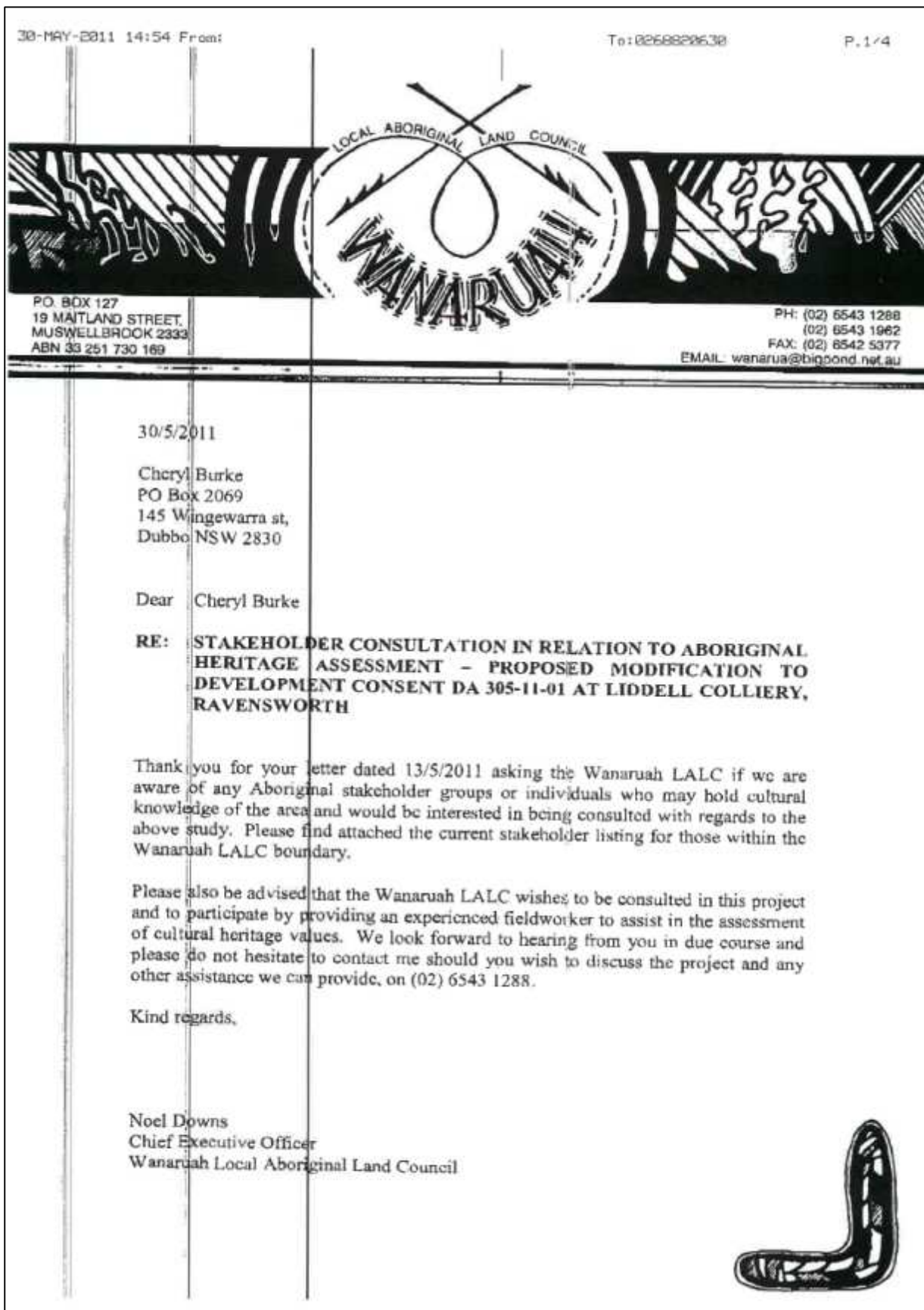
Experience We Would Bring to This Process.
Widescopes experience has been in many different areas within the
Mining and Construction industry.

Archaeological
■ Cultural and Heritage
 ■ Surveys
 ■ Site monitoring
 ■ General Labour

If Widescope Indigenous group is selected to be involved in any survey process, all Insurances are Attached.

Please feel free to contact us on the details supplied above, We look forward to hearing from you.

Thank you
Carolyn Hickey
Managing Director





Wattaka Wonnarua TO-Des Hickey Manager

Ph: 0432977178 Fax: 02,65712609

4 Kennedy St Singleton NSW 2330

ABN-57914734912- BN98444164

email-desickey@bigpond.com.au

18/5/2011

To: OzArk Environmental & Heritage Management

Ph:02 0403763504

Fax: 02 6882 0630

**Subject: Aboriginal heritage assessment-proposed modification to development consent
DA 105=11-01, Liddell Colliery Ravenworth.**

Attn: Cheryl Burke Administration

Dear Cheryl

**I received your letter dated the 12/5/2011 concerning the above said project.
Wattaka wish to register our interest in this project.**

Yours sincerely

**Des Hickey
Manager WWCCS**

01 Jun 11 09:31a Arthur Fletcher

0249547751

p.1

Wonn 1 Contracting

Arthur Fletcher
Field worker

Tuesday 31 May 2011.

Attn: Cheryl Bourke
Administration Officer
OzArk Environmental & Heritage Management Pty Ltd.

Dear Cheryl ,

Re: Aboriginal heritage assessment - proposed modification to Development consent DA
305-11- 01, Liddell Colliery, Ravensworth.

I would like to express my interest in the above study as a fieldworker and as an aboriginal consultant for the aforementioned project. I am a local Aboriginal man of Gringai - Wonnarua decent who has a continued vested cultural interest in the area and would like to participate in any discussion ,work , consultation that occurs in connection to the project.

You can contact me on my mobile 0402141623

Fax /phone (02) 49547751
email: wonn1sites@gmail.com

Yours Sincerely,

a. c. Fletcher.

Arthur Fletcher
Fieldworker Wonn1 Contracting



Yinarr Cultural Services
*Discover **Preserve** **Protect***

20th May 2011

OzArk Environmental & Heritage Management P/L (EHM)
P.O. Box 2069
DUBBO NSW 2830
(Sent by Fax: 0268 820630)

To whom it may concern,

**RE: Cultural Heritage Evaluation for the Proposed Open Cut Extension at
Liddell Colliery, Ravensworth in the Upper Hunter Valley, NSW**

Yinarr Cultural Services accepts your invitation to express its interest for Cultural Heritage Evaluation for the Proposed Open Cut Extension at Liddell Colliery, Ravensworth in the Hunter Valley, NSW as well being consulted and placed on the Aboriginal Stakeholder Register with OzArk Environmental & Heritage Management P/L (EHM) and for future works that may arise.

I have pleasure in forwarding an application to be listed as a register stakeholder as a traditional owner. I do so because I am an aboriginal person who continues to maintain a deep respect for their ancestral belief system and traditional lore and custom who recognises my responsibilities and obligations to protect and conserve our culture and heritage and I care for my traditional lands or country. I have the trust of my community, knowledge and understanding of my culture.

Ms Kathie Kinchela is a very knowledgeable woman who has been involved with numerous fieldwork jobs carried out by Yinarr Cultural Services and numerous other Aboriginal cultural groups that she has worked for. Some of the fieldwork that Kathie has been involved with include Anvil Hill Project, Bulga Project, Ashton Coal, Xstrata Mangoola, Liddell Coal Operations, Bayswater, Mt Arthur, Mt Penny and Ravensworth Operations Muswellbrook Coal just to mention a few. Kathie has also worked along side with Umwelt, Hansen Bailey, GSS Environmental, Wells Environmental Services, ENSR/ECOM, Insite Heritage, and Coal and Allied.

As a registered and confirmed Aboriginal Stakeholder of Wonnarua, Kamilaroi and Gundagurra, Kathie has been living in the community all her life and is acknowledged by the Aboriginal community; Kathie also has experience working on various sites. Kathie is our skilled field officer who has current induction cards and is very fit and has been doing site work such as excavation work, grader scrapes, test pits, site surveys at various work sites for 18 years and is very experienced and is currently studying Indigenous Archaeology through UNE.

Yinarr Cultural Services aim is to preserve and protect items that are of significance to the Culture and Heritage of the Aboriginal people and as Aboriginal objects which may be affected, and Yinarr Cultural Services primary vision and aim is to discover, preserve and protect the aboriginal people and to protect the cultural heritage of our ancestors.

Please find enclosed Yinarr Cultural Services current and up to date insurance certificates. Our Company is fully insured and registered with DECC.

Yinarr Cultural Services site workers have all required PPE when working on site. We would also recommend that if possible we would like to be part of the artefact analysis within this project and when work is completed.

Kathie has completed a training course which was conducted and held by Mr. Glen Morris from National Parks and Wildlife. This involved such things as recognising artefacts, identifying artefacts, recording of artefacts and completing written reports on fieldwork completed including artefacts found and identified, what she believes to be the best outcome for the site surveyed. Kathie also has experience working on various sites if there was something Kathie wasn't sure about she is very grateful and willing to contact people such as Mr. Glen Morris to discuss things and have their input and assistance.

Kathie is reliable, punctual, is always actively involved with all work conducted, she is always keen to learn more and be involved more whenever possible. Kathie will openly admit if she is not sure about something or believes that it is not of her expertise or knowledge. Kathie is also a board member of Wanaruah Local Aboriginal Land Council (WLALC) and is active within the community

On all these grounds I believe that Kathie would be a very adequate person to participate in any works/jobs offered. Kathie is very friendly, outgoing, easy person to work with this alone is a great asset to any position filled.

Thank you once again for the opportunity and we look forward to working with you. Should you wish to discuss any of the above issues, please do not hesitate to contact me on 0265 476077 or 0432720623. I look forward in hearing from you.

Yours sincerely,

Kathleen Steward Kinchela
Stakeholder
Yinarr Cultural Services

Correspondence to OEH advising of Registered Aboriginal Parties (RAPs).



Environment & Heritage Management P/L
ABN: 59 104 582 354

28th July 2011

Ms R Neve
Aboriginal Heritage Planning Officer
O&H – North East Branch
Locked Bag 914
Coffs Harbour NSW 2450

Dear Rosalie

Re: Aboriginal Heritage Assessment for the proposed modification to DA 305-11-01, Liddell Colliery, Ravensworth.

As you are aware we have recently undertaken Indigenous heritage consultation as per the Office of Environment & Heritage (OEH) guidelines for the proposed *modification to DA 305-11-01, Liddell Colliery, Ravensworth.*

OzArk would like to advise, as per Section 4.1.6 of the ACHCR's, that the following organisations / individuals formally registered interest in the project and we are subsequently consulting with them about the proposed activity.

1. Cacatua Culture Consultants
2. Wattaka Wonnarua TO Services
3. Hunter Traditional Owners
4. Hunter Valley Aboriginal Corporation
5. Ungooroo Aboriginal Corporation
6. Ungooroo Cultural and Community Services
7. Widescope Indigenous Group P/L
8. Wanaruah LALC
9. Wonn1 Contracting Corporation
10. Wonnarua Culture Heritage
11. Wonnarua Nation Aboriginal Corporation
12. Yarrawalk Enterprises
13. Yinarr Cultural Services
14. Kayaway Eco Cultural & Heritage Services

Yours sincerely

Cheryl Burke
Administration Officer

OZARK ENVIRONMENTAL & HERITAGE MANAGEMENT P/L – 145 Wingewarra St / PO Box 2069 DUBBO 2830
Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au
WEB: ozarkehm.com.au

Sample invitation to attend Project Inception Meeting with methodology.



Environmental & Heritage Management P/L
ABN: 59 104 582 354

12th August 2011

Members – Wanaruah LALC
c/- Mr N Downs / CEO
PO Box 127
Muswellbrook NSW 2333

Dear Noel

**Invitation to Consultation Meeting Regarding Aboriginal Cultural Heritage associated
with proposed Modification to Development Consent DA-305-11-01, Liddell Colliery,
Ravensworth.**

On behalf of Liddell Coal Operations, OzArk would like to invite you to an inception meeting to discuss this project and the methods proposed for the heritage assessment and consultation with the Registered Aboriginal Parties.

We are proposing to hold the meeting on **Thursday 1st September 2011** arriving at **8 AM (for a 8.30 start)** at the **Liddell Colliery, Old New England Highway, Ravensworth** (please see attached map) and would like to invite a representative from your organisation to attend. A site visit will be undertaken within active mining operation areas and therefore will require that your representative bring full personal protective equipment, namely; safety boots (NO elastic sided boots), long trousers, a long sleeved shirt, safety glasses, a high visibility shirt or vest and a hard hat.

An agenda for the meeting and the draft methodology is attached. Should you wish to nominate any additional items for the agenda, please do not hesitate to contact me prior to the meeting. In addition to comments on the draft methodology, if your organisation can share any Aboriginal cultural heritage knowledge relevant to the proposed study area, we welcome this input so as to improve our assessment outcomes and to ensure Aboriginal cultural values are considered.

Liddell Coal Operations is proposing to pay \$67.50 per stakeholder representative per hour + \$50 travel allowance per group (excluding GST).

If you wish to attend the meeting or send a representative, we ask that you return the attached RSVP form by no later than **25th August 2011**, or contact me by telephone or email.

OZARK ENVIRONMENTAL & HERITAGE MANAGEMENT P/L
145 Wingewarra Street / PO Box 2069 Dubbo NSW 2830. Tel: 6882 0118; Mob: 0403 763 504 / 0423 198 898;
Fax: 6882 0630. E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au
WEB: ozarkehm.com.au

Attn: Cheryl Burke
Consultation Officer
OzArk EHM
PO Box 2069 (145 Wingewarra Street)
DUBBO NSW 2830
Phone: 02 6882 0118
Fax: 02 6882 0630
Email 'cheryl@ozarkehm.com.au'

Should you have any questions regarding any of the information provided in this letter, please do not hesitate to contact me.

Yours faithfully

Cheryl Burke
Consultation Officer

OZARK ENVIRONMENTAL & HERITAGE MANAGEMENT P/L
145 Wingewarra Street / PO Box 2069 Dubbo NSW 2830. Tel: 6882 0118; Mob: 0403 763 504 / 0423 198 898;
Fax: 6882 0630. E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au
WEB: ozarkehm.com.au



Proposed Methodology for the Aboriginal Cultural Heritage Assessment associated with the proposed modification to Development Consent DA-305-11-01, Liddell Colliery.

Proposed modification to Development Consent DA 305-11-01.

Liddell Colliery is an open cut coal mine located approximately 25 km northwest of Singleton and 26 km southeast of Muswellbrook. The Proponent, Liddell Coal Operations (LCO), is proposing to seek approval for a modification to the *existing* development consent to allow for the extension of open cut mining operations. The Project Area is shown in red in the attached **Figure 1**.

Methodology for the current investigation:

- Provide registered stakeholders with maps of the proposed impact location and seek further comment of any known Indigenous cultural values, see **Figure 1**.
 - In relation to the above, a search over a 5 x 5 km area centred on the Study Area has been submitted to the OEH AHIMS database. The results of this search indicated a total of sixty-three (63) Aboriginal sites have previously been registered on the AHIMS database. These will be plotted prior to field work so as to identify any sites near the impact footprint so we can determine if they will be affected by the development.
 - OzArk will bring this information to the meeting on 1st September 2011 for further discussion.
- Provide the stakeholders with the opportunity to identify if there is a need to meet and consult elders to receive additional information about a particular area. If so this should be flagged with OzArk either before or at the 1st September meeting, so that we may manage any additional meetings on a case by case basis.
- To undertake physical survey of the Study Area by utilising an Archaeological team comprising Aboriginal Community Stakeholder Groups representatives and OzArk staff, the logistics and team number to be determined through discussion with stakeholders. The fieldwork is tentatively scheduled week commencing either 19th or 26th September, 2011. Physical assessment will include;
 - pedestrian survey of areas considered to have potential and / or good ground surface visibility (GSV).
 - Vehicle transects of areas with poor GSV or areas of significant prior disturbance.
 - With agreement of Community and Archaeologists some areas may not be physically surveyed if considered to be too disturbed or to have very low likelihood of sites (ie. steep hillsides with no overhangs).

1 | DRAFT METHODOLOGY

- Discuss in the field, at the end of the field survey, any findings, identified cultural values, management of cultural heritage and culturally acceptable mitigation measures to be considered.
- After survey all registered Aboriginal parties will be invited to a second Aboriginal Focus Group Meeting (AFGM) at which the results of the survey will be presented.
- OzArk will prepare a draft report based on the field survey that will include preliminary comments from the stakeholder groups and their assessment of cultural significance for the area or recorded sites. Each group will be invited to review this draft report and provide comment within a given time frame and feedback will be included in report finalisation and provided as an appendix to the final report. As part of the consultation process there will be a third AFGM held to allow all stakeholders an opportunity to discuss the draft report and any associated cultural heritage issues.
- A copy of the final report, or advice of its availability, will be provided to each stakeholder group prior to the Proponent submitting it to the relevant authorities.

We look forward to working together with you in undertaking this Aboriginal cultural heritage investigation. Please note that information regarding cultural values / significance is invited from representatives at any stage of the project.

Although the inception meeting will provide project details and allow attendees to discuss the proposed methodology, we ask that any comments or feedback you wish to incorporate in the methodology is submitted by close of business **Friday 9th September 2011**. This input can be either written or verbal; however it is important it is received with the twenty eight (28) day time frame.¹

Alternatively we encourage your attendance and input at the inception meeting being held **Thursday 1st September, 2011**.

¹ As per the OEH 'Aboriginal cultural heritage consultation requirements for proponents 2010'.

FIGURE 1: Proposed Modification Areas delineated by the blue lines.



**Liddell Colliery Development Consent DA-305-11-01.
Aboriginal Cultural Heritage Management Meeting
8.30 am, Thursday 1st September 2011
VENUE Liddell Colliery**

Invitees: All Registered Aboriginal Parties; representatives of Liddell Colliery, GSS Environmental and OzArk

8.30 AM	WELCOME TO COUNTRY
8.40 AM	ACKNOWLEDGEMENT OF COUNTRY GENERAL ADMINISTRATION DETAILS INTRODUCTION OF ATTENDEES
9.00 AM	INTRODUCTION TO THE PROJECT Xstrata / GSS Environmental
9.30 AM	ARCHAEOLOGICAL SITES OVER THE STUDY AREA FOR THE DEVELOPMENT MODIFICATION OzArk
10.00 AM	CONSULTATION PROCESS ACHCR'S FIELDWORK LOGISTICS
10.30 AM	MORNING TEA
11.00 – 12.30 PM	SITE VISIT – Reconnaissance
12.30 PM	LUNCH – BBQ
1.00 PM	OPEN DISCUSSION ADDRESS AGENDA ITEMS SUBMITTED BY STAKEHOLDERS
2.00 PM	MEETING CLOSE

DRAFT AGENDA FOR INCEPTION MEETING – 1ST SEPTEMBER 2011.

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Minutes from Inception meeting 1st September, 2011.

Consultation Meeting Regarding Aboriginal Cultural Heritage associated with proposed Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth.

**1 September, 2011
Liddell Colliery.**

Meeting commenced: 8.45 am

Present: Des Hickey – Wattaka Wonnarua TO Services
George Sampson – Cacatua Culture Consultants
Rhonda Griffiths – Hunter Valley Aboriginal Corporation
Kathie Kinchela– Yinarr Cultural Services
Greg Griffiths – T&G Cultural Consulting
Shannon Griffiths – Wonnarua Culture & Heritage
Norm Archibald – Yarrawalk Enterprises
Andrew Hutton - GSSE
Nicole Armit– GSSE
Mel Hawthorne – Liddell Coal Operations
Jodie Benton – OzArk EHM
Cheryl Burke – OzArk EHM

Apologies: Rhonda Ward – Ungooroo Cultural & Community Services
Arthur Fletcher – Wonn1 Contracting Corporation
Noel Downs – Wanaruah LALC

Welcome and introductions

Andrew Hutton thanked everyone for making the time to attend the meeting today and acknowledged the Traditional Owners of Country.

Welcome to Country by Des Hickey with a one minute silence to acknowledge elders past and present.

Mel Hawthorne outlines housekeeping issues associated with being on site at Liddell Colliery.

Andrew Hutton presents a project overview, emphasising this project is in the very early stages. A power point presentation which shows Figure 1, per draft methodology sent to all Registered Aboriginal Parties 12/08/2011, reveals the proposed modification areas and the DA boundary. Andrew notes there is no intention to increase the scale of the operation, it is extension only.

Des Hickey queries if the areas are open cut areas, which is confirmed. Andrew Hutton informs stakeholders that there is no longer underground mining works at Liddell Colliery. The open cut works are going through what was the underground mine.

Jodie Benton presents the archaeological subject matter which includes -

- Proposed impact footprints for the current project;
- Previously recorded archaeological sites over Liddell Colliery;
- The overlap of project footprint and areas delineated as archaeologically sensitive;
- The current Aboriginal Cultural Heritage Management Plan (ACHMP);
- The importance of updating the ACHMP in relation to the proposed modifications;
and
- The proposed methods for the archaeological assessment.

Jodie reiterates that it is a modification to an existing consent; it is not an application to mine an entirely new area.

In answer to Norm Archibald's query as to why it is not new, Jodie explains that the area in which Liddell want to mine has been approved previously and in comparison to many other projects in the Valley at the moment, it is smaller in this respect.

Discussion around the history of site identification and sites to be impacted by current proposal – general discussion about the zone delineated as 'archaeologically sensitive', and the need to make these zones more meaningful in relation to cultural heritage sites and the potential for sites. Kathie Kinchela agree and feels that no artefacts will be found in the flood plains, hence the need to reconsider the zoning boundaries.

The ACHMP is up for review this year, and is best done in conjunction with this new Development Modification that we are considering today so that it is relevant.

In answer to a question about the potential life of the mine, Andrew Hutton indicates that mining could continue to 2028. General discussion and clarification about the DA process and subsequent conditions of approval. Mel Hawthorne notes that Liddell Coal Operations would like this to be the last modification to see out the life of the mine.

Kathie Kinchela asks about the location of the artefacts from previous salvages as shown on mapping. Kathie also requests a copy of the ACHMP, subsequently it is agreed that this document will be sent to all stakeholders with the minutes of this meeting.

General discussion relating to the Entrance Pit which has only undergone piecemeal survey, no solid survey has been done. Although the least disturbed, this area will suffer significant disturbance from the current development modification, potentially requiring much more focus in the field.

Greg Griffiths queries the percentage of areas to be assessed. Jodie clarifies that we really need to reassess everything, although Mel Hawthorne notes that the Prep Plant is in a completely disturbed area and likely to not need any survey. Areas deemed as being completely disturbed will not be surveyed. The areas where there has been some

disturbance (as opposed to no disturbance) will still require at least some survey. If there are Aboriginal objects recorded they will need to be managed. We will not rely on past reports, these will be a guide, Greg Griffiths agrees that for closure purposes all areas need to be covered off.

The meeting today is largely about discussing the methodology and how the physical survey will be undertaken. It is important that cultural information relevant to the Study Area is taken into consideration and everyone is given an opportunity to comment. Jodie invites the stakeholders to share any relevant cultural information and invites input on the methodology. Formal feedback is due by the 9th September, 2011 and attendees can submit this today should they wish, forms are provided.

Previous salvages and location of salvaged artefacts, general discussion, Rhonda Griffiths expresses concern as to the whereabouts of these artefacts. Rhonda feels it is important that for future generations physical evidence of the Aboriginal culture is accessible. Des Hickey notes these artefacts are probably in the Australian Museum. Greg Griffiths feels that the artefacts should be on site or on display, so that they remain on Country. A selection of artefacts could be used as part of the induction process so that employees are educated and can potentially recognise these objects and the importance Aboriginal culture. For closure purposes when the project finishes the artefacts can be returned to Country for future generations. Andrew Hutton agrees that this is important and recognises these concerns which can be incorporated in the ACHMP. The flow of information must not be confined to a select few people.

Rhonda Griffiths would like the future removal of artefacts (possible salvage associated with the current Development Modification) to be captured via video recording so that it is documented and this will become a permanent record for years to come. Although this is a good start, Greg Griffiths states that cultural values are very deep and go a lot further, it is not just 'stones and sticks'.

Jodie Benton will conglomerate all research and sourced text into a simplified document which will be forwarded to stakeholders.

All attendees leave for a brief reconnaissance trip around site, to see the areas proposed for impact and understand the levels of disturbance..

Return from Site Visit: 11.29 am

Jodie Benton invites feedback on the survey methodology now that stakeholders have been on site and visualised the area as opposed to looking at a map. Reminds attendees that comment on the methodology is due 9th September 2011.

The fieldwork is pegged for week commencing either 19th or 26th September, 2011. Stakeholders are reminded that PPE gear must be worn during survey, representatives will undergo a half hour site familiarisation prior to fieldwork.

General discussion about the number of registered stakeholders and the inclusion of all parties in the survey. Fieldwork is scoped for four days, and it is suggested that seven stakeholder groups will send a representative each for two days, and eight stakeholder

groups will send a representative each for two days. This rotation ensures each RAP organisation is represented. Should an organisation be unable to provide a Site Officer to participate, another stakeholder group's Site Office can substitute. It is acknowledged that there is a lot of work in the Valley at present; however it is not feasible to stall a project for this reason, all attendees agree that waiting for a quieter time is not warranted as it may not happen for a long time.

All agree fieldwork to commence: Tuesday 20th September through to Friday 23rd September, 2011.

Des Hickey raises the issue of survey over areas which have no visibility. Jodie says that this topic will be open to discussion in the field and all options will be considered. It will be a joint decision between stakeholders and archaeologists as to whether areas with low or no visibility will be subject to survey, the options will be open. Des touches on the subject of excavation; however this will be dependent on the results of the survey.

A thank you is extended to everyone for attending the meeting today.

Meeting close / invitation to lunch: 11.53 am

Sample correspondence to RAPs regarding fieldwork.



Environmental & Heritage Management P/L
ABN: 59 104 582 354

12th September 2011

Members: Wanaruah LALC
c/- Ms S Worth
PO Box 127
Muswellbrook NSW 2333

Dear Suzie

Re: Aboriginal Cultural Heritage Assessment associated with the proposed modification to Development Consent DA-305-11-01, Liddell Colliery.

All Registered Aboriginal Parties (RAPs) were recently invited to an information session to discuss the above mentioned project, and comment on the proposed methodology outlined in our correspondence dated 12th August 2011. We understand that a Wanaruah LALC representative was unable to attend the 1st September meeting, for your records the minutes are included with this letter.

At the meeting the RAPs in attendance were satisfied with the proposed methodology and agreed that fieldwork should commence Tuesday 20th September, 2011. To allow all stakeholders to be represented during the four day assessment period, on Day 1 and Day 2 we will form a team comprising an Archaeologist, an Archaeological Assistant and eight (8) Indigenous Site Officers, ONE from each stakeholder group. On Day 3 and Day 4 the team will comprise an Archaeologist, an Archaeological Assistant and seven (7) Indigenous Site Officers, ONE from each stakeholder group. Team numbers and logistics were determined through discussion with all RAPs attending this meeting.

It is noteworthy that the methodology for the current investigation remains the same as outlined in our initial correspondence dated 12th August, 2011. After survey all registered Aboriginal parties will be invited to a second Aboriginal Focus Group Meeting (AFGM) at which the results of the survey will be presented.

Methodology for the current investigation:

- To undertake survey of the Study Area, see **Figure 1**. Physical assessment will include;
 - pedestrian survey of areas considered to have potential and / or good ground surface visibility (GSV).
 - Vehicle inspection of areas with poor GSV or areas of significant prior disturbance.
 - With agreement of Community and Archaeologists some areas may not be physically surveyed if considered to be too disturbed or to have very low likelihood of sites.

OZARK ENVIRONMENTAL & HERITAGE MANAGEMENT P/L
145 Wingewarra Street / PO Box 2069 Dubbo NSW 2830. Tel: 6882 0118; Mob: 0403 763 504 / 0423 198 898;
Fax: 6882 0630. E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au
WEB: ozarkehm.com.au

Field Assessment:

OzArk would like to invite *one* member of Wanurrah LALC to participate in Day 1 and Day 2 of field assessment, scheduled **Tuesday 20th September and Wednesday 21st September, 2011**. Representatives are to meet at Liddell Colliery promptly at 8.00 am. On this occasion all Site Officers will be required to undertake a brief Site Familiarisation / Induction on site prior to commencement of the field assessment.

During the field assessment your Site Officer must be wearing full personal protective equipment, namely; safety boots (NO elastic sided boots), long trousers, a long sleeved shirt, safety glasses, a high visibility shirt or vest and a hard hat.

Requirements prior to field assessment: A group wishing to send a representative for the field assessment ***must have current workers compensation insurance*** and are required to provide their certificate of currency to our office no later than three days prior to the assessment. Unfortunately we will not be able to allow participation in the field assessment without this certificate (due to NSW OH&S legislation).

Fee offer: Liddell Coal Operations is offering \$500 (excl.GST) per day + \$50 travel allowance for participation in the field survey for an experienced, senior Sites Officer or Elder, based on a working day of 8 am – 5 pm. Invoices are to be addressed to Liddell Coal Operations, Locked Bag 2, Singleton Delivery Centre, NSW 2330, and Attention: Mel Hawthorne, E: mhawthorne@xstratacoal.com.au. Purchase order **BH133182** to be quoted on all invoices.

In relation to the fee offer and proposed dates, we would appreciate confirmation of your organisation's ability to provide a representative to participate in the field assessment and a copy of your current workers compensation insurance by **Friday 16th September, 2011**. To assist in the planning of the field work we also require the *name* and *contact number* of your nominated Site Officer.

As discussed at the information session, should your organisation not have a representative available on your scheduled dates, please make alternative arrangements to fill the position with a Site Officer from another registered Aboriginal organisation. The roster has been included so that you are aware of who may potentially be available on dates you are not able to provide a representative.

If you have not contacted our office by **Friday 16th September** advising availability, we will assume you do not have a Site Officer to participate and will make alternative plans.

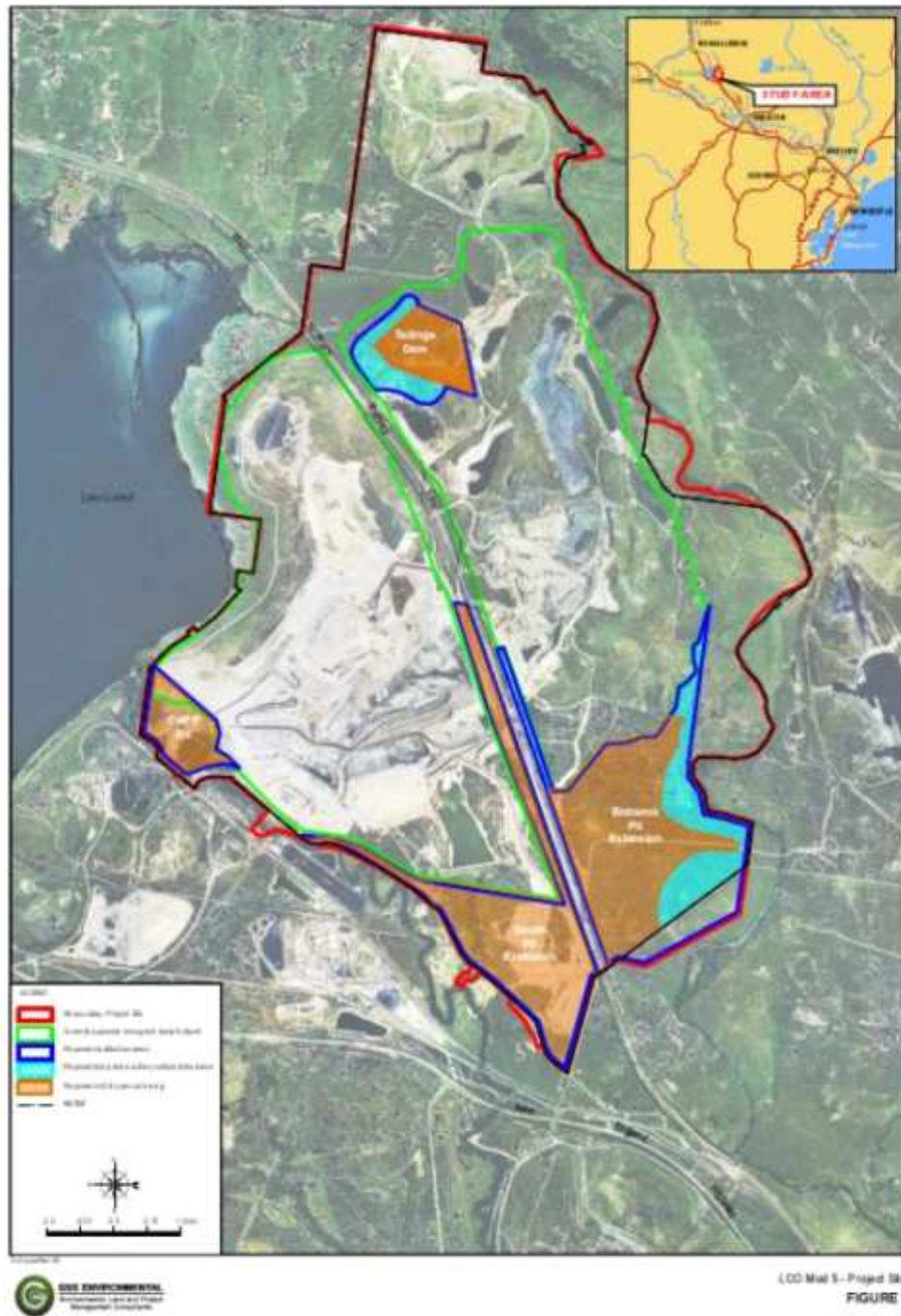
If you have any queries, please feel free to contact our office.

Yours truly



Cheryl Burke / Administration Officer

FIGURE 1: Proposed modification areas delineated by the blue line.



TUESDAY 20TH September 2011	WEDNESDAY 21ST September 2011
Yarrowalk Enterprises	Yarrowalk Enterprises
Wattaka Wonnarua Cultural C. Service	Wattaka Wonnarua Cultural C. Service
Wonnarua Culture Heritage	Wonnarua Culture Heritage
Hunter Valley Aboriginal Corp,	Hunter Valley Aboriginal Corp,
Yinarr Cultural Services	Yinarr Cultural Services
Wanaruah LALC	Wanaruah LALC
Cacatua Culture Consultants	Cacatua Culture Consultants
T&G Cultural Consultants	T&G Cultural Consultants

THURSDAY 22ND September 2011	FRIDAY 23RD September 2011
Ungooroo Cultural and Community Services	Ungooroo Cultural and Community Services
Kayaway Eco Cultural & Heritage Svcs	Kayaway Eco Cultural & Heritage Svcs
Ungooroo Aboriginal Corporation (UAC)	Ungooroo Aboriginal Corporation (UAC)
Wonn1 Consultants	Wonn1 Consultants
Wonnarua Nation Aboriginal Corporation	Wonnarua Nation Aboriginal Corporation
Widescope Indigenous Group P/L	Widescope Indigenous Group P/L
Hunter Traditional Owners	Hunter Traditional Owners

Sign on sheet – fieldwork 20th – 23rd September, 2011.

Date	NAME	COMPANY	Time	
			IN	OUT
20.9.11	JODIE BENTON	OZARK EHM		
20-9-11	GEORGE SIMPSON	C C C	8:00	5:00
20-9-11	Shannon C. Ritz	WCH	8:00	4:40
20-9-11	David Smith	TEG CC	8:00	4:40
20-9-11	RAY FRENCH	YARRAWALK	8:00	4:40
20-9-11	Rhonda Griffiths	H.V.A.C	8:00	4:40
20-9-11	OWEN DAVIDSON	YINNAR CS	8:00	4:00
20/9/11	LES ATKINSON	WARRAWALK LALC	8:00	4:40
20/9/11	Joshua Nayer	Oz Ark EHM		
21.9.11	Rhonda Griffiths	H.V.A.C	8:00	4:00
21-9-11	RAY FRENCH	YARRAWALK	8:00	4:00
21-9-11	OWEN DAVIDSON	YINNAR CS	8:00	4:00
21/9/11	LES ATKINSON	WARRAWALK LALC	8:00	4:00
21/9/11	GEORGE SIMPSON	P.C.C	8-AM	4:15
21/9/11	Joshua Nayer	Oz Ark EHM		
21/9/11	David Smith	TEG CC	8am	4:15
21/9/11	Ann Smith	WCH	8am	4:15

Date	Name	Company	Time	
			In	Out
22.9.11	JODIE BENTON	OZARK.	8am	4pm
22.9.11	RAY FRENCH.	YARRAWALK	8AM	4.00
22.9.11	Trefor sproule	ungunroo-cop	8.AM.	
22.9.11	Joshua Nayer	OZ Ark EHM		
22.9.11	Rhonda Griffiths	H.V.A.C	8.00	7.00
22-9-11	Paulette Ryan	HTO	8.00	4.00
23/9/11	Shawn Cavanagh	HTO	8.00am	2.00 (4pm)
23/9-20/11	Paulette RYAN	HTO	8.am	2.00 (4pm)
23/9/11	Trefor sproule	ungunroo-corp.	8am	2.00 (4.00)
23/9/11	Joshua Nayer	OZARK EHM		
23/9/11	Jodie Benton	OZARK	8am	(2) 4pm

Sample invitation to attend post survey meeting.



29 November 2011

OzArk Environmental & Heritage Management
145 Wingewarra St. DUBBO NSW 2830
www.ozarkehm.com.au

Members – Wanaruah LALC
c/- Ms S Worth / CEO
PO Box 127
Muswellbrook NSW 2333

Dear Suzie

INVITATION: Liddell Colliery, Ravensworth, Post Survey Consultation meeting.
Project:
Proposed Modification to Development Consent DA-305-11-01.

Recently an archaeological team comprising OzArk staff and representatives from the Aboriginal Community Stakeholder Groups participated in the physical assessment associated with this Project. We appreciate the feedback we have received from Stakeholders thus far, and would also like to thank the Site Officers who were part of the survey team. The field work was completed in the scheduled four (4) day time frame and a number of Indigenous cultural heritage sites were re-located, in addition to new recordings.

OzArk and Liddell Coal Operations wish to invite all stakeholders to a meeting to discuss the results of the September survey. The meeting aims to address the significance of the sites, and work through potential management recommendations.

This meeting is scheduled to be held:

Date: Tuesday 13th December, 2011
Time: 8.30 am for 9.00 am start concluding around lunch time.
Place: Liddell Colliery
Old New England Highway
Ravensworth
Lunch will be provided

Liddell Coal Operations are proposing to pay \$68.75 per hour per stakeholder representative + \$50 travel allowance¹ per group (excluding GST) for attendance at the half day meeting.

If you wish to attend the meeting or send a representative, we ask that you RSVP to this office no later than **Friday 9th December**, via telephone 6882 0118, or email (listed below).

Yours faithfully

Cheryl Burke / Consultation Officer / Email: cheryl@ozarkehm.com.au

¹ Flat fee travel allowance includes time and vehicle costs.



Environmental & Heritage Management P/L
ABN: 59 104 582 354

**Liddell Colliery Development Consent DA-305-11-01.
Aboriginal Cultural Heritage Management Meeting
9 am, Tuesday 13 December 2011
VENUE Liddell Colliery**

Invitees: All Registered Aboriginal Parties; representatives of Liddell Colliery, GSS Environmental and OzArk

8.30 AM	ARRIVAL OF ATTENDEES
9.00 AM	ACKNOWLEDGEMENT OF COUNTRY INTRODUCTION OF ATTENDEES
9.15 AM	PRESENTATION OF FIELDWORK RESULTS OzArk
10.00 AM	OPEN DISCUSSION – ALL PRESENT Cultural Significance of Sites Potential for Conservation Outcomes Management Strategies
10.30 AM	MORNING TEA
11.00 AM	OPEN DISCUSSION – Registered Aboriginal Parties
12.00 PM	CLOSING REMARKS – ALL PRESENT
12.30 PM	LUNCH

AGENDA – POST SURVEY MEETING 13TH DECEMBER 2011

Minutes from post survey meeting, 13th December 2011.

Consultation Meeting Regarding Aboriginal Cultural Heritage associated with proposed Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth.

13 December, 2011

Liddell Colliery

Meeting commenced: 9.54 am

Present:

- Kathy Kinchela – Yinarr Cultural Services
- Tegan McCormack – Cacatua Culture Consultants
- Tennille McCormack – Ungooroo Cultural and Community Services (UCCS)
- Gordon Griffiths – T&G Cultural Consulting
- Abie Wright – Ngarramang-Kuri Aboriginal Culture & Heritage
- Warren Schillings – Myland Cultural & Heritage Group
- Cody Faulkner - Wonnarua Culture Heritage
- Sophie Whittaker - GSSE
- Nicole Armit– GSSE
- Mel Hawthorne – Liddell Coal Operations
- Jodie Benton – OzArk EHM
- Cheryl Burke – OzArk EHM

Apologies:

- Allen Paget– Ungooroo Aboriginal Corporation (UAC)
- Suzie Worth – Wanaruah LALC
- Des Hickey - Wattaka Wonnarua TO

Welcome and introductions

Jodie Benton opens the meeting and acknowledges Country.

Jodie advises the fieldwork was completed in September and summarises the results of the assessment. It is noted that this meeting is an opportunity for Registered Aboriginal Parties (RAPs) to discuss the cultural significance of Aboriginal sites within the Subject Area. Jodie discusses the potential for conservation and flexibility, especially in relation to the overburden area.

Mel Hawthorne presents a brief project overview, outlining again the proposed modification areas and the DA boundary.

Jodie discusses the previously recorded sites within the Subject Area and that some of these had been difficult to relocate during the survey. Jodie reminds RAPs that under Section 90s previously issued by the Office of Environment & Heritage (OEH), certain sites have been legally destroyed.

General discussion about the survey methods, transects and landforms. Jodie shows a PowerPoint presentation with maps of the previously recorded sites, in addition to the Aboriginal sites which were recorded as part of the September survey.

Jodie advises that three primary management areas have been identified as a result of the field assessment, these include –

- Bowmans Creek Sensitive Archaeological Landscape
- Bowmans Creek Ridge Sites
- Chain of Ponds Creek Sites
-

Gordon Griffiths notes that Bowmans Creek is a highly sensitive area as it is associated with fish traps, and he is concerned that it is within the impact area. Gordon says that Bowmans Creek extends into Ashton Coal and checks a hard copy of the map to confirm the location of impacts. Mel and Jodie emphasise input from stakeholders is important, as the project is in the early stages and mining plans are flexible.

General discussion about the need for conservation, and the concern that a conservation area would be destroyed in twenty years' time. The conservation issue is important and Gordon stresses that a Conservation Area would have to be in perpetuity. Mel Hawthorne reiterates that this modification at Liddell will see out the life of the mine, it is intended to be the final development modification.

Jodie explains that during the September survey the team recorded five additional Aboriginal sites in the Bowmans Creek Ridge area. In response to Gordon's query about survey coverage, Jodie advises that although a vast area was surveyed the degree of visibility was often low.

In the Chain of Ponds Creek area, Jodie advises that the team recorded one additional Aboriginal site. General discussion about the Section 90 consents and the sites in the impact area which have been salvaged as a result of these permits. Jodie explains that these methods are never 100% and artefacts may remain after salvage is completed.

In response to a query about a potential excavation and the fate of the artefacts, Jodie notes that this issue will be addressed in the future and comment will be sought from all RAPs relating to the Care and Control of artefacts.

General discussion about how representatives who express comments may feel intimidated in the future as their input may not be acceptable to other RAPs. It was suggested that a meeting with individuals about the project may be effective; some RAPs may not wish to speak in front of other groups. Jodie says that this is part of the process; we are open to ways of managing consultation and would like to achieve the best outcomes both on an archaeological and cultural heritage level.

Meeting re-commences following RAPs private discussion: 11.54 am

Gordon Griffiths suggests salvage and test excavation at Bowmans Creek site, expresses wishes of stakeholders to conserve all artefacts. It is agreed that the Care & Control of artefacts should be discussed and decided by all stakeholders, everyone should have input on this issue.

Gordon, speaking on behalf of all stakeholders in attendance, expresses the wish that the area delineated by the yellow line should not be disturbed.

General discussion about a 'Keeping Place' in the Hunter, Gordon is familiar with this topic and the history behind it, he notes that it is not necessarily the mines who are delaying this. Gordon states that the mines are misdirected and are unsure of who they should consult. The establishment of a 'Keeping Place' cannot progress when members of the Aboriginal community have different ideas where it should be located. Mel Hawthorne agrees, noting that the location for a 'Keeping Place' is an issue as is the control and management of the site once it is built. Mel explains that if XCN knew who to talk to they would approach those people. This would potentially exclude others from the process and Liddell must follow legislation that dictates they are required to consult with all stakeholders.

Kathie Kinchela states it is a 'no win' situation. In response, Jodie says that ideally a committee would be formed and each stakeholder group would have a representative on this committee to enable everyone to contribute. Mel reiterates that XCN support a 'Keeping Place'. Attendees note they would like to keep this idea on the agenda in relation to the Liddell Colliery Project.

In relation to the next meeting and the draft report, Gordon Griffiths states that at this meeting / workshop decisions can be made in relation to the content and recommendations. Gordon says that everyone can 'walk out of the meeting on the same page', and be satisfied that it reflects the ideas of the Aboriginal community. All attendees agree that the face-to-face workshop is a good method of communicating the project and presenting information.

A thank you is extended to everyone for attending the meeting today.

Meeting close / invitation to lunch: 12.08 pm

LIDDELL COLLIERY DEVELOPMENT CONSENT DA-305-11-01

Liddell Colliery

[illegible]

Feedback form from Yinarr Cultural Services.

	OzArk Environmental & Heritage Management 145 Wingewarra St. DUBBO NSW 2830 ph: 02 6882 0118 Fax: 02 6882 0630 E: jodie@ozarkehm.com.au

REGISTERED ABORIGINAL PARTY FEEDBACK FORM

DATE: 13-12-2011

NAME OF ORGANISATION / INDIVIDUAL: YINARR CULTURAL SERVICES

NAME OF PROJECT: LIDDELL COLLIERY DEVELOPMENT

CONSENT DA-305-11-01

COMMENTS / FEEDBACK WE WANT TO SALVAGE
AND TEST PIT & EXCAVATION WITH
REGARDS TO BOWMANS CREEK AREA.
WE WANT TO CONSERVE THE
ARTEFACTS IN REGARDS TO CARE &
CONTROL. WE WANT ANALYSIS OF
ARTEFACTS.
WE WANT THE YELLOW AREA TO BE
CONSERVE THE AREA AND THE AREA
WONT BE IMPACTED AS THEY HAVE FOUND
LOTS OF ARTEFACTS & PAPERS. WE WOULD LIKE
 POTENTIAL ISSUES YOU MAY WISH TO ADDRESS - TO BE A KEEPING PLACE
 SO THAT THE ARTEFACTS
 CAN BE KEEP SAFE AND
 PROTECTED TO HAVE STORIES
 WOULD LIKE A KEEPING PLACE
 FOR MUSWELLBROOK AND
 SINGLETON.

- CULTURAL SIGNIFICANCE
- MANAGEMENT STRATEGIES
- CONSERVATION OUTCOMES

I would like the information in this feedback sheet included in the Consultation Report;
☐ YES
☐ NO

SIGNED [Signature]

PRINT NAME KATHIE KACHILA

**THANK YOU, YOUR OPINION IS IMPORTANT AND WILL HELP TO GUIDE THE APPROACH TO
FUTURE CONSULTATION.**

Feedback form from T&G Cultural Consultants.



OzArk Environmental & Heritage Management
 145 Wingewarra St. DUBBO NSW 2830
 ph: 02 6882 0118
 Fax: 02 6882 0630
 E: jodie@ozarkehm.com.au

REGISTERED ABORIGINAL PARTY FEEDBACK FORM

DATE: 13/12/11

NAME OF ORGANISATION / INDIVIDUAL: T&G. Cult Cons

NAME OF PROJECT: Gordon Griffiths

COMMENTS / FEEDBACK

*that other consultations take place and
 also that there needs to be a workshop
 in relation to the project so that our
 culture can be protected and
 can come out of it*

POTENTIAL ISSUES YOU MAY WISH TO ADDRESS -

- CULTURAL SIGNIFICANCE
- MANAGEMENT STRATEGIES
- CONSERVATION OUTCOMES

I would like the information in this feedback sheet included in the Consultation Report;

☐ YES
☐ NO

SIGNED _____

PRINT NAME _____

**THANK YOU, YOUR OPINION IS IMPORTANT AND WILL HELP TO GUIDE THE APPROACH TO
 FUTURE CONSULTATION.**

Correspondence to RAPS with text excavation methodology and draft report.

14th February 2012

Cacatua Culture Consultants
Donna Sampson
22 Ibis Parade
Woodberry NSW 2232

Dear Donna,

INVITATION: Liddell Colliery, Ravensworth, Consultation meeting.
Project: Proposed Modification to Development Consent DA-305-11-01.

As part of the on-going consultation for this project, OzArk and Liddell Coal Operation (LCO) wish to invite all stakeholders to a meeting to discuss the management recommendations outlined in the enclosed draft report, as well as the recommended test excavation programme for the Bowmans Creek Sensitive Archaeological Landscape (SAL) which will be partially impacted by the proposed Entrance Pit extension.

The information in this package includes:

- a copy of the draft report – '*Aboriginal and Historic Heritage Assessment: Liddell Coal Operations Extension Project*'; OzArk EHM P/L 2012; and
- The methodology for the proposed test excavations, which are to be undertaken under *The Code of practice for the Archaeological Infestation of Aboriginal Objects in NSW* (DECCW 2010). The testing will cover sites that will be impacted by the proposed Entrance Pit extension (**see Section 6.2** of the report) The test excavation aims to establish the extent and significance of the PADs to determine if a salvage excavation under an AHIP is necessary for any sites with the PAD designation.

This meeting is scheduled to be held:

Date: Wednesday 29th February, 2012

Time: 8.30 am for **9.00 am start** / concluding after lunch.

Place: Liddell Colliery
Old New England Highway
Ravensworth

Morning tea will be provided.

We request that your organisation review the enclosed draft report and provide feedback. These comments can be presented at the meeting or submitted in writing to our office. Please note that your response should be received within the required twenty eight (28) day period, concluding **Friday 16th March 2012**. Should you require more time to respond, please contact our office within this timeframe and we will work with you towards a reasonable extension.

Liddell Coal Operations are proposing to pay \$68.75 per hour per stakeholder representative + \$50 travel allowance per group (excluding GST) for attendance at the half day meeting.

If you wish to attend the meeting or send a representative, we ask that you *RSVP* no later than *Friday 24th February 2012*, by contacting our office by telephone or email – ph: 6882 0118 or email: cheryl@ozarkehm.com.au

Kind regards

A handwritten signature in black ink that reads "Cheryl Burke" followed by a period. The signature is written in a cursive, flowing style.

Cheryl Burke / Consultation Officer



Environmental & Heritage Management P/L
ABN: 59 104 582 354

**Liddell Colliery Development Consent DA-305-11-01.
Aboriginal Cultural Heritage Management Meeting
9 am, Wednesday 29 February 2012
VENUE Liddell Colliery**

Invitees: All Registered Aboriginal Parties; representatives of Liddell Colliery, GSS Environmental and OzArk

8.30 AM	ARRIVAL OF ATTENDEES
9.00 AM	ACKNOWLEDGEMENT OF COUNTRY INTRODUCTION OF ATTENDEES
9.15 AM	REVIEW OF PROPOSED MANAGEMENT OzArk
10.00 AM	OPEN DISCUSSION – ALL PRESENT Finalisation of draft report
10.30 AM	MORNING TEA
11.00 AM	OPEN DISCUSSION – Registered Aboriginal Parties
12.00 PM	CLOSING REMARKS – ALL PRESENT
12.30 PM	LUNCH

AGENDA – POST DRAFT REPORT MEETING 29 FEBRAURY 2012

Attendance list for ACHM Meeting

LIDDELL COLLIERY DEVELOPMENT CONSENT DA-305-11-01

Wednesday 29th February 2012

Liddell Colliery

NAME	ORGANISATION	CONTACT DETAILS	SIGNATURE
CHERTL BURKE	OZARK		Chertl.
STEVEN Hickey	W.D.G		Steven
Joshua Hickey	WTO		J Hickey
Lisa Whalan	Yinarr	0421146783	Lisa
Arthur C. Fletcher	Kauwuk. TA. Wonnai	0402142196	A.C. Fletcher
LENNIE. WRIGHT	NGARRAMANK	0477048021	Lennie
David Ahoy	Myland	0411095249	David
Adam Samsen	creative ^{cultural} consultants	0240286622	Adam
Kylie Souders	WLALC	0+21693992	K. Souders
Rhonda Griffiths	H.V.A.C	65431180	R. Griffiths
LENNIE WRIGHT	NGARRAMANK	0422621366	Lennie
Leo Ahoy	Myland	0419293862	Leo

Minutes from meeting, 29th February, 2013.

Consultation Meeting Regarding Aboriginal Cultural Heritage associated with proposed Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth.

**29th February, 2012
Liddell Colliery.**

Meeting commenced: 9.00 am

Present:

- Steven Hickey – Widescope
- Joshua Hickey – WTO
- Lisa Whalen – Yinarr Cultural Services
- Arthur Fletcher – Wonn1
- Adam Sampson – Cacatua Culture Consultants
- Lennie Wright (Jnr) – Ngarramang-Kuri AC&H
- Lennie Wright (Snr) – Ngarramang-Kuri AC&H
- David Ahoy – Myland Cultural & Heritage Group
- Rhonda Griffiths – Hunter Valley Aboriginal Corporation'
- Kylie Saunders – Wanaruah LALC
- Nicole Armit - GSSE
- Sophie Whittaker – GSSE
- Ben de Somer – Liddell Coal Operations
- Jodie Benton – OzArk EHM
- Cheryl Burke – OzArk EHM

Welcome and introductions

Welcome to Country by Arthur Fletcher with a one minutes silence to acknowledge Elders past and present.

Jodie Benton briefly presents the project and background.

Arthur Fletcher interjects and stresses that it is important that everyone has a true understanding of the project; the importance of the potential impacts on Mother Country. Arthur emphasizes that stakeholders should fully understand the project and be comfortable with the decision-making as it has an impact on Indigenous culture.

Jodie Benton notes that this is the third meeting that has been held regarding the Liddell Colliery Project. The initial meeting was an introduction to the project; the second meeting discussed the results of the September survey. Consultation has been positive and group orientated and the aim is to produce a report that reflects the cultural values of the RAPS (Registered Aboriginal Parties).

Nicole Armit summarises the history and aim of the project, discussing the approval process and proposed modification areas and the DA boundary (map included in PowerPoint slide).

Rhonda Griffiths notes that Bowmans Creek is an issue, queries if the creek is going to be protected from the overburden. Ben de Somer confirms that the mine design has been offset at a minimum of 50m meters from the creek.

Arthur Fletcher, not present at previous meeting(s), requests a copy of the minutes to the most recent meeting be distributed to all RAPs. Minutes provided as requested.

Jodie Benton explains that prior to the survey which is part of this current project, previously registered sites had been disturbed under Section 90s issued by the Office of Environment & Heritage (OEH). There is a long history of surveys within the Liddell Colliery project boundary, sites have been impacted for the purpose of mining, predominately open sites with artefacts are the site type which have been destroyed subsequent to permits being issued.

Arthur Fletcher queries if land has been destroyed in the Bayswater Creek area, and if sites are still there. Jodie confirms the areas where sites have been destroyed, and those that remain extant.

General discussion about the proposed South Pit and Chain of Ponds. Arthur Fletcher notes this is very important, Section 90s and sites have been salvaged however the project never went ahead. Jodie advises these areas have been re-assessed, the transect lines on the map (OzArk 2012) show how extensive the survey has been. Arthur expresses the need to know a percentage of ground cover, Jodie notes it was very variable, some good visibility, some not, approximately 15% and difficult to generalise.

General query about usage of the roads and tracks, Jodie notes that a lot of the tracks have been used previous to mining, for example farming.

Arthur Fletcher queries offsets and if there has been any discussion relating to potential compensation for destruction of Country. Jodie confirms that at the previous meeting direct conservation was discussed, and following that meeting the mining footprint has been modified to avoid majority of sites in area.

Arthur raises the flora / fauna issue and how cultural places are being totally destroyed and queries again if anything is being offered to the Community for the destruction of these areas.

Jodie notes that this project is a modification to an existing consent, it is not of the scale of the Bulga Optimisation Project (BOP) or Mt Owen, the scale of this project is much smaller and the planning process differs. Jodie reminds attendees there is no intention to increase the scale of the operation, it is extension only, previous meetings have seen the RAPs take more of an interest in not impacting the areas of cultural significance, as opposed to impacting them and seeking compensation.

Arthur Fletcher queries what the company (Xstrata) has given to the Community, he states that if he doesn't ask the question he won't get the answers. Although offsets are potentially still an option, Jodie explains that the changing the impact footprint was the main area of discussion at the December meeting, the aim was to not impact sites.

General discussion about the benefits to the Community, RAPs each have different ideas as to what is important, the reality is to obtain the best results. Rhonda Griffiths states that Liddell has been operating for a long time and offset areas are a new thing which were potentially not considered at the beginning of the mining phase.

David Ahoy suggests that offsets are not always possible and that the Community can benefit through other means. Jodie notes that the archaeological aim is to conserve the

areas of significance. General discussion about the need to maintain areas of cultural significance for future generations, education about the land and sites and the connection to the Aboriginal people of the area. It is important for Community to take a proactive approach and that the mining companies are held accountable for the destruction of sites; destruction is final, you cannot put things back to how they were.

Jodie Benton explains the grouping of the sites, Arthur interjects and queries if the Spiritual essence of the impact area / sites has been recorded. Arthur states that if the 'right' people were not present, those who do not have Spiritual knowledge of the area, then they would not know what is local and what connects. Arthur says that it is important that there is 'some kind of comfortability' that the sites identified are not Spiritual sites.

General discussion about consultation with local elders regarding potential Spiritual sites. Steven Hickey outlines the protocol when speaking with Elders, and the process of Elders empowering others to do business on their behalf. It is suggested that as the Elders will not come to meetings it is better to approach them and liaise on a more personal level, not a general RAP meeting. Arthur Fletcher advised he will raise this issue with the Wonnarua Elders Group who are meeting on Saturday. Arthur stresses you should listen to all and respect all.

Jodie Benton talks about the reporting process in relation to the last meeting and how it is important to see the report reflect the words and wishes of the RAPs. Jodie discusses the conservation of the culturally significant area within the Extension Pit Expansion (EPE) zone and how the impact footprint was modified to avoid it. Ben de Somer confirms that the current Liddell operational area has already been mined underground and there are no current plans to undertake further underground mining.

Jodie discusses the issue of PADs, we cannot move straight to a Section 90, more investigation is needed hence the research design for Code test excavation was distributed with the draft survey report.

Arthur Fletcher asks about the areas outside the areas where the test excavation is planned (LID 3 / LID 34), he would like RAPs to understand exactly what will be happening. Jodie notes that we are not planning to test pit outside the PAD areas. Arthur is troubled about the issue of total destruction, the lack of access to sites and the impact of the project on Country. He is keen to visit the sites and understand the 'whole picture', Arthur states he will not be satisfied with the process, nor will his people be comfortable with the process, if they are unable to visit the sites¹. In terms of Men's Business, Arthur suggests that when visiting the sites three to four other males accompany him; no archaeologists would be necessary. Ben de Somer agrees to hold another site visit for those that have not had the opportunity or are interested in visiting the sites again.

Jodie Benton notes that the current report is a 'living draft', nothing is final until the test excavation is undertaken, at which stage the sites can be visited. We are still at the investigation stage, management of sites yet to be reviewed.

¹ Due to other commitments Arthur Fletcher was unable to attend previous AFGMs or fieldwork associated with the Liddell Colliery Project.

General talk about employment opportunity for Community members in XCN projects.

All attendees take a brief break.

Subsequent to return from the break Jodie distributes the meeting minutes from both prior meetings (1/11/2011 & 13/12/2011). Jodie re-caps the project and shows the PowerPoint presentation from the initial meeting.

Return from lunch and private discussion: 1.05 pm

Arthur Fletcher asks for a photo of the stones which have previously been recorded, the origin and nature of these stones are unknown.

David Ahoy queries the possibility of doing another recovery of artefacts within the areas where the Section 90 has been approved. Notes that for this to happen it would require goodwill from the mine. David suggests that there should be additional consultation with the Elders to determine the significance of the stone arrangement in question. David also proposes that the mine may look at employment of an Indigenous land management team to care take the protected area along the Bowmans Ck. It is also suggested that XCN provide employment opportunities for Indigenous people in current and future projects.

Steven Hickey states he has an understanding of employment for Indigenous people within the mining industry as he manages an employment agency. Steven is curious to find out about long term employment for Indigenous people in the area and requests that this query be passed onto XCN and he is kept informed. Steven has not received anything back from past requests from XCN.

Ben de Somer says he will take this on board and will approach management and make enquires.

General discussion on hourly rates for work, specifically the rates for a site officer to undertake a survey. Ben de Somer advises the issue is being addressed at a higher level, RAPs are seeking consistency and an answer as to whether the rates have increased, they have been the same for some time. Arthur Fletcher advises that the RTA pay up to \$100 per hour, + \$175 for accommodation and AFHA travel rates. David Ahoy notes that he pays consultants \$150 per hour.

Ben says again he will take this matter to XCN corporate.

In relation to the test excavation Arthur Fletcher suggests there should be options in the field as to whether the excavation is conducted using wet or dry sieving. General discussion about the logistics providing this option, realistically the dig needs to be planned as either wet or dry, not both. The OH&S issues of both wet and dry sieving are noted and it is agreed there are pros and cons for each. Arthur notes that at RAV North a backhoe was used, and although it is his preference Jodie advises this is more of a salvage strategy.

In answer to a question about the employment / tendering of a water truck driver and sources of water, Ben de Somer indicates Liddell have a contractor who carries out this work.

On the topic of offering a site visit Ben de Somer addresses this issue and advises that a minimum of three days' notice will be required. It is agreed a date will be set and an invitation extended to RAPs who have not previously been on site, or wish to visit the sites again. This site visit will be unpaid.

Jodie notes that OzArk are hoping to undertake the test excavation quite soon after the response date for comments closes, which is 16th March, 2012. Ben will check the general XCN project calendar to confirm that other projects will not clash with the upcoming excavation schedule.

All RAPs agree that expressions of interest for this project should no longer be open. Should new stakeholders register it is acceptable that their registration is taken and they are consulted, however the paid work should not be offered and made available to them.

Meeting concludes: 1.51 pm

ACTIONS:

- Seek consultation with elders with Arthur and Steve's assistance
- Hold another site visit for interested RAPs to visit the sites
- Follow up with XCN issue of ACH work rates, and Aboriginal employment opportunities/strategy across the business.
- Review employment opportunities for land management tasks in the areas to be protected along Bowmans Ck.
- Complete test excavation program.

Sample invitation to RAPs to attend Site Orientation.



OzArk Environmental & Heritage Management P/L
145 Wingewarra St / PO Box 2069 DUBBO NSW 2830
WEB: www.ozarkehm.com.au
ABN: 59 104 582 354

12th March 2012

Wanaruah LALC
Mr Noel Downs
PO Box 127
Muswellbrook NSW 2333

Dear Noel

INVITATION: Liddell Colliery, Ravensworth, Site Orientation.
Project: Proposed Modification to Development Consent DA-305-11-01

We would like to thank stakeholders for their attendance at the meetings which have been held to discuss the Liddell Coal Project. At the most recent meeting on the 29th February, stakeholders expressed an interest in re-visiting the site to allow representatives who had not been able to participate in the initial site visit and subsequent fieldwork in September 2011, an opportunity to familiarise themselves with the project area.

This half day site orientation is scheduled:

Date: Thursday 22nd March, 2012
Time: arrive at 8.30 am for a **9.00 AM start**
Place: Liddell Colliery,
Old New England Highway, Ravensworth
Required: Full personal protective equipment, namely; safety boots (NO elastic sided boots), long trousers, a long sleeved shirt, safety glasses, a high visibility shirt or vest and a hard hat.

Stakeholders who have not had an opportunity to visit the sites and wish to do so are invited to attend this half day site orientation. Please note this site visit has been arranged at the request of registered stakeholders who have been unavailable to visit the site on previous occasions, and as per discussion at the February meeting it is voluntary; no payment will be made to participants.

If you wish to attend the half day orientation, we ask that you RSVP by **no later than 5pm Tuesday 20th March** by contacting our office via phone, fax or email. If we do **NOT** receive a response from stakeholders wishing to participate, the orientation date will be cancelled.

Should you have any questions regarding any of the information provided in this letter, please do not hesitate to contact me.

Yours faithfully

A handwritten signature in black ink that reads 'Cheryl Burke'.

Cheryl Burke / Consultation Officer

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

Sample notification to RAPs advising rescheduled site orientation date.



OzArk Environmental & Heritage Management P/L
145 Wingewarra St / PO Box 2069 DUBBO NSW 2830
WEB: www.ozarkehm.com.au
ABN: 59 104 582 354

24th March 2012

Dear Stakeholder

Rescheduled Site orientation – Wednesday 28th March, 2012
Project: Proposed Modification to Development Consent DA-305-11-01.

Due to lack of numbers the site orientation for the Liddell Project has been re-scheduled to Wednesday 28th March, 2012.

As a reminder stakeholders who have not had an opportunity to visit the sites and wish to do so are invited to attend this half day site orientation. Please note this site visit has been arranged at the request of registered stakeholders who have been unavailable to visit the site on previous occasions, and as per discussion at the February meeting it is voluntary; no payment will be made to participants.

If you are interested in attending the half day orientation, we ask that you RSVP by no later than 5pm Monday 26th March, 2012 by contacting our office via phone, fax or email. If we do NOT receive a response from stakeholders wishing to participate, the orientation date will be cancelled.

This half day site orientation is scheduled:

Date: Wednesday 28th March, 2012

Time: arrive at 9.30 am for a 10.00 AM start

Place: Liddell Colliery,
Old New England Highway, Ravensworth

Required: Full personal protective equipment, namely; safety boots (NO elastic sided boots), long trousers, a long sleeved shirt, safety glasses, a high visibility shirt or vest and a hard hat.

Please do not hesitate to get in touch should you have any queries regarding the enclosed information.

Yours faithfully

A handwritten signature in black ink, appearing to read 'Cheryl Burke'.

Cheryl Burke /Consultation Officer

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

Sample notification sent to RAPs regarding Test Excavation.



OzArk Environmental & Heritage Management P/L
145 Wingewarra St / PO Box 2069 DUBBO NSW 2830
WEB: www.ozarkehm.com.au
ABN: 59 104 582 354

24th March 2012

Members – Wanaruah LALC
c/- Mr Noel Downs / CEO
PO Box 127
Muswellbrook NSW 2333

Dear Noel

INVITATION: Liddell Colliery, Ravensworth, Excavation.
Project: Proposed Modification to Development Consent DA-305-11-01.

Further to the methodology recently distributed to all registered stakeholders, and discussions at the 29th February meeting, we would like to advise the dates of the test excavation program associated with this project;

- **Test Excavation Date(s):** Monday 16th April to Friday 20th April 2012.
- **Proposed time and location to meet:** Monday 16th April, 7.30 am for a 8.00 am start on site. – Liddell Colliery, Old New England Highway, Ravensworth.
- **Duration:** Five (5) full days of *up to* 8 hours each (this includes induction on Day 1).
- All Site Officers will be required to undertake a Site Familiarisation / Induction on site on Day 1 prior to commencement of work. **ALL TEAM MEMBERS must be present for the Site Familiarisation / Induction on Monday 16th April** even if they are not scheduled to participate in the test excavation on Day 1. Should your Site Officer fail to attend they will not be inducted and will not be permitted on site during the week.

***** IMPORTANT INDUCTION INFORMATION ****

As Liddell Colliery is owned by Xstrata, it is imperative that prior to working on site **ALL participants** are required to have completed the Xstrata Generic Induction. If your organisation wishes to participate, please ensure you appoint a Site Officer who has these necessary qualifications and **forward all relevant induction card numbers and associated paperwork to this office by COB Tuesday 10th April 2012.**

In addition, for Site Familiarisation/Induction booking purposes, the name and details of your site officer are required by **Tuesday 10th April 2012** to secure a place in the course and subsequently on the excavation team.

You would be aware that any team member that has not completed the appropriate inductions will NOT BE permitted on site.

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

OzArk Environmental & Heritage Management P/L

Please note that all employees and contractors of Liddell Colliery may be subject to random drug and alcohol testing. Should your Site Officer refuse testing if requested and/or test positive to drugs or alcohol, he/she will be asked to leave the property. Should this occur, your organisation's payment for that day will be forfeited.

Team details:

In order to be able to undertake this excavation work we will form a combined Archeological team comprising eight (8) Aboriginal Community Stakeholder Groups representatives in addition to five (5) OzArk personnel.

The purpose of this letter is to outline the itinerary and roster for the upcoming test excavation project commencing Monday 16th April 2012 which will continue for one week.

The proposed roster is attached and we invite your organisation to participate in the test excavation program. Please be reminded that it is a requirement we have on file your current **Workers Compensation Certificate of Currency**, due to OH&S legislation we cannot allow your site officer to participate if we do not have a copy of this certificate.

Should you have any issues meeting the roster requirements please contact me as soon as practicable and we will consider alternative arrangements.

Payment Rates and Conditions:

Liddell Coal is to pay **\$550.00 per registered Aboriginal party representative per day + \$50 travel allowance per group (excluding GST)**. Pay rates will be adjusted at the rate of \$68.75 per hour if your representative is late or does not complete the survey work hours.

Should fieldwork be cancelled after commencement of the day's work due to bad weather (such as rain, dangerous storm activity or excessive heat) that prevents fieldwork from being undertaken safely, payment will be adjusted at the rate of \$68.75 per hour. If work is cancelled prior to 4 hours work being completed, a minimum of 4 hours' work will be paid.

A sign on and sign off sheet will be maintained by the Operations Manager. Please feel free to ask for copies of these to be forwarded, should it be required for invoicing.

Invoicing Details:

All invoices should be addressed to:

Liddell Coal Operations P/L
Attn: Ben de Somer
Locked Bag 2,
Singleton Delivery Centre, NSW 2330
e: < bdesomer@xstratacoal.com.au

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

Work Details:

Inductions and Risk Assessment

As with all test excavation work, inductions will be held on the first day of rostered work. ALL TEAM MEMBERS must be present for the Site Familiarisation / Induction on Monday 16th April even if they are not scheduled to participate in the test excavation on Day 1. Should your Site Officer fail to attend they will not be inducted and will not be permitted on site during the week.

Daily Work Schedule and Times

Work will commence at 8am daily, meeting at the Liddell Colliery Site offices, with a ½ hour morning tea and ½ hours lunch break. Works will cease at 4pm.

Feedback from registered stakeholders indicated they would like to see both wet and dry sieving methods available for the test excavation program. Whilst we will endeavour to make the option of both these methods available, the use of wet sieving will be dependent on gaining safe access to the site for a water truck (based on weather conditions) and also ecological constraints. This is particularly relevant for LID 3 with PAD, as it is thought that access to LID 34 with PAD will not pose any constraints.

Staff requirements

- Each group is responsible for their own OH&S issues; all staff provided should be physically fit, able to manually dig and lift 9L buckets with sand / soil in them and stand for several hours at a time. It is the responsibility of each group to identify if any of your personnel have medical conditions / allergies that should be known to other people participating in the dig in the event of an emergency. The OzArk field director will send home anyone who they determine to be 'unfit for work' or who may pose an OH&S risk to themselves or others.

Your Site Officer will need: **Personal Protective Equipment (PPE)** –

- Construction helmet (with sun visors);
- Long pants and long sleeve (high visibility) shirt;
- High visibility safety vest;
- Steel toe capped boots;
- Sunscreen;
- Water and food for the duration of the excavation.

In order to assist the Aboriginal cultural heritage excavation program, we ask that you confirm your site officer's availability for their rostered day, no later than close of business Tuesday 10th April, 2012. If a rostered Aboriginal party cannot make the work allocated, an alternative will be sought from other Aboriginal parties registered for the project

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

OzArk Environmental & Heritage Management P/L

We look forward to working together with you in undertaking Aboriginal cultural heritage investigation and salvage work.

Please do not hesitate to get in touch should you have any queries regarding the enclosed information.

Yours faithfully



Cheryl Burke /Consultation Officer

In Addition:

It was brought to our attention during the recent stakeholder meeting that Aboriginal cultural knowledge specific to the Liddell Colliery sites/area may be held by older members of the local Aboriginal community. To assist us to formulate an appropriate protocol to meet and consult with any known persons who hold this knowledge, we would appreciate if you could contact us so that we can make arrangements to get in touch and meet with any nominated spokesperson(s), on whatever terms they would prefer. As we wish to understand and incorporate the cultural values of the project site, we are keen to consult with relevant Aboriginal cultural knowledge-holders.

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

Sample correspondence to specific RAPs regarding cultural knowledge protocol.



OzArk Environmental & Heritage Management P/L
145 Wingewarra St / PO Box 2069 DUBBO NSW 2830
WEB: www.ozarkehm.com.au
ABN: 59 104 582 354

2nd May 2012

Members – Wattaka Wonnarua
Cultural C. Service
c/- Mr D Hickey
4 Kennedy St
SINGLETON NSW 2330

Dear Des

Liddell Coal Operations: Cultural Heritage Assessment for the Proposed Modification to Development Consent DA-305-11-01.

As part of the consultation process for the Liddell project, we would like to foster a flexible approach which may encourage older members of the local Aboriginal community to meet with us to discuss the cultural values of the project site.

To assist us to formulate an appropriate protocol to meet and consult with any known persons who may hold this knowledge, we would appreciate if you could contact us so that we can make arrangements to get in touch and meet with any nominated spokesperson(s), on whatever terms they would prefer. We are keen to consult with relevant Aboriginal cultural knowledge-holders so that we gain a better understanding of the cultural values of the Liddell project site and can incorporate this information into the assessment process.

We are aware of the sensitivity of certain cultural information, and will respect the wishes of knowledge-holders should they request that this information is not disclosed in the written reports. It remains important however, that the cultural values are recorded to assist in determination of the cultural significance of the Study Area.

If you are aware of local Aboriginal cultural knowledge holders who may wish to share relevant cultural information about the project site, please contact our office so that we can make arrangements to meet with them if they choose.

We look forward to your response.

Yours faithfully

A handwritten signature in black ink that reads 'Cheryl Burke' followed by a period.

Cheryl Burke /Consultation Officer

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

Excavation Sign in record.

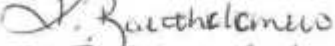
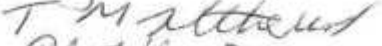
LIDDELL
JOB# 685

OzArk EHM P/L INDUCTION 'SIGN ON/ OFF' SHEET. Contractors / Staff / Associates			
I have been briefed and fully understand the policies and procedures for the Liddell Colliery Excavation			
DATE	NAME	ORGANISATION	SIGNATURE
10/4/12	Danny Frank	TERMINAL	[Signature]
10/4/12	Steve Kelly	TERMINAL	[Signature]
16/4/12	Kyle Saunders	AVAC	[Signature]
16/4/12	Nevada Saunders	WAC	[Signature]
16/4/12	TERRY MATTHEWS	TPH	[Signature]
10/4/12	Anna Sweetfield	OZARK	[Signature]
16/4/12	Elizabeth Sweetfield	CCC	[Signature]
16/4/12	John Mitchell	CCC	[Signature]
16/4/12	Robert Simpson	CCC	[Signature]
16/4/12	Donna Simpson	CCC	[Signature]
16/4/12	Robert Fletcher	WAC	[Signature]
16/4/12	Robert Fletcher	WAC	[Signature]
16/4/12	John Sweetfield	CCC	[Signature]
16/4/12	John Sweetfield	CCC	[Signature]

OzArk EHM P/L
INDUCTION 'SIGN ON/ OFF' SHEET.

I have been briefed and fully understand the policies and procedures for the Liddell Colliery Excavation

[illegible]

Name	Company	Sign	18 04 12
Danny Hanks	Tecumseh		
Steve Perry	Tecumseh		
Kyle Saunders	HVAC		
Nerida Saunders	WLAL		
Kay Bartholomew	Yincan		
TERRY MATTHEWS	TAG		
DELEE MATTHEWS	WCH		

049 029
04252

INDUCTION 'SIGN ON/OFF' SHEET.

Contractors / Staff / Associates

220

OzArk EHM P/L
INDUCTION 'SIGN ON/OFF' SHEET.

Contractors / Staff / Associates

I have been briefed and fully understand the policies and procedures for the Liddell Colliery Excavation

[illegible]

Sample invitation to attend post excavation meeting to discuss AHIP.



OzArk Environmental & Heritage Management P/L
145 Wingewarra St / PO Box 2069 DUBBO NSW 2830
WEB: www.ozarkehm.com.au
ABN: 59 104 582 354

31st July 2012

Members: Wanaruah LALC
c/- Mr N Downs
PO Box 127
Muswellbrook NSW 2333

Dear Noel

INVITATION to consultation meeting regarding recently completed test excavation programme & associated AHIP – LID 3 WITH PAD AND LID 34 WITH PAD (# 37-3-0453 AND #37-3-1150)– Liddell Colliery.

In April this year the test excavation of site(s) LID 3 (#37-3-0452) and LID 34 (#37-3-1150) was undertaken at Liddell Colliery. We would like to extend a thank you for the contribution of registered stakeholders who participated in the excavation work.

Enclosed with this invitation is a copy of the draft report – '*Archaeological Test Excavations at LID 3 (#37-3-0452) AND LID 34 (#37-3-1150)*', OzArk Environmental & Heritage Management P/L 2012.

Further to consultation at the conclusion of the excavation programme, OzArk and Liddell Colliery wish to invite all stakeholders to a meeting to discuss the results of the test excavations and possible management strategies for the Aboriginal Heritage Impact Permit (AHIP) application.

This meeting is scheduled to be held:

Date: Tuesday 14th August, 2012
Time: 8.30 am for **9.00 am start** / concluding after lunch.
Place: Liddell Colliery
Old New England Highway
Ravensworth

Morning tea will be provided.

Subsequent to the meeting all Registered Aboriginal Parties are asked to submit feedback, either written or verbal, within the required *twenty eight (28) day* period concluding **Friday 31st August 2012.**

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

Fee / Invoicing:

Liddell Coal Operations are proposing to pay \$68.75 per hour per stakeholder representative + \$50 travel allowance per group (excluding GST) for attendance at the half day meeting. Invoices are to be addressed to Liddell Coal Operations, Locked Bag 2, Singleton Delivery Centre, NSW 2330, and Attention: Ben de Somer, E: bdesomer@xstratacoal.com.au

If you wish to attend the meeting or send an appropriate representative, for catering purposes we ask that you *RSVP* no later than *Thursday 9th August, 2012* by phoning our office: 6882 0118, or via email: cheryl@ozarkehm.com.au

Regardless of attendance at the meeting we ask that you review the enclosed document and should you require more time to submit a response please contact our office prior to the closure date, **Friday 31st August 2012**.

If you have any queries, please feel free to contact us via phone or email.

Yours sincerely



Cheryl Burke
Consultation Officer

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au

Sample notification of rescheduled meeting date.



OzArk Environmental & Heritage Management P/L
145 Wingewarra St / PO Box 2069 DUBBO NSW 2830
WEB: www.ozarkehm.com.au
ABN: 59 104 582 354

7th August 2012

Dear Stakeholder

CHANGE OF MEETING DATE:

Consultation meeting regarding recently completed test excavation programme & associated AHIP – LID 3 WITH PAD AND LID 34 WITH PAD (# 37-3-0453 AND #37-3-1150)– Liddell Colliery.

Please be advised that the proposed meeting scheduled for Tuesday 14th August, 2012 has unfortunately been postponed. We apologise for any inconvenience this may cause, and would like to invite you to attend the re-scheduled meeting:

Date: Tuesday 28th August, 2012
Time: 8.30 am for **9.00 am start** / concluding after lunch.
Place: Liddell Colliery
Old New England Highway
Ravensworth
Morning tea will be provided.

Fee / Invoicing:

Liddell Coal Operations are proposing to pay \$68.75 per hour per stakeholder representative + \$50 travel allowance per group (excluding GST) for attendance at the half day meeting. Invoices are to be addressed to Liddell Coal Operations, Locked Bag 2, Singleton Delivery Centre, NSW 2330, and Attention: Ben de Somer, E: bdesomer@xstratacoal.com.au

If you wish to attend the meeting or send an appropriate representative, for catering purposes we ask that you RSVP no later than *Thursday 23rd August 2012*, by phoning our office: 6882 0118, or via email: cheryl@ozarkehm.com.au

Regardless of attendance at the meeting, all Registered Aboriginal Parties are asked to submit feedback on the draft excavation report, either written or verbal, within the required twenty eight (28) day period concluding **Friday 31st August 2012**.

If you have any queries, please feel free to contact us via phone or email.

Yours sincerely

A handwritten signature in black ink that reads 'Cheryl Burke'.

Cheryl Burke / Consultation Officer

Tel: 6882 0118; Fax: 6882 0630; Mob: 0403 763 504 / 0423 198 898
E-mail: jodie@ozarkehm.com.au / phil@ozarkehm.com.au / cheryl@ozarkehm.com.au



Environmental & Heritage Management P/L
ABN: 59 104 582 354

**Liddell Colliery Development Consent DA-305-11-01.
Aboriginal Cultural Heritage Management Meeting
9 am, Tuesday 28th August 2012
VENUE Liddell Colliery**

Invitees: All Registered Aboriginal Parties; representatives of Liddell Colliery, GSS Environmental and OzArk

8.30 AM	ARRIVAL OF ATTENDEES
9.00 AM	ACKNOWLEDGEMENT OF COUNTRY INTRODUCTION OF ATTENDEES
9.15 AM	REVIEW OF ACTIONS FROM FEBRUARY MEETING OzArk / LCO
10.00 AM	PRESENTATION OF TEST EXCAVATION RESULTS OzArk
10.30 AM	MORNING TEA
11.00 AM	OPEN DISCUSSION RE: AHIP for Liddell Dev Mod – ALL PRESENT 1. Management Strategies for Aboriginal Heritage Impact Permit (AHIP) application – Sites LID 3 and LID 34 2. Re-cap of management for other sites 3. Long term management of artefacts
12.30 PM	CLOSING REMARKS – ALL PRESENT

AGENDA – post-test excavation programme / AHIP for Liddell Dev Mod.



LIDDELL COLLIERY DEVELOPMENT CONSENT DA-305-11-01

Tuesday 28th August 2012
Liddell Colliery

NAME	ORGANISATION	CONTACT DETAILS	SIGNATURE
Rebecca Lester	WNAC	0423 044586	RL
David Ahoy	Myland	0411095249	David Ahoy
BEN QUINLAN	AT&G	0477291352	BQ
KATHIE KINCHEN	WINAPPE CULTURAL SERVICES	0432720623 0265476077	Katie Kinchen
Donna Sampson	Cacarua	0403765019	Donna Sampson
Rhonda Griffiths	HV-A-L	65431180	Rhonda Griffiths
Allen Paget	UNIPRO AD Corp	0406461987	Allen Paget
DES Hickey	WATARA	0432977178	Des Hickey
JODIE BENTON	OZARK	0403763504	Jodie Benton
CHERYL BURKE	OZARK	"	Cheryl Burke
Nicole Smith	GSE	0407910841	Nicole Smith

Minutes from meeting 28th August, 2012.

Consultation Meeting Regarding AHIP application associated with proposed Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth.

**28th August 2012
Liddell Colliery.**

Meeting commenced: 9.10 am

Present:

- Rebecca Lester – Wonnarua Nation Aboriginal Corp.
- David Ahoy – Myland Cultural & Heritage Group
- Ben Quinlan - T&G Cultural Consultants
- Kathie Kinchela – Yinarr Cultural Services
- Donna Sampson – Cacatua Culture Consultants
- Rhonda Griffiths – Hunter Valley Aboriginal Corporation'
- Allen Paget – Ungooroo Aboriginal Corporation (UAC)
- Des Hickey - Wattaka Wonnarua Cultural C. Service
- Nicole Armit - GSSE
- Ben de Somer – Liddell Coal Operations
- Jodie Benton – OzArk EHM
- Cheryl Burke – OzArk EHM

Welcome and introductions

Welcome to Country by Allen Paget.

Introduction of attendees.

Jodie Benton addresses actions of meeting held in February.

- Seek consultation with elders with Arthur Fletcher and Steve Hickey's assistance

Correspondence was distributed to the Hickey family and Arthur Fletcher requesting assistance to formulate an appropriate protocol to meet and consult with knowledge-holders known to them. This correspondence was mailed specifically to the stakeholders who had suggested that consultation methods with Elders should take a more informal approach. No responses were received Jodie notes the challenges of trying to consult with those people who stakeholders feel are the most appropriate to speak with.

- Hold another site visit for interested RAPs to visit the sites, because some RAPs joined late and had not had the opportunity for a Liddell project reconnaissance.

Ben de Somer advises that invitations were distributed to all stakeholders to participate in this additional site visit. The first site visit was cancelled due to poor weather and the second scheduled date went ahead and was attended by Arthur Fletcher and Suzie Worth, areas visited included Bowmans Creek, Bowmans Ridge sites and Chain of Ponds.

9.30 am Des Hickey arrives @ the meeting.

- Follow up with XCN issue of ACH work rates, and Aboriginal employment opportunities/strategy across the business.

Ben de Somer clarifies the work rates for the Liddell Colliery project are now consistent with all other XCN mines, the standard rates for 2012 – 2013 have been set at \$68.75 per hour. Ben advises he is unsure of the review period however this is the current XCN rate.

- Review employment opportunities for land management tasks in the areas to be protected along Bowmans Ck.

Ben de Somer addresses employment strategies and XCN's commitment to the Reconciliation Action Plan (RAP). Ben summarises the Australian Indigenous Minority Supplier Council (AIMSC) process; support of the Many Rivers organization supplying low interest business loans for Aboriginal businesses and mentoring program. Ben confirms there will be employment opportunities for land management team members, however the area in question is rather small and thus the volume of work is equally small, unlike the larger conservation areas on the RAV North project. Ben advises ideally Liddell will utilise existing partnerships that XCN have established with specific organisations and training programs can be facilitated.

Donna Sampson notes the problems with land management traineeships and how after these are completed there are no employment prospects, after a two year traineeship there are no further opportunities.

Kathie Kinchela says there should be Aboriginal identified positions.

Ben discusses how realistically in the Bowmans Creek area it would only involve two to three weeks of land management work and potential fencing work, the existing fencing has been established through consultation with archaeologists and stakeholder representatives, however this will need to be maintained, similar to weed management, and the occasional feral control / field shoot. As there is no dedicated offset area at Liddell (like Mangoola), because the project is much smaller, the plan will be to broadly fence off areas rather than individual sites.

Donna Sampson says it is important there is Community involvement in any fencing work as it is Community who best know where around the sites should be fenced.

Ben notes that once Liddell move from the development modification stage they revert to management plan maintenance phase, which will involve bi-annual meetings regarding these general management issues.

Allen Paget asks about the life of the mine and Ben recaps this issue and says although mining itself is based on variables, the current plan is to have finished the bulk of mining in 2023, approximately, and finishing completely by 2028 including mine closure activities. Ben discusses the areas which are being extended for mining, referring to the map on screen, noting the current development consent boundary and where mining will be extended to. Ben notes the map is an outdated version however Jodie Benton advises the older map has been provided so that stakeholders can see how the plans have changed since project inception.

Kathie Kinchela requests a large copy of this map for attendees. Ben agrees to print out maps in the break.

- Complete test excavation program.

The test excavation program was completed in April 2012; outcomes will be discussed after the break.

Jodie Benton gives a quick recap of the meeting for Des Hickey who was a late arrival.

Break for Morning tea 10.00 – 10.15 am

All attendees have a copy of the map presented on the overhead, general discussion and summary on the changes to the impact footprint since project inception. Jodie talks about how the stakeholders were not happy with the original Entrance Pit Boundary impacting a number of sites along Bowman's Creek, and through consultation at the post survey meeting in December, 2011, the boundary was pulled in so that sites were avoided as opposed to being impacted.

Jodie and Nicole discuss how the proposed limit of mining associated with the Entrance Pit extension was pulled away from the highly sensitive areas, which Jodie notes as a positive. Effectively this meant that the areas requiring investigation during the test excavation were much smaller, as the majority of identified sensitive areas will now be avoided and therefore not impacted by the extension.

Jodie presents a summary of the test excavation program, discussing the density of artefacts and nature of occupation within the impact footprint. No testing was done in the conserved area as it is no longer being impacted.

Kathie queries the distance between the impact area and the conserved area. Ben advises this issue was incorporated into the mine design and there is approximately a 50 m buffer, the conservation zone Sensitive Archaeological Landform (SAL) will be conserved and there is a definite delineation between works and the conservation area.

Des asks if there has been any field survey work done in the proposed mining extension areas. Jodie advises that, as per the report, the survey was completed by a team of archaeologists and stakeholder representatives in September 2011.

Jodie explains how the test excavation focused on the areas of the recorded sites that were within the impact footprint, and that although the landscape and sites within it were looked at as a whole (as opposed to dots on a map indicating individual sites), only parts of the SAL were test excavated, being those under threat. The results of the test excavation has shown that only a small amount of archaeological material remains in the area (due to the significant impact of erosion) and, the artefacts recovered represent the remains of a now deflated site.

General discussion about the statistics noted in the draft excavation report, as per the PowerPoint presentation; very low artefact density; 8 artefacts recovered from 100 test pits, all artefacts recovered from top 15 cm of soil.

General discussion about the management of sites LID 3 and LID 34. Jodie also suggests the potential for topsoil that needs to be stripped from the Impact Footprint in the areas of these sites being retained and used on site for re-vegetation or erosion protection. On a cultural level retaining the soil would mean that all materials remain in the general vicinity of the site.

Ben agrees that this is a great concept, however he will need to investigate it further as he feels it may not be very practical. The issue would be the collection and storage location of the soils and he is unable to commit to this without looking further into the matter.

Kathie asks about further sieving. Jodie explains that due to the low density of the artefacts it is maybe not really realistic that further sieving be undertaken, given the demonstrated exceedingly low density. Kathie notes her concern that non-visible artefacts have the potential to be harmed. Ben says that the retaining and relocation of the soil will be subject to many factors which he will explore.

Donna Sampson suggests that the soil which is removed should be used in other areas very nearby – of the same site complex and within the SAL -where there is a lot of erosion. Jodie agrees that this idea is ideal, and notes that we will need to include rehabilitation to cover this in the AHIP application. As the soil will stay on Country this idea is perfect to ensure any artefacts remain very close to their original locations.

Jodie suggests that visible artefacts on the surface be collected prior to works commencing and that the Care and Control of these artefacts needs to be addressed. Subsequent to any artefacts being collected Jodie advises that they should potentially be catalogued and depending on the wishes of the Community they could be reburied.

Donna asks about having a shipping container for storage on site whilst the collection works are taking place, and if there is an opportunity for the Community to be involved in the analysis of the artefacts. General discussion about training the Community in artefact analysis during this project, Jodie says that if LCO are happy to support this idea it sounds like a good option. Jodie mentions that due to the likelihood there will not be numerous artefacts this work should potentially take one day and that perhaps there is no need for a shipping container.

Donna suggests that a locked filing cabinet would be best for temporary storage of any artefacts collected and queries if there is an opportunity for the artefacts to stay on site in a conservation area. Ben advises that there are no formal conservation areas as such, however the artefacts can be returned to the SAL that will now be conserved due to the re-working of the impact footprint. Ben notes that the co-ordinates of any relocated artefacts will be recorded and Jodie notes these must also be provided to OEH with the ASIRFs

Kathie Kinchela agrees that it is important that artefacts stay on Country.

Donna Sampson notes that it would be a good idea if a couple of nice pieces are selected and placed in a locked display cabinet at the LCO site for educational purposes. Currently education for contractors involves slides and presentations, to have a physical example of artefacts would be very beneficial and informative.

Jodie discusses the management recommendations relating to site LID34, explaining that the density of artefacts is incredibly low and that presuming the main part of the site is conserved we are only impacting the edge of it.

General discussion about the management of the other sites (Chain of Ponds Creek area), these recommendations were discussed at the last meeting, however Jodie recaps this since only two people who were present at the February meeting are here today.

Des Hickey queries how much topsoil there is, Jodie confirms the topsoil is only 2-3 cm thick.

Donna Sampson asks why the recommendation is to surface collect only along Chain of Ponds Creek sites if artefacts are still there, shouldn't it be managed differently? Jodie reminds everyone that a Section 90 has previously been issued and salvage has been undertaken (LID SE01/LID 30/LID 32 and Glendell G13), the Section 90 is still active and does not expire until 2016.

Des Hickey requests that this be checked as he is surprised that the duration of the AHIP is so long. Des also queries when the survey was undertaken and who was involved. General recap of the dates and stakeholder involvement.

Donna Sampson queries when the collection works would be undertaken. Ben discusses the timeframe associated with the construction of a water void, the water storage areas and dams. The priority area would be around the Bowmans Ridge Site followed by the South Cut area.

Jodie advises for this reason she would want the AHIP to cover a time period of 5-10 years so that it was active for the entire project. Nicole Armit notes that the project has not been hurried and LCO commenced consultation early so that stakeholders would be involved in the very early stages.

Jodie discusses the management recommendations of additional extant sites LID33 and Ravensworth A. Recommendations for both sites include surface collection and in addition for Ravensworth A vegetation clearance. General discussion about the management of top soil and keeping the soil on site for erosion control.

Jodie and Ben discuss the rehabilitation strategy for the Bowmans Creek area and how the material can be used to have a positive effect on site conservation. Discussion relating to the surface collection of artefacts and the subsequent cataloguing, recording and analyzing which should take place on site.

Nicole queries the fate of the artefacts, would all objects collected be managed the same way and be reburied in the same area?

Donna Sampson suggests a workshop to discuss the reports and the management recommendations for the sites. As this is the fourth meeting in a series to achieve that outcome, general discussion follows on how best to gain a response. Donna mentions that the minutes to the meetings should be distributed earlier and be accompanied by a feedback form which summarises what was discussed at this meeting. Jodie agrees that this is a good method and may help achieve more effective communication. Instead of sending out the entire report again with amended recommendations, it is decided a summary will be distributed and stakeholders will be invited to submit a written comment on the re-worked management recommendations.

- Long term managements of artefacts.

General discussion about a smaller assemblage of collected artefacts to be displayed on site. Other artefacts should be reburied outside the impact footprint and potentially near Bowmans Creek within the Entrance Pit Boundary area (that being the area where the impact footprint was reduced and other sites along Bowmans Creek were avoided). It is noted that the Care and Control of objects to be placed on display (on AHIP) is generally through Wanaruah LALC.

Donna Sampson asks about the European heritage sites. General discussion clarifying that the Chain of Ponds Hotel is owned by Coal and Allied and that the stockyards possibly associated with this site (on the Liddell site) are not original, and they are likely to have replaced any original yards that may have been there. These sites (the yards), will be documented for archival purposes and then may be destroyed as a result of the project

General discussions about how the mine has been operating for a long period of time, thus the amount of surveys undertaken have been numerous.

A thank you is extended to everyone for attending the meeting today.

Meeting Concludes: 12.10 pm

ACTIONS:

- OzArk to summarise management actions (i.e the recommendations that will accompany the EA report) for distribution to stakeholders with meeting minutes. A feedback form is to be included for comment on the management options discussed.
- Confirmation of AHIP #2438 expiry date – confirm this is valid for 10 years.

Expression of Interest from Kawul Cultural Services.



Expression of Interest from KL KG Saunders Trading Services.

*Nerida Saunders
06 Bowfield Place
Muswellbrook NSW 2333
Mobile. 0434553307*

ABN.35611096814

Date: 30th august 2012

KL.KG Saunders Trading Services

KL.KG Saunders Trading Services would be interested in being consulted with regards to any upcoming field work

Please be advised that KL.KG Saunders Trading Services wishes to be consulted in and to participate in any of the upcoming work by providing an experienced fieldworker to assist in the assessment of cultural heritage values. We look forward to hearing from you in due course and please do not hesitate to contact me on the above number.

Kind regards,

***Krystal Saunders
KL.KG Saunders Trading Services***

Follow up correspondence sent to RAPs.

Aboriginal Heritage Impact Permit (AHIP) application for all sites which will be impacted by the proposed Modification to Development Consent DA-305-11-011, including sites LID 3 with PAD and LID 34 with PAD (# 37-3-0453 & # 37-3-1150) – Liddell Colliery.

Dear Stakeholder

21 September 2012

A meeting was held with Registered Aboriginal Parties (RAP) on the 28th August 2012 at Liddell Coal Operations (LCO) to discuss the outcomes of the test excavation program undertaken at LCO in April 2012. At this meeting it was agreed that this letter be sent to all RAPs summarising the recommended management options for sites within the disturbance area associated with the proposed extension of open cut mining activities at LCO. It was also agreed that two weeks (following receipt of the letter) be given for any comments concerning the preferred management option for these sites (**9 October 2012**). Following this time period, should stakeholders agree that the management recommendations set out in the test excavation report are appropriate then the AHIP application process would be able to begin.

Suggestions and other key points raised at the meeting concerning the management of sites which will be impacted by the proposed Modification to Development Consent DA-305-11-011 are summarised below:

Fate of artefacts

- Surface collection of artefacts in proposed disturbance areas will be undertaken.
- A small assemblage of the artefacts collected from proposed disturbance areas are proposed to be displayed at LCO. Wanaruah LALC may submit a Care and Control agreement on behalf of LCO, and these artefacts could be placed in a locked display cabinet and be used for educational purposes.
- All other collected artefacts are proposed to be reburied near Bowmans Creek outside the impact footprint. All co-ordinates of any relocated artefacts would be recorded and submitted to OEH with an Aboriginal Site Impact Recording Form (ASIRFs).

Analysis

- It is proposed that artefacts collected be analysed on site, and RAP representatives provided an opportunity to assist with the cataloguing and analysis of collected artefacts.

Erosion protection and re-vegetation

- In relation to sites LID 3 and LID 34, it was suggested that topsoil stripped from these sites be retained at LCO and re-used in the erosion and rehabilitation works of extant sites outside the Project impact footprint. Retaining the soil would mean that any insitu cultural material remains in the general vicinity of the site.

Included with this letter –

1. Minutes from the AFGM held 28th August 2012;
2. Hard copy of the PowerPoint presentation from the August meeting with RAPs;
3. Feedback form; and
4. Liddell Colliery Aboriginal Cultural Heritage Management Plan (Jan 2008).

Please post, fax (6882 0630) or email your comments to Cheryl Burke (cheryl@ozarkehm.com.au) at OzArk EHM PO Box 2069, Dubbo, NSW, 2830 by close of business on Friday 12th October, 2012.

Liddell Coal Operations – Proposed Modification to DA 305-11-01

Comments on the proposed Aboriginal Heritage Impact Permit (AHIP) application for all sites which will be impacted by the proposed Modification to Development Consent DA-305-11-011, including sites LID 3 with PAD and LID 34 with PAD (# 37-3-0453 & # 37-3-1150) – Liddell Colliery.

We understand that Liddell Coal Operations P/L (LCO) is seeking to obtain an Aboriginal Heritage Impact Permit (AHIP) for all sites which will be impacted by the proposed Modification to Development Consent DA-305-11-011, including sites LID 3 with PAD and LID 34 with PAD (# 37-3-0453 & # 37-3-1150).

The disturbance area associated with the proposed extension of open cut mining operations at LCO was the subject of a cultural heritage assessment in September 2011, as a result of which some sites were then the focus of an archaeological test excavation in April 2012. The proposed management recommendations from the test excavation were discussed at a meeting held on 28 August, 2012.

Based on information discussed at the meeting and the revised management recommendations included with this form, do you have any other comments or general input you would like to provide regarding the Test Excavation Report, or the AHIP application?

Comment

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Long term fate of artefacts:

If an AHIP is issued it is our preference that the artefacts collected under conditions of the AHIP be ...

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OzArk Environmental & Heritage Management P/L

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.....
.....

GROUP NAME:

.....

FORM COMPLETED BY (please print):

POSITION WITHIN ORGANISATION:

SIGNED:

DATED:

If you would like to discuss any matters relating to the provision of comments, or would like to provide verbal comment, please call either Josh Noyer or Jodie Benton at OzArk on 6882 0118.

Please post or fax (6882 0630) or email your comments to Cheryl Burke (cheryl@ozarkehm.com.au) at OzArk EHM PO Box 2069, Dubbo, NSW, 2830 by close of business on **Friday 12th October, 2012.**

2 of 2.....

Response from Wonn1.



Wonn1
Entity of Kauwal Pty Ltd
619 Main Road Glendale, 2285
PHONE: 0249547751 Mobile: 0402146193
ABN: 27 153 953 363

12 October 2012

Ms C Burke
Office Administrator
QzArk Environmental & Heritage Management Pty Ltd
145 Wingewarra Street
DUBBO NSW 2830
(Sent email: Cheryl@ozarkehm.com.au)

Dear Cheryl

RE: COMMENTS ON THE PROPOSED ABORIGINAL HERITAGE IMPACT PERMIT (AHIP) APPLICATION FOR ALL SITES WHICH WILL BE IMPACTED BY THE PROPOSED MODIFICATION TO DEVELOPMENT CONSENT DA-305-11-011, INCLUDING SITES LID 3 WITH PAD AND LID 34 WITH PAD – LIDDELL COLLIERY

Thank you for the opportunity to comment on the above AHIP application for modifications to the development consent.

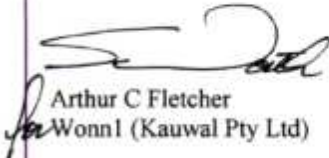
Generally we agree with the document, however Wonn1 also recommends that the AHIP be amended to include cultural subsurface investigations as well as archaeological testing and that we are included in the consultation process establishing methodologies for these investigations including monitoring and ground surface disturbance impact areas. The protection of cultural material and items is paramount and limited test archaeology is not seen sufficient.

Other recommendations include:

- any research and salvage works be rostered so everyone has an opportunity to be included in the project;
- further consultation needs to be held to determine and agree with the final location of artefacts salvaged;
- the issues raised by the Aboriginal stakeholders at the meeting dated 28 August 2012 be included in the AHIP as a matter of importance;
- any offsets are to be located in areas which can be freely accessed by the Aboriginal people; and
- the use of the offsets are for environmental and cultural uses only and should there be proposed any other disturbance issues (including the installation of infrastructure such as power, drainage, clearing for fire prevention, fencing, etc.), we want to be consulted always. An offset is to be used only for the environmental protection/conservation, cultural activities and education and not for any other purposes.

We look forward to continuing the consultation process with you and your organization. Should you wish to discuss any of the above issues, please do not hesitate to contact me on mobile 0402 146 193.

Kind regards



Arthur C Fletcher
Wonn1 (Kauwal Pty Ltd)

Response from WLALC.



P.O. BOX 127
19 MAITLAND STREET,
MUSWELLBROOK 2333
ABN 33 251 730 169

PH: (02) 6543 1288
(02) 6543 1962
FAX: (02) 6542 5377
EMAIL: wanaruah@bigpond.net.au

Cheryl Burk
OzArk EHM
P.O. Box 2069
Dubbo NSW 2830

Re: AHIP application associated with the proposed modification to development Consent DA-305-11-01.

Dear Cheryl,,

Wanaruah LALC concurs with most of the Consultant recommendations to the EIS except for:

- Dot point one under Fate of Artefacts, in which we recommend that the AHIP be amended to include an Aboriginal Cultural subsurface investigation by the Aboriginal community and that the Aboriginal community be consulted over the scope of the Cultural sub surface investigation, and
- Dot point 1 under Analysis, we recommend this be amended to include participation from the Aboriginal community, and it be expedited to be completed in such a way as to help inform the Cultural investigation.

We and the Aboriginal community are fully aware of Xstrata Coal NSW's reconciliation action plan, developed as part of the offset of social impacts by the XCN Ravensworth North project. The existence of the document does not automatically take away the rights of the Aboriginal community to be able to make recommendations or requests for other social impact offsets for this project over and above those developed for other projects especially where they feel they have been misled and lied to by XCN. We denounce Ben de Somer's attempt to stop the community making recommendations for social impact offsets and offer our support that they be included.

Wanaruah LALC supports the inclusion of the recommendations of the Aboriginal community which are:

Page 1 of 2



1. That the Aboriginal Community be given employment opportunities in all areas of the mining process with Xstrata Coal NSW based in the Upper Hunter through Aboriginal specific traineeships and employment programs.
2. That any research and salvage works be rostered among the stakeholders so all get a fair go at being involved.
3. That Xstrata Coal NSW assist building capacity in Aboriginal Companies to meet the compliance needs to become contractors with Xstrata Coal NSW based in the Upper Hunter in areas other than Culture and Heritage.
4. That Xstrata Coal NSW Fund the building of a Keeping Place and learning centre for the Aboriginal Community in one of the three shires of the Upper Hunter, being Muswellbrook, Singleton or Upper Hunter Shire.

Wanaruah LALC also adds the following recommendations to the EIS:

5. That the ACHMP (Liddell Colliery ACHMP) be amended as a matter of priority to include the suggestions and recommendations from this consultation,
6. That offsets be in areas freely accessible to the Aboriginal community,
7. That Xstrata Coal NSW gives \$400,000.00 per year for the life of the mine to a Trust for Upper Hunter Aboriginal Employment and education programs, and that Wanaruah LALC be on the board of said trust with the power to veto projects it deems not worthy.
8. That Xstrata Coal NSW gives \$100,000.00 per year for the life of the mine to a Trust for Upper Hunter Aboriginal drug and alcohol programs, and that Wanaruah LALC be on the board of said trust with the power to veto projects it deems not worthy.

Yours Truly



Noel Downs
CEO

12.10.2012

Response from Wattaka Wonnarua Cultural Consultancy Services.



Wattaka Wonnarua Cultural Consultancy Services
Des Hickey Manager 4 Kennedy St Singleton NSW
Ph: 0432977178 Fax: 02, 65712609
ABN: 57914734912 email: deshickey@bigpond.com

8/11/2012

To: OzArk EHM
PO Box 2069, Dubbo NSW

Attn: Cheryl Burke

Re: recommended management options for sites within the disturbance area.
Liddell Colliery

Dear Cheryl

Thank you for your email today and copy of the recommended management options for sites within the disturbance area.

1. Fate of artefacts

Wattaka WCCS agrees that Wonnarua LALC submit a temporary care and control agreement on behalf of LCO and these artefacts could be placed in a locked display cabinet and be used for educational purposes. Wattaka do not agree that artefacts to be reburied all artefacts collected be handed over to the WLALC they will be retrieved in the near future and placed on display in the new cultural centre at Branxton .

2. Analysis

Wattaka WCCS agrees that RAP representatives provided an opportunity to assist with the cataloguing and analysis of collected artefacts.

3. Erosion protection and re-vegetation

In relation to sites LID 3 and LID 34 Wattaka WCCS would like to recommend that all top soil removed from these sites be sieved and all cultural material collected before being re-used in the erosion and rehabilitation works.

Des Hickey Manager
WWCCS

Response from Wonnarua Nation Aboriginal Corp.

From: Laurie Perry
Sent: Monday, 15 October 2012 6:22:45 AM
To: Cheryl Burke
Subject: Re: COMMENTS DUE - Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth
Response requested: No
Importance: Normal

Hi Cheryl

I have read the report and satisfied with the management recommendations in the report.

Cheers

Laurie Perry
CEO
Wonnarua Nation Aboriginal Corporation
Ground Floor 254 John St Singleton NSW
PO BOX 3066
Singleton Delivery Centre 2330
Ph: 02 6571 8595
Fax: 02 6571 8551
Mob : 0412 593 020

ABN 50 02 829 925
Email: wonnarua@bigpond.com.au
Home : l.perry@optusnet.com.au
Website: www.wonnarua.org.au

Response from Cacatua Culture Consultants.

From: cacatua@resetdsl.net.au
Sent: Tuesday, 16 October 2012 8:54:32 AM
To: Cheryl Burke
Subject: Re: COMMENTS DUE - Modification to Development Consent DA-305-11-01,
Liddell Colliery, Ravensworth
Response requested: No
Importance: High

Sorry we have not replied sooner to the report the manager is away I have contacted her, she has read and discussed the paper work. Cacatua is happy with the information supplied and agree.

Yours Truly
Patricia Kennedy.
Accounts Dept.

Response from Tocomwall P/L.

From: Scott Franks

Sent: Wednesday, 7 November 2012 3:03:45 PM

To: Cheryl Burke

Subject: RE: FEEDBACK 2nd request - Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth

Importance: Normal

Cheryl,

I do recall reading the report and feel with this area in particular we could not agree or support the recommendation. The area in question is not understood with regard to the cultural importance of the area most of the stake holders making statements have known known cultural knowledge or are they in fact excepted as having a continued physical connection to the area but are suggesting off setts and agreeing to the destruction of a place that my direct family have been associated with and is extremely important.

Regards,

Scott Franks

Native Title & Environmental Services Manager

TOCOMWALL PTY LTD

Po Box 76

CARINGBAH NSW 1495

p: 02 9542 7714

f: 02 9524 4146

m: 0404 171544

e: scott@tocomwall.com.au

w: www.tocomwall.com.au

Response from Ungooroo Aboriginal Corporation.

From: Admin
Sent: Friday, 12 October 2012 12:57:54 PM
To: Cheryl Burke
Cc: taasha@ungooroo.com.au
Subject: COMMENTS DUE - Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth
Response requested: No
Importance: Normal

Hi Cheryl,

I have just spoken to Mr Paget and he made the following comment;

"I agree with the methodology for the proposed Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth"

If you require anything further, please let us know.

Regards

Jessi Garland

Administration Coordinator

Ungooroo Aboriginal Corporation (UAC)

PO Box 3095

SINGLETON NSW 2330

ph: 65 71 5111

fax: 65 71 5777

Response from Widescope.

From: WIDESCOPE .
Sent: Thursday, 8 November 2012 11:53:19 AM
To: Cheryl Burke
Subject: RE: FEEDBACK 2nd request - Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth
Response requested: No
Importance: High

Hi Cheryl, yes Widescope is satisfied with the management recommendations as written in the Test Excavation Report.
Regards D Hickey

ATTACHMENT 1:

**ARCHAEOLOGICAL TEST EXCAVATIONS AT
LID 3 (#37-3-0452) AND LID 34 (#37-3-1150)**



TEST PIT G5 ON EDGE OF EROSION GULLY AT SITE LID 3.

ARCHAEOLOGICAL TEST EXCAVATIONS AT LID 3 (#37-3-0452) AND LID 34 (#37-3-1150)

**Liddell Coal Operations, Hunter Valley NSW
July 2012**

**Report Prepared by
OzArk Environmental & Heritage Management Pty Ltd
for
Liddell Coal Operations Pty Ltd**



**Environmental and
Heritage Management P/L**

OzArk EHM

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DOCUMENT CONTROLS

Proponent	GSS Environmental		
Client	Xstrata Liddell Coal Operations		
Project No / Purchase Order No			
Document Description	Archaeological Test Excavations at LID 3 (#37-3-0452) and LID 34 (#37-3-1150)		
	Name	Signed	Date
Clients Reviewing Officer			
Clients representative managing this document	OzArk Person(s) managing this document		
Location	OzArk Job No.		
	#685		
Document Status V2.1	Date:		
Draft V1.0 Ben Churcher to Jodie Benton OzArk 1 st Internal (Series V1.0 = OzArk internal edits)	V1.0 JN to BC 27.7.12 V1.1 BC edit V1.2 JN to Client V1.3 Client edits V1.4 JN to JB		
Draft V2.0 Report Draft for release to client	V2.0 CB to Client		
FINAL once latest version of draft approved by client	V3.0 OzArk to GSS final 30.5.13		
Prepared For	Prepared By		
Ben de Somer Environment & Community Coordinator Liddell Coal Operations Pty Limited P: (02) 6570 9947 F: (02) 6570 9999 M: 0414 251 130 E: bdesomer@xstratacoal.com.au	Joshua Noyer Archaeologist OzArk Environmental & Heritage Management Pty. Limited P 02 6882 0118 F 02 6882 6030 Email: 'josh@ozarkeh.m.com.au'		

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EXECUTIVE SUMMARY

LCO are currently preparing an Environmental Assessment to accompany an application to modify the existing development consent DA 305-11-01 to allow for an extension of open cut mining within the existing development consent and mining lease boundaries (the Project). As part of this Environmental Assessment, OzArk Environmental & Heritage Management Pty Ltd (OzArk) conducted a Heritage Assessment (OzArk, 2012) of the Project. One of the recommendations of this assessment was to undertake archaeological test excavations of potential archaeological deposits (PADs) identified within the impact footprint of the Project, known as LID 3 and LID 34.

This report details archaeological test excavations that took place at LID 3 (AHIMS #37-3-0452) and LID 34 (AHIMS #37-3-1150) including an analysis and discussion of the artefacts recorded during these excavations.

The archaeological test excavations at LID 3 and LID 34 were conducted as per the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (DECCW 2010). Excavations undertaken as per the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* do not require an Aboriginal Heritage Impact Permit under the *National Parks and Wildlife Act 1974*.

This report fulfils Requirements 16–20 of the Code; Requirements 14 and 15 having already been fulfilled.

The excavations were conducted by OzArk in conjunction with representatives from nine Registered Aboriginal Parties. OzArk acknowledges past and present Aboriginal people in whose country this investigation took place and would like to thank all parties involved with their contribution to the archaeological investigation and the team's cultural understanding of the site.

Over one week (16–20 April 2012) 133 50cm x 50cm test pits were excavated (100 at LID 3 and 33 at LID 34) to culturally sterile soil or clay layers. 10 artefacts were recorded (eight at LID 3 and two at LID 34).

The test excavation programme was able to fulfil the objectives of the excavation methodology and, within the area investigated; knowledge has been gained regarding the site's spatial distribution, the characteristics of its artefact assemblage and its place in the regional framework of other archaeological investigations.

Management recommendations are made in relation to LID3 and LID 34 taking into account the following observations:

- The archaeological investigation at LID 3 excavated over 25m² of an estimated 16,500m² contained within the proposed impact footprint covering LID 3. The area

excavated represents approximately 0.15% of the portion of LID 3 proposed to be disturbed by the Project;

- The archaeological investigation at LID 34 excavated over 8.25m² of an estimated 7,800m² contained within the proposed impact footprint covering LID 34. The area excavated represents approximately 0.1% of the portion of LID 34 proposed to be disturbed by the Project;
- While further artefacts at both LID 3 and LID 34 are likely to be located in areas that have not been excavated, such artefacts are expected to occur at very low density;
- All artefacts at both LID 3 and LID 34 are located within the top 15cm of soil;
- Additional sub-surface archaeological investigation is not warranted at site LID 3 as no intact sub-surface deposits are expected due to high levels of disturbance from erosion;
- Additional sub-surface archaeological investigation is not warranted at site LID 34 as the projected impacts are to occur on the sites peripheries and are not expected to disturb the primary site area; and
- In the light of the findings of this test excavation programme, LID 3 and LID 34 have both been assessed as holding high social/cultural values, low archaeological values and no aesthetic and historical values.

As both LID 3 and LID 34 have been assessed as having low archaeological value, further archaeological work is not deemed necessary as a small, yet representative, sample of the site has been thoroughly investigated. The archaeological investigation so far performed enables the site to be placed in its regional context while noting that no unique features, deposits or artefacts were recorded at either LID 3 or LID 34.

As both LID 3 and LID 34 have been assessed as holding high cultural values for the local Aboriginal community, further management of these sites will be required. Preliminary consultation has taken place with the appropriate Registered Aboriginal Parties as to the form of this management through on site discussions.

Following archaeological test excavations at sites LID 3 and LID 34 it was determined that there remains a low likelihood for there being further undetected Aboriginal stone artefacts within the portions of this site in the Project's impact footprint. Further, it was assessed that sufficient archaeological knowledge has been gained from the site making further, detailed, archaeological investigation unwarranted.

OzArk understands that site avoidance is not an option and that an Aboriginal Heritage Impact Permit application will be made to salvage the sites prior to the commencement of the proposed works.

Following completion of the test excavation and preparation of a draft report detailing the outcomes of the excavation, a meeting was held with the Registered Aboriginal Parties to

discuss the implications of this report and to discuss possible management strategies for the Aboriginal Heritage Impact Permit application.

In order to maximise knowledge concerning the site and to minimise the risk of damage to cultural material during construction, the following recommendations are made concerning sites LID 3 and LID 34:

1. Archaeological advice to inform possible management strategies is contained in detail this report in section 6.2, and is summarised here:
 - a. Under supervision of a suitably qualified archaeologist the Aboriginal community should be given the opportunity to collect surface artefacts within the proposed impacts at both sites LID 3 and LID 34;
 - b. Prior to collection surface artefacts identified within the proposed impact footprint at site LID 3 and LID 34 should be flagged and an archaeologist should record their location via GPS;
 - c. Collected surface artefacts should be bagged, labelled and general provenience recorded for further analysis;
 - d. The collected artefacts would be analysed on-site at XCN Liddell immediately following collection and RAPs will be offered an opportunity to participate in this analysis. A short addendum to this report be written in order to incorporate the findings of the surface collection;
 - e. Artefacts will need to remain in the care of XCN Liddell until such time as all activities for this project over LID 3 and LID 34 are complete, at which time a location advised for the reburial of the artefact collection will be determined and a Care and Control agreement submitted where a selection of the artefacts recovered will be placed in the custody of Wanaruah LALC for educational use; and
 - f. Under supervision of a suitably qualified archaeologist all portions of site LID 3 and LID 34 that are not intended to be impacted by the currently proposed works should be fenced from inadvertent impact.
2. The ultimate fate of artefacts from the test excavation programme and the proposed salvage programme must be determined as part of the AHIP process;
3. All work should remain within the impact footprint as defined by this report. The impact footprint should be clearly defined in the field during construction to avoid inadvertent impact;
4. During initial surface disturbing works at sites LID 3 and LID 34, the topsoil from the impact footprint that is to be removed for the project, should be windrowed nearby and specifically used to re-dress areas in the vicinity of LID 3 and LID 34 during the

rehabilitation phase when the project works are complete. All top soil excavated from these two sites should remain in the local vicinity of the site;

5. All workers during the initial ground breaking phase of construction should be informed of the site's presence and its legislative protection under the NPW Act. This induction should include instruction not to drive excavate or store materials anywhere outside of designated areas. The induction should include the unanticipated finds protocol in this document; and
6. In the unlikely event that human skeletal remains are unearthed during construction, the unanticipated finds protocol should be followed.

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1 INTRODUCTION

1.1 BRIEF DESCRIPTION OF TEST EXCAVATION PROGRAMME

Liddell Coal Operations (LCO; the Proponent) is an existing open cut coal mine located approximately 25 kilometres north-west of Singleton in the upper Hunter Valley of New South Wales. LCO is located within the Parish of Liddell, in the County of Durham, and lies within both the Singleton Local Government Area (LGA) and the Muswellbrook LGA.

LCO are currently preparing an Environmental Assessment to accompany an application to modify the existing development consent DA 305-11-01 to allow for an extension of open cut mining in the Entrance Pit and South Pit, as well as mining in the Mine Infrastructure Area (MIA) Pit towards the end of mine life, within the existing development consent and mining lease boundaries (referred to as the Project).

As part of this Environmental Assessment, OzArk Environmental & Heritage Management Pty Ltd (OzArk) conducted a Heritage Assessment (OzArk, 2012) of the Project. One of the recommendations of this assessment was to undertake archaeological test excavations of potential archaeological deposits (PADs) identified within the impact footprint of the Project, known as LID 3 and LID 34.

The test excavation programme took place at LID 3 (AHIMS #37-3-0452; GDA Zone 56: 315813E, 6414316N) and LID 34 (AHIMS #37-3-1150; GDA Zone 56: 316188E, 6413862N) (**Figure 1**).

The archaeological test excavations at LID 3 and LID 34 were conducted as per the *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (DECCW [OEH] 2010; the Code).

Figure 1: Location of LID 3 and LID 34.

Scientifically, the archaeological deposits at sites #37-3-0452 (LID 3) and #37-3-1150 (LID 34) within the proposed Entrance Pit Extension Study Area have potential to contribute information which would add to a better understanding of the nature and extent of human occupation within the upper Hunter Valley. It is considered likely that neither of these sites has been significantly impacted (i.e. by earthworks, easement construction or access tracks) and therefore *in situ* deposits are likely. Additionally, deposits at both of these sites are likely to extend beyond the impacts of the current Project into the area that has been possible to conserve through Project re-design.

Deposits across site #37-3-0452 (LID 3) have been impacted by edge gully erosion, while site #37-3-1150 (LID 34) has been impacted by access tracks; however, these access tracks and erosion gullies have made identification of the deposits clearer and significant portions of these deposits are likely to be intact outside these disturbances. Proposed Project impacts will occur in both disturbed and undisturbed portions of both sites.

The test excavation programme involved archaeologists and field staff from OzArk and representatives from nine Registered Aboriginal Parties (RAPs). 100 test excavation pits were completed at site LID 3 resulting in an assemblage of eight artefacts, and 33 test excavation pits were completed at LID 34 which recorded two artefacts.

The excavations established that the tested areas at LID 3 and LID 34 lack evidence of archaeological deposits. The location of surface artefacts across both sites was limited to eroded and disturbed areas. Test excavation at site LID 3 revealed that surface artefacts within erosion gullies represented a deflated site that no longer held intact deposits in the surrounding landscape. It was also concluded from results of excavations at site LID 34 that the lack of cultural material recovered indicated that tested portions of the site represented the site's peripheries. Higher densities of artefacts are more likely in areas of LID 34 that went untested as they are outside the proposed impact footprint.

The test excavation programme was able to characterise the nature and extent of archaeological deposits in the areas of LID 3 and LID 34 investigated, and the general lack of artefacts recovered made it impossible to characterise either assemblage archaeologically. However, the programme was also able to provide information to better inform future management of both sites in the face of the proposed works.

As such, the test excavation programme at LID 3 and LID 34 fulfilled the excavation methodology's objectives.

1.2 BACKGROUND TO THE EXCAVATION PROGRAMME

The present archaeological investigations follow a long history of cultural heritage and archaeological assessment at LCO, which covers an extensive area and has been operated by several different owners.

LID 3 was first recorded by Umwelt in 2001 and LID 34 was later recorded by Nicola Roche of Umwelt as part of an Indigenous heritage assessment at Liddell.

The locations surveyed by OzArk in 2011, including LID 3 and LID 34, were those proposed for expansion of open cut mining activities at LCO. The survey was carried out in conjunction with representatives from:

- Cacatua Culture Consultants / Mr George Sampson
- Hunter Valley Aboriginal Corp / Mrs Rhonda Griffiths
- T&G Cultural Consultants / Mr David Smtih
- Wanaruah LALC / Mr Les Atkinson
- Wonnarua Culture Heritage / Mr Tim Smith
- Yarrawalk Enterprises / Mr Raymond French
- Yinarr Cultural Services / Mr Owen Davison

Figure 2 shows the varying degrees of erosion disturbance noted at LID 3 (**Plate 1**) while **Figure 3** shows disturbance from access tracks at LID 34 (**Plate 2**).

Initially, OzArk's 2012 assessment report concluded that open cut mining activity would severely impact or largely destroy sites LID 3 and LID 34. The assessment noted that, within

the parameters of the proposed works, complete avoidance of both sites was considered unlikely. However, following the initial 2011 survey and the 2012 assessment report, a redesign of the Project was able to minimise the impact at both sites and leave large portions of the sites intact.

Figure 2: Location of LID 3.

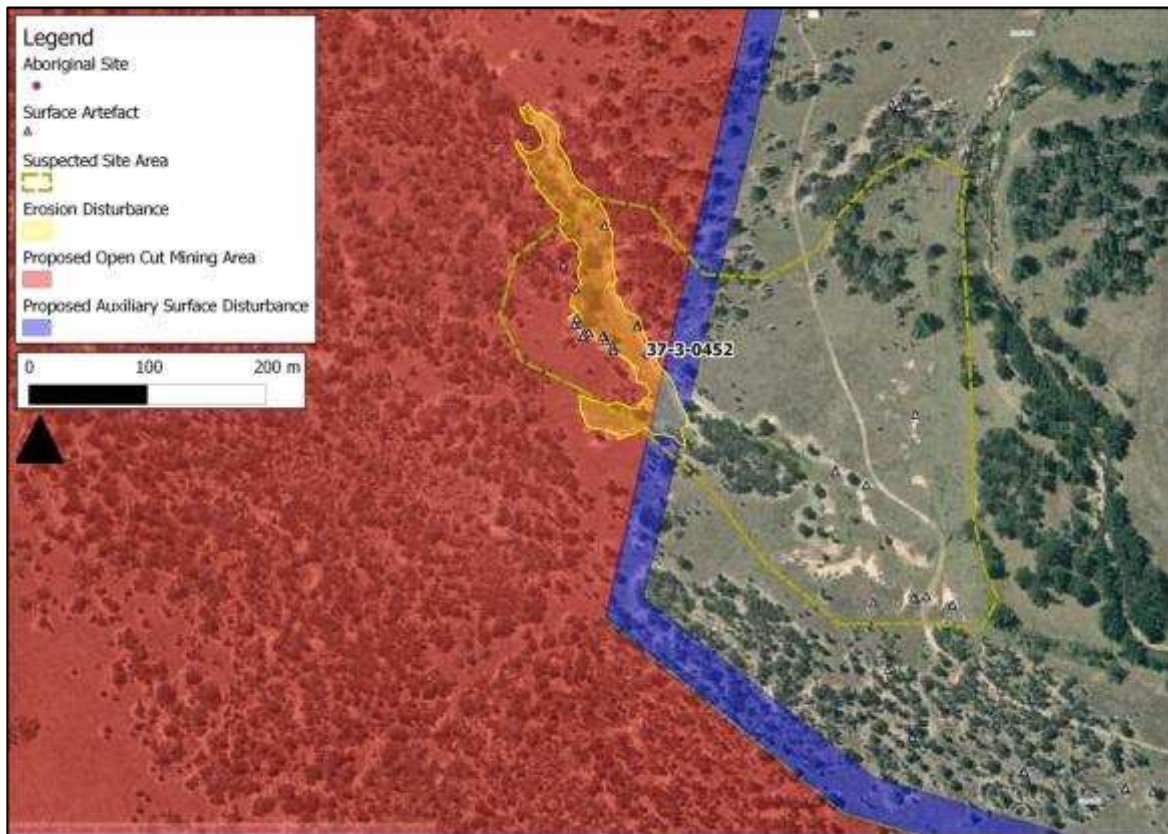


Figure 3: Location of LID 34

1.3 LANDSCAPE CONTEXT OF TESTED SITES

1.3.1 LID 3

- Lot: 353
- Development Portion: 867083
- Accessed via: Not publically accessible.
Access arranged through LCO only. Situated between two access tracks west of Bowmans Creek.
- GPS reference point: GDA Zone 56 315813E/6414316N (centre point).
- Size of impact footprint: Irregular shaped polygon of 16,500m².

The excavation area is located in a largely intact landscape that has been subjected to significant erosion as a result of past agricultural land use and vegetation clearing. The site is located on a terrace northwest of Bowmans Creek. Tree planting in this area is also evident and an electricity easement traverses the site with impacts ranging from vegetation clearing, pole construction and light vehicle traffic for maintenance.

Proposed impacts to the site will include open cut mining and auxiliary disturbances such as overburden emplacement and haul roads.

1.3.2 LID 34

- Lot: 354
- Development Portion: 867083
- Accessed via: Not publically accessible.
Access arranged through LCO only. Situated near an access track west of Bowmans Creek and Hebden Road.
- GPS reference point: GDA Zone 56 316188E/6413862N (centre point).
- Size of impact footprint: Irregular shaped polygon of 7,800m².

LID 34 has a similar landscape context to LID 3 as it too is located on a terrace northwest of Bowmans Creek. Like at LID 3, LID 34 is located in a largely intact landscape that has been subjected to significant erosion. Past agricultural land practices including vegetation clearing and stock grazing have impacted the whole site. Additionally, a frequented vehicle access track traverses the southern portion of the site.

Proposed impacts to the site will include open cut mining and auxiliary disturbances such as overburden emplacement and haul roads.

1.4 ABORIGINAL COMMUNITY INVOLVEMENT

The following groups participated in the test excavation program:

- Wonn1 Contracting
- Barkuma/Gidawaa Walang
- Wonnarua Nation Aboriginal Group
- Yinaar Cultural Services
- Wonnarua Cultural Heritage
- Wanaruah LALC
- Wattaka Wonnarua TO
- Yarrawalk Enterprises
- Hunter Valley Aboriginal Corporation

A log and copies of correspondence with Aboriginal community stakeholders is presented in **Appendix 1**.

References to cultural significance in this report were informed by informal meetings held several times during the duration of the excavation.

1.5 PROJECT CONSTRAINTS

There were no project constraints to the successful completion of the test excavation programme.

The limits of the impact footprint were clearly marked in the field with surveyor's pegs and the vegetation did not hamper the establishment of a systematic transect grid over the site. The weather was mild, and although there were some rain showers, the rain was rarely heavy enough to impede work.

All deposits were able to be dry-sieved, and following a meeting at the end of the excavations, all present (from OzArk and RAPs) felt that the site had been adequately sampled in order to inform us about future management options.

1.6 OZARK INVOLVEMENT

Archaeologist Joshua Noyer directed the excavations at both LID 3 and LID 34. He was assisted by Jenni Streatfield (assistant archaeologist), Jen McGhee (operations) and Anna Streatfield (field assistant).

Joshua Noyer analysed the artefacts from LID 3 and LID 34 and wrote this report. The report was edited by Ben Churcher (Senior Archaeologist). Joshua Noyer collected the data and produced the site mapping figures in this report. All photography in this report is by Joshua Noyer.

2 TEST EXCAVATION PROGRAMME –ARCHAEOLOGICAL BACKGROUND

2.1 PREVIOUS ARCHAEOLOGICAL RESEARCH

At the time of European settlement the tribal divisions in the Hunter Valley were generally as follows: the upper Hunter, from its source in the Mount Royal Range down to about Muswellbrook, was part of the territory of the Geawegal; the middle Hunter down to Maitland was inhabited by the Wonarua; the Hunter estuary and Port Stephens was the territory of the Gaddhang. The upper Goulburn appears to have been roughly the dividing line between two extensive inland tribes—the Gamilaroi to the north and the Wiradhuri to the south—while south of the Hunter Valley itself were the Awabakal around Lake Macquarie and the Darginung on the northern side of the Hawkesbury.

The Hunter Valley has been the subject of a large number of heritage assessments due to the presence of large areas of mine infrastructure and activity. Detailed information on the large amount of survey and excavation work that has taken place in the Hunter Valley is beyond the scope for a report such as this. Instead the general picture that has emerged of Hunter Valley archaeology will be given, followed by detail of archaeological investigations closer to Liddell.

2.1.1 Regional Context

The prehistory of Australia is generally divided into three chronological phases on the basis of differing assemblages of stone tools (Lampert 1971, Mulvaney 1975). Pleistocene and early Holocene assemblages are characterised by large stone cores and flakes. Between 4500 and 5000 BP (Before Present), a variety of small finely knapped stone implements called backed blades (including geometric microliths, Eloueras and Bondi points) occur as an additional component to the older industry in sites across the continent. The period from about 1500–1000 BP to the time of European settlement is marked by a gradual reduction in the number of backed blades and other finely retouched pieces, and an associated proportional increase in the use of non-specialised small tools and quartz as well as organic less preservable raw materials such as bone, wood and shell for tool making. Regional variants of these assemblages have been documented, nevertheless the three phases are recognised in sites widely scattered throughout the continent.

Previous studies in the Hunter Valley and at Liddell indicate that flaked stone artefacts are the most common form of evidence of traditional Aboriginal occupation of the Hunter Valley. Scatters of stone artefacts are most likely to occur along creek lines, with larger, more complex scatters most commonly occurring along larger creek lines. Smaller, less complex scatters are likely to occur in any landform element. Other, less common, types of archaeological evidence likely to be present in the environment represented in the area of the modification include

grinding grooves, where suitable sandstone occurs in creek beds, scarred trees and rock shelters.

Few studies in the Hunter region have been able to contribute detail on the chronological sequence of Aboriginal occupation. The predominant site type recorded is the open artefact scatter. These sites are visible on the surface due to the exposure of the artefacts by erosion processes. These sites may have originally been created by discarded implements from a single visit or from discard events from repeated visits, which could span time periods of 10s, 100s or even 1000s of years. Even when assemblages are located in a subsurface context disturbance to the soil profile (through both human agency and bioturbation) means these assemblages lack any stratigraphic integrity. These problems have led researchers to endeavour to use various artefact types, such as backed blades, Bondi points and eloueras as temporal markers to date elements of surface scatters, or in the case of subsurface assemblages to use the geomorphic history of the soil profile to provide a maximum date for the artefacts it contains.

For example the presence of backed artefacts in a site may be used as a temporal marker, given that these artefacts are often considered to date to the last 4,000 years (Kuskie and Kamminga, 2000: 526). This approach is problematic for two reasons.

The first is that the appearance of this technology is likely to be older than the commonly used date (OzArk 2010a). The period when it is commonly thought backed blades become widespread west of the Blue Mountains dates to between 5500 BP at Botobolar 5 (Moore 2000) to 3200 BP at Capertee 3 (Johnson 1979) and 3000 years BP at SG5 (White 1999). At Boonalla Cave, outside Gunnedah, a stratigraphically intact deposit containing a backed blade dated to between 4279 and 3895 BP (OzArk 2010a).

The second limitation is that, in the context of a conflated surface site, these artefacts provide neither a minimum nor maximum age for the rest of the assemblage. Even taking into account the percentage of the assemblage that can be recognised as being a product of blade production (approximately 3–8% of most assemblages) this still generally leaves more than 90% of the assemblage without any chronological control. In these cases it is generally assumed that the upper or 'A' horizon of the texture-contrast soils located throughout the Hunter valley date to the last 5,000–6,000 years. Thus the artefacts they contain should also date from this time period.

Where older dates have been recorded it has been where geomorphic processes have acted to bury and protect soil surfaces from subsequent disturbance. For example, Pleistocene occupation evidence was located by Koettig (1986, 1987) at Glennies Creek (Fal Brook) approximately 20km southeast from Liddell. The dated material came from a hearth feature located on an alluvial terrace. Most of the Late Pleistocene sites at Fal Brook were located

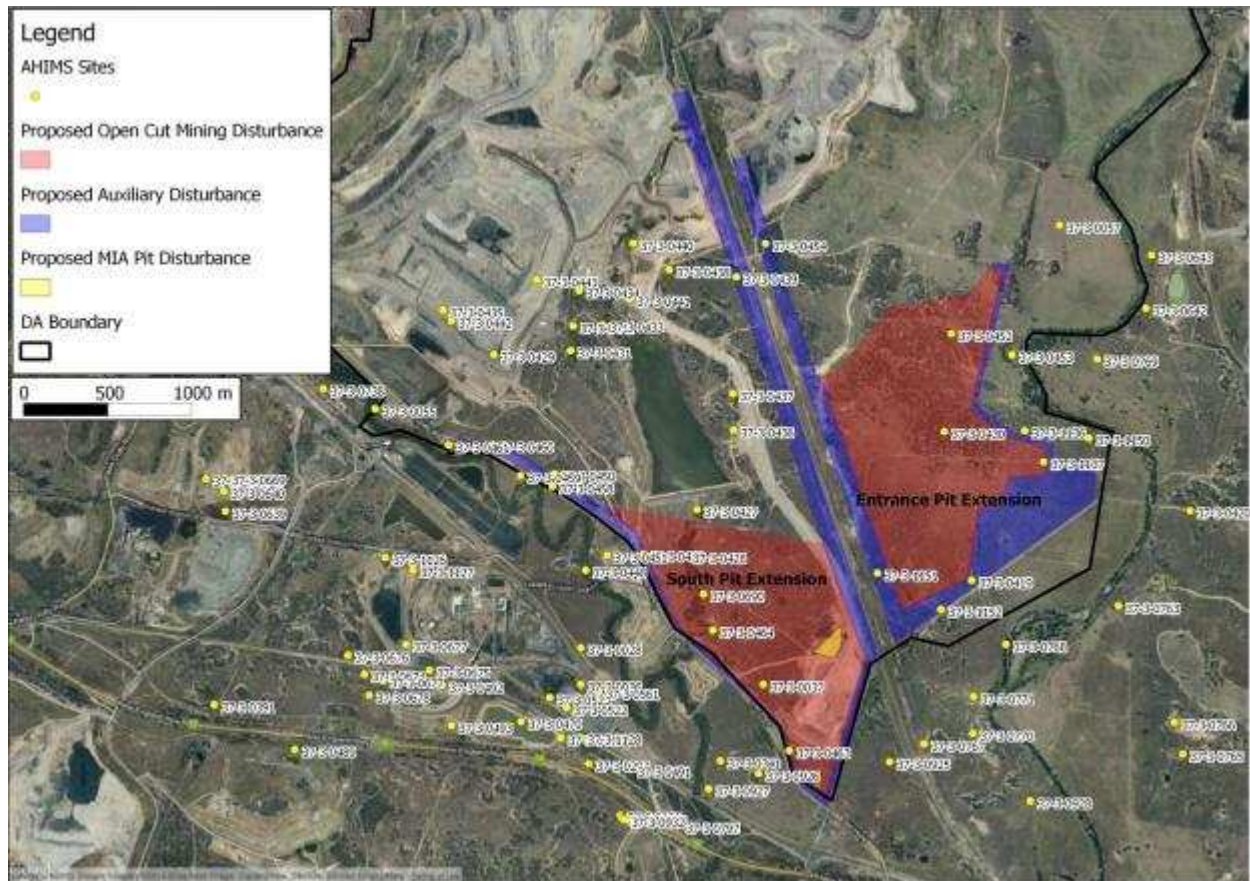
within the Unit B soils. This soil is characterised by 'a pronounced texture contrast between the A and B horizons, a bleached A2 horizon, and massive columnar development in the upper part of the B horizon' (Koettig 1986: 11). In the excavations, a buried soil horizon was identified within Unit B at a depth of approximately one metre. Dates from Glennies Creek range between 13020 ± 360 and 34580 ± 650 BP (with regard to the 34580 ± 650 BP date, Koettig [1987: 34] suggests that dates from such contexts are best used to provide "an order of magnitude general age" as opposed to a direct date for occupation).

A second Pleistocene date has been reported by Kuskie (reported in Kuskie and Kamminga 2000: 215) has also identified artefacts in a clay horizon at Wollombi Brook (35km south of Liddell) that were confirmed by a geomorphologist to be late Pleistocene in age (between 18,000–30,000 BP). These terrace dates are generally consistent with the ages quoted for terrace deposits in Nanson *et al.* (2003) and Hughes and Sullivan (1997). A third Pleistocene date of 14,750 BP (uncal) was taken from a fragment of charcoal in the base of a dune at Moffats Swamp near Medowie (close to Port Stephens).

The oldest rock shelter date presently known for the very upper Hunter is 7750 ± 120 BP from Bobadeen (Moore 1970) near Cassilis approximately 170km northwest of Liddell.

2.1.2 Local Context

Due to the intensity of mining activities to the north of LID 3 and LID 34, a number of previously recorded Aboriginal sites are located within close proximity and in roughly similar topography. As can be seen in **Figure 4** the majority of previously recorded sites are located to the east and south of Liddell and many are associated with heritage assessments covering the Glendell Mine Lease Area and Ravensworth Mine Lease Area. Salient features of sub-surface investigations, located in close proximity to Liddell follow.

Figure 4: Location of AHIMS sites in relation to the proposed works.

2.1.2.1 Studies at Liddell

The areas previously assessed in the vicinity of LID 3 and LID 34 been subject to extensive archaeological investigations since mining was initiated here, with archaeological surveys conducted by Haglund (1982), Brayshaw (1981 and 1983) and Umwelt (2001, 2008, 2009, 2010 and 2011). These studies have identified a large number of archaeological sites over the Liddell development area. These investigations focussed on areas of impact for the proposed coal infrastructure. While Liddell has been subject to extensive survey and assessment, little sub-surface investigation has been conducted at Liddell; especially in the vicinity of Bowmans Creek.

The closest excavations at Liddell were undertaken at Bayswater Site B (AHIMS #37-3-0052) by Brayshaw in 1983 along Bayswater Creek approximately 3km to the west. In these investigations two 1m x 1m pits were excavated down to a maximum depth of 15cm where they encountered basal clay. In total, 822 artefacts were recovered by both the surface collection and excavation salvage of the site. Raw materials noted were predominately silcrete and mudstone. Based on the raw material and artefact types, Brayshaw estimated an age range of between 4500-1000 BP for the site (Brayshaw 1983).

While excavation of archaeological sites at Liddell is limited, a large number of sub-surface archaeological investigations have been conducted as part of assessments of nearby mines.

2.1.2.2 Studies within the Bowmans Creek and Bayswater Creek catchments

The Ravensworth Underground Mine (RUM), the Ravensworth open cut and the Narama open cut mine are within 10km of Liddell and have been subject to extensive archaeological investigations focusing on the Bowmans Creek and Bayswater Creek catchments that also run through Liddell.

Ravensworth and Narama Mines

In 1983 Brayshaw undertook first stage reconnaissance survey for the Ravensworth No. 2 Colliery and the deviation of Bayswater Creek (Bayswater Creek lies to the west of Bowmans Creek). This assessment covered a large area (approximately 520ha) situated approximately 20km to the south of Liddell. Nineteen sites were recorded as a result of this survey, the majority of which have undergone salvage and destruction (Umwelt 2010).

Following this assessment, Brayshaw and Haglund (1984) undertook more detailed survey and salvage, recording a further thirteen sites and salvaging four of these. This investigation recorded artefact samples in 20 sample areas measuring 6m x 3m and carried out test excavations at five locations. The study concluded that there was a strong association between greater artefact density and the location of major, permanent water supplies. Other salient findings were:

- Silcrete dominated the study's assemblage, followed by indurated mudstone which was found more often associated with particular working floors. Mudstone assemblages tended to be small.
- Large cores and flakes were rare. The 'smaller than 1cm' size category dominated all excavated assemblages, although the size increased for the artefacts recorded in the surface collections.
- The study found that the sites investigated displayed a larger proportion of elongate flakes, although flake shapes varied considerably.
- Modified flakes were rare and accounted for around 2% of the total artefact assemblage. Most modified flakes were constructed from indurated mudstone. The study recorded backed blades (Bondi points and microliths) and flakes with small amounts of scalar retouch or notching. One tula and one possible elouera were noted.
- The study found that raw materials varied from site to site and that, apart from the silcrete, all stone could be sourced in the local area.

The proposed Narama open cut coal mine—a 450ha area—was preliminarily assessed by Godwin in 1987 who recorded 58 artefact sites. 52 of these sites were recorded on creek lines, four on slopes and two on crests (Umwelt 2010: 5.45). The largest and most complex sites were along Bayswater Creek with several of these demonstrating the presence of knapping floors. Indurated mudstone and silcrete were the dominant raw materials and artefact density ranged from 4 to 38.2 artefacts per square metre.

In 1990, Rich conducted two assessments; one for the Narama open cut mine and the second for the relocation of a 330kV transmission line. The first of these surveys recorded 15 sites over a 200ha area, while the second focussed on relocating previously recorded sites. Two thirds of the sites recorded by Rich are noted as being located away from waterways: on spur or crests. Umwelt notes that although this reveals different overall landform associations than recorded by Brayshaw and Godwin, the makeup of Rich's survey area appears to have been dominated by hill/spur landforms and contained only a small amount of creek line (Bayswater Creek), which was thickly vegetated (Umwelt 2010: 5.46).

A significant salvage programme was initiated in 1992 by Brayshaw and McDonald and included surface salvage, as well as salvage excavations at up to 48 sites in the footprint for the open cut mine and the deviation for Bayswater Creek. In total, 29,057 artefacts were salvaged over an area equivalent to 143,211m². Indurated mudstone was again the most dominant raw material although silcrete was also prevalent. When artefact densities in relation to landform units within the salvaged areas were averaged, the greatest density of surface artefacts were recovered from the brown pedal alluvium units (1.65 per m²), followed by the terrace alluvium (at 0.41 per m²). Conclusions noted that activities involving artefact manufacture and discard were focussed on the terrace and brown pedal alluvium units (Umwelt 2010: 5.49). The range of artefact categories within the salvaged assemblages included those typical of the Hunter Valley, with high amounts of broken flakes and low numbers of retouched artefacts, cores and formal tool types.

In 1992 McIntyre conducted survey as well as spade probes for a pipeline, water storage and ash disposal over a large area immediately west of Liddell (McIntyre 1992). At least five sites were recorded and some archaeological testing was conducted, sampling stratigraphy and artefact presence moving away from water. Disturbance was found to be a significant factor in all landforms and sub-surface material was minimal.

Survey for the proposed expansion of Cumnock No. 1 Colliery (now the RUM Pit top area in the north) was undertaken in 1996. This investigation assessed two primary locations for the construction of above ground coal handling facilities associated with the proposed underground mining project as part of an Environmental Impact Statement (HLA 1996a) for the development. The two areas assessed comprised firstly an extension to the existing Ravensworth Coal Terminal near Bayswater Creek and secondly the Lemmington Road site along Davis Creek. The Ravensworth site was chosen and at this location, where over 4ha was surveyed, 15 sites were recorded.

In 2000 Umwelt undertook archaeological investigation for some proposed changes to the infrastructure impacts in the RUM pit top area, which saw additional land outside that previously surveyed by HLA in 1996 being impacted (Umwelt 2000). Six sites were recorded including one large disturbed site around an existing dam, which was eventually salvaged.

A 136ha area south of Liddell was surveyed for the Narama mine extension in 2009 (Umwelt 2009). 43 artefact sites were recorded, of which 18 were isolated finds. In keeping with Hunter Valley assemblages, artefacts were predominantly from indurated mudstone, followed by silcrete. As a result of this project, 32 sites were listed for salvage with a further 11 being avoided by the project impacts.

In 2005, Austral Archaeology investigated a potential archaeological deposit (PAD) at the location of the Nardell Dam site proposed by RUM development plans. The PAD comprised the lower toe slopes of a gentle gully side that led down to an ephemeral drainage line. Despite the lack of surface material, this limited area was thought to have potential for sub-surface archaeological deposits. Austral was commissioned to undertake test excavations at the site under permit # 2231 (Austral 2005). Across the 36 test pits excavated, 118 artefacts were retrieved, being a fairly low density for the region.

In 2005, archaeological excavations were undertaken at Newdell Junction, Ravensworth by HLA Envirosciences (HLA 2005). This site is located a few kilometres south of Liddell. The area of investigation at the time was proposed for the Ravensworth Rail Unloader extension.

The aim of the subsurface testing programme was to determine whether subsurface archaeological material, recorded in 2004, existed at the Aboriginal sites MG#1 and MG#2 and within areas of moderate to high archaeological sensitivity (these areas are not recorded or referred to as PADs in the report and it is not clear who designated these areas of sensitivity).

A 2m x 1m trench was excavated at MG#1 and MG#2 using two 1m x 1m squares being excavated in 10cm spits.

An alluvial flat in a designated area of high to moderate archaeological sensitivity was excavated using five trenches covering 2m x 1m on the lower hill slopes of Foy Brook. Two transects (approx 150m in length) were investigated with a total of 10m² in each being excavated along the lower hill slope within this zone of sensitivity.

Areas with moderate archaeological sensitivity were assessed utilising five trenches covering 2m x 1m.

In total, 73 excavation squares were completed with the majority of artefacts recorded at MG#1 (n=154 or 78.1% of the artefacts analysed during the excavation programme). Silcrete flakes comprised 47.6% and Fine Grained Siliceous (FGS: referred to as indurated mudstone elsewhere in this report) flakes were 40.5% of the assemblage at MG#1. This was relatively consistent with the entire programme results of 46.2% silcrete and 42.9% FGS.

Only 11 artefacts were recorded from MG#2, nine were FGS and two were silcrete.

In total, only three artefacts (all FGS) were recovered from the areas zoned as high sensitivity areas; with nine artefacts being recorded in areas zoned as moderate sensitivity.

The archaeological investigation report concluded that although there were a 'number' (not specified) of Aboriginal sites in the area, most of them were not archaeologically significant. Unfortunately the report does not determine if significant sites are considered to occur in the area.

The artefact scatters present were revealed to be surface scatters, with few artefacts occurring within 10cm of the soil's surface. No artefacts were recorded at the south alluvial flat, but artefacts were recovered on all lower slopes and ridgelines.

Site MG#1 was revisited in 2007 when portions of the site were to be impacted by the proposed construction of a RUM ventilation fan complex on a portion of the site.

The results of testing along transects 4 and 6 (lower hillslopes) in MG#1, as described above, revealed that of the 18 square metres tested, a total of 168 artefacts were recovered: all from the upper 20cm comprising the 'A' horizon (HLA 2005: 45). A potential knapping floor was excavated in this area although a significant amount of the material excavated was also interpreted as being possibly the result of colluvial erosion from higher up the hillslope. HLA 2005 indicated that site MG#1 and lower hillslope landform in this area underwent not only transect testing (5 pits), but also further investigation from three additional test pits and two trenches (HLA 2005: 55). This degree of investigation allowed HLA to make the following determination:

Geomorphological modelling of this area implies that this site is actually an amalgamation of a number of sites, both chronologically and stratigraphically, from upslope that have eroded down slope through soil creep and other colluvial activity. For this reason, no further excavations are required, since the site is not scientifically significant (HLA 2005: 55).

As a result a Section 90 (consent to destroy) was issued by the Department of the Environment and Climate Change and Water on 9 July 2007 (permit number #2727).

On 31 July 2007 an archaeologist from OzArk, along with community representatives, visited MG#1 with the purpose of recording and collecting any visible Aboriginal artefacts within the proposed impact zone. In total sixty-eight artefacts were recorded and collected, the majority were silcrete flakes; however, cores and blades were also commonly recorded.

The majority of the artefacts were located between a farm track and the railway embankment. In general they tended to cluster into two groups: the northern cluster (cluster 1) and the southern cluster (cluster 2). Both of these clusters are part of the previously recorded site MG #1. Only nine artefacts were located outside of these clusters.

All recorded artefacts were located on the raised terrace portion of the area, supporting the conclusions reached by previous researchers that the river flats do not contain any

archaeological material and that the zone of high archaeological sensitivity is confined to the terrace/hillslope.

In November 2009 as part of an Indigenous heritage assessment at three non-contiguous study areas located at RUM (OzArk 2010) Dr Jodie Benton and Phillip Cameron (OzArk) recorded site RUM OS1. The site was test excavated in June and July of 2011.

Site characteristics of RUM OS1 that emerged as a result of the 2011 test excavation programme are (OzArk 2011a):

- RUM OS1 is located in an area of archaeological sensitivity on the margins of Bowmans Creek;
- Other studies in the region have shown that ridge positions (RUM OS1) or terrace positions were the most likely to contain Aboriginal cultural material;
- Occupation at RUM OS1 was along the eastern top and flank of the ridge that overlooks Bowmans Creek. This distribution of artefacts was noted in both the excavation assemblage, as well as in the mapping of the visible surface artefacts;
- RUM OS1 has surface manifestations of artefacts, as well as artefacts down to a depth of 20cm with most artefacts located at a depth of between 10cm and 15cm.
- The artefact assemblage at RUM OS1 is characterised by:
 - o Unmodified, small, flakes dominate the assemblage;
 - o Retouched flakes comprise 7% of the assemblage;
 - o Indurated mudstone was the most frequently used stone followed by silcrete, quartzite, chert and volcanics;
 - o Evidence of knapping (small flakes and fragments) was noted but this activity appears localised and sporadic; and
 - o Cores were 3% of the assemblage and these were often cortical and unifacial. Very few core fragments or reduced cores indicate that knapping was not intensive.

In summary, the archaeological investigation of RUM OS1 has shown that the site has the following features:

- Variable distribution of artefacts;
- Low to moderate artefact density;
- No archaeological stratigraphy; and
- An artefact assemblage that is repeated at other previously recorded sites.

RUM OS1 displays no remarkable characteristics and the area investigated here can be seen as part of a larger site that probably extends along the ridge line as it borders Bowmans Creek.

Aerial photographs of Bowmans Creek show the remnants of palaeochannels that would have once had the creek immediately adjacent to RUM OS1. At an elevation of 20–30m above the creek's floodplain, RUM OS1 has been unaffected by flooding events that have undoubtedly removed or disturbed any archaeological deposits on the floodplain itself.

In effect RUM OS1 can be seen as the western margin of an occupation zone that would have stretched from the creek itself, up the slopes and to the top of the ridge where RUM OS1 is located. However, the ridge portion of the site survives and more easterly portions of the site that were perhaps more intensively used (closer to water) than the ridges have either disappeared due to flooding events or have been covered with sediment.

Therefore RUM OS1 displays the features of a site that has not been occupied intensively or for long periods. While individual events were captured in the excavations (the knapping event in A.6.3 being an example), the general form and distribution of artefacts suggests a general scatter of lost or discarded implements rather than a concentration of activity around a stone knapping event (i.e. as at a quarry) or around living areas (i.e. as in the case of a base camp).

No dateable material was recovered from the excavations although it is estimated that RUM OS1 dates to the past 5,000 years. It is generally felt that the Hunter Valley topsoils date to the Holocene epoch (Umwelt 2004) and the presence of microliths at RUM OS1 would indicate a date in the latter half of the Holocene.

Glendell Mine

In 2007 Umwelt was engaged to provide a synthesis of previous archaeological assessments of the Xstrata Mt Owen Pty Limited Glendell Mine. The mine is located adjacent to Liddell on the east side of Bowmans Creek.

As a result of Umwelt's environmental research, it was concluded that areas associated with Bowmans Creek were the most likely to have been the major focus of Aboriginal camping activity. Due to the greater variety and abundance of resources related to Bowmans Creek it was assessed that the area would have allowed stays of longer duration and by larger groups of Aboriginal people. Other areas, such as the lower eastern slopes of Bettys Creek, were also found to have resources that would have attracted groups of Aboriginal people for short-term visits to harvest abundant seasonal foods (ground orchids and lilies). It was predicted therefore, that Bowmans Creek should have the largest Aboriginal camp sites in terms of areal extent and numbers of artefacts. These sites were predicted to occur on the lower slopes, terraces and floodplains beside Bowmans Creek and across the shared Bowmans Creek/Swamp Creek floodplain. Camp sites were also predicted along Bettys Creek and Swamp Creek but it was assessed that these were only likely to have evidence of more sporadic, short-term occupation.

A total of 38 previously unrecorded sites were located within the 2001 Glendell Mine Lease area. The sites consisted of 31 artefact scatters (including one small quarry site with an

associated artefact scatter and one scatter with an associated buried soil profile) and seven isolated finds. The quarry site (BCK-5) was recorded as having an associated artefact scatter as the majority of the artefacts in the site were manufactured from mudstone and silcrete and not the material available at the quarry (quartz and quartzite).

The artefact scatter associated with the buried soil profile (Bowmans/Swamp Creek Trench), was located on the shared floodplain between Bowmans Creek and Swamp Cree. In this area a channel approximately 300m in length was constructed by the mine during the 1980s to divert Swamp Creek into Bowmans Creek (the channel was never connected to the creeks). The artefact scatter was eroding from the A horizon of the floodplain. A buried soil profile was observed approximately 1m below the present soil surface in the area. There were no artefacts noted in this profile, however it was targeted for further geomorphic investigation.

As a result of these geomorphic investigations, it was concluded that there was no artefactual material within the buried soil profile and that the buried soil profile in this area related to a swamp deposit that was likely to be early Pleistocene to Tertiary in age and therefore; too old to contain evidence of human occupation. It was also concluded that there was negligible chance of locating buried soil profiles containing artefactual material in this area (Umwelt 2004).

The very low number of sites located in the Bowmans Creek catchment was explained by a combination of the limited area of the catchment encompassed within the Glendell Mine Lease Area, the alluvial nature of this area (the floodplain was a very active environment with both Bowmans Creek and Swamp Creek migrating back and forward across their shared floodplain) and the overall poor visibility associated with the entire Bowmans Creek floodplain. Poor visibility (due to grass cover) on the Swamp Creek floodplain also precluded the location of many sites in this area. Whilst on Bettys Creek visibility was slightly better due to a road associated with the Mt Owen Rail Loop on the eastern side of the creek and slightly greater rates of erosion associated with the tributaries which flowed into either side of the creek.

An assessment of the Aboriginal and archaeological significance of the sites located within the Glendell Mine Lease Area indicated that there were two sites of overall high archaeological significance (BCK-2 and BCK-10) and three sites of overall moderate archaeological significance (BCK-9, BCK-16 and BCK-18).

All five of these sites were restricted to the Bettys Creek area and all five have been salvaged under Section 90 Consent (#2267). Six sites had low to moderate significance; of these, three were located in association with Bettys Creek (BCK-6, BCK-19 and BCK-20) and three with Bowmans Creek (BCK-4, BCK-5 and Bowmans/Swamp Creek Trench). All of these sites with the exception of the Bowmans/Swamp Creek Trench have been salvaged under Section 90 Consent (#2267).

2.2 ARTEFACT ANALYSIS

2.2.1 Background

Over the past 150 years archaeologists have endeavoured to research what can be learnt from the observed differences in lithic assemblages. The main points of the research can be summarised as follows:

Since the 1960s, archaeologists have discussed variation in the composition of artefact assemblages in terms of four key variables:

- the mechanical properties of the raw materials being worked;
- the techniques used to work those raw materials;
- the uses to which the tools in an assemblage were put; and
- cultural idiosyncrasies (or style).

For much of the twentieth century, artefact assemblages were interpreted as cultural markers. Bordes's study of variation in Middle Palaeolithic artefact assemblages is an example of the application of these ideas to the stone-age archaeological record.

The observation that contemporary hunting and gathering groups use different items of material culture for different purposes in different contexts led to the suggestion that the same structuring principles would have influenced the behaviour of prehistoric groups and, therefore, the composition of artefact assemblages. This idea was put forward most forcefully by Binford in the 1960s, to explain variation in Middle Palaeolithic artefact assemblages.

The properties of raw materials will influence the products of a particular stone-working technique and experimental knapping studies can provide important information about the flaking properties and edge qualities of different raw materials. When applied to the interpretation of archaeological assemblages, this information—especially when used in conjunction with information about raw material distribution, tool use and edge resharpening—may help to explain differences in artefact morphology.

While different portions of the archaeological record can be characterized by different manufacturing techniques, it is also the case that each of these different techniques can be characterized by a different strategy of core reduction. The impact of different core reduction techniques on assemblage composition can be investigated through a combination of experimental knapping (seeking to identify debris diagnostic of a particular core reduction technique or stage of reduction), the analysis of flaking debris and refitting studies.

Thus there is considerable debate about the sort of information that can be gained from the study of lithic assemblages. In the Australian context (and undoubtedly for stone-age societies around the world), it needs to be remembered that the stone tool was often a 'means to an end';

namely that the tool itself was not as culturally important as the object it manufactured. Thus it was other artefact classes (which are largely missing from the archaeological record due to their organic nature) such as bark containers, wooden shields, boomerangs, spear throwers, body paint, clothing, temporary (sand) art etc., that were the artefacts that conveyed meaning and context for their users.

A further problem for Australian research into lithic assemblages is the lack of sites with secure archaeological contexts that enable studies of chronological variations to be examined. The majority of recorded artefact sites in the region are surface scatters where artefacts have been removed from their archaeological context, most often by erosion. Unlike Europe and the Near East where secure archaeological contexts are more likely to be located, this has meant that the 30,000+ years of Aboriginal occupation in Australia have been reduced to two broad categories of lithic development: the earlier core and scraper tradition and the later small tool tradition.

Clearly this is unsatisfactory for such a long period of occupation where that occupation extended from ice-age occupation of Tasmania to Holocene occupation of the continent's most harsh deserts.

One would naturally assume that, presented with such a variety of environments, over such a long period of time, with exposure to a variety of raw material types that a more regional and chronological lithic development would be noted.

However, this has not yet been possible in Australia: except in the broadest of terms. The lack of securely dated data is the greatest inhibitor, although the less-than-ideal nature of raw materials for lithic manufacture in Australia perhaps meant that less importance was placed on the style of lithic manufacture when compared to comparable cultures outside Australia. In Australia's case we are fortunate to have either archival records or recent ethnographical studies that enable us to appreciate the richly carved shields, the elaborate body paint and body scarring, the beautifully woven or knotted string bags and the range of expertly designed spear throwers, boomerangs and spears that filled the traditional Aboriginal world. It was these pieces that showed the viewer the cultural affiliations of the user, far more than the standard flake which could be used to do everything from wood carving to body scarring.

Stone artefacts are probably the most resilient physical evidence of Aboriginal occupation in Australia and for many parts of the country form the most abundant archaeological evidence of Aboriginal occupation. Stone artefacts are important because they are tangible evidence of Aboriginal use of an area and can potentially contain information about lithic activities, the organisation of stone technologies, and potentially information about larger-scale issues of settlement organisation across regions and even social change over time.

The kinds of information which can be obtained from stone artefacts may vary considerably, depending in part on:

- The numbers of artefacts which can be examined and recorded: generally, the larger the number of artefacts the more reliable will be statistical statements about them;
- The presence of other assemblages with which the artefacts can be compared;
- The condition of sites in which they occur: generally undisturbed sites have more information potential than disturbed sites, depending on the scale at which research is carried out; and
- The theory which underlies the artefact recording and analysis.

2.2.1.1 Statistically useful sample sizes

A large enough number of artefacts need to be recorded so that analyses can be based on statistically sound data (Leonard and Jones 1989). The numbers of artefacts which are needed in a sample will depend on how common or rare certain kinds of artefacts are. If a summary of most common raw material types is required then a random sample of 20 or 30 artefacts might suffice. On the other hand if no backed artefacts were found, and this type normally makes up 1% of an assemblage, then several hundred artefacts would need to be recorded to indicate whether or not backed artefacts are present on a site or in a certain landscape setting. Some site recorders may not detail artefacts on small sites, or think that small sites are unimportant because they have few artefacts. However, depending on the kind of question that is asked, it may be possible to group several small sites to give a large enough sample of artefacts to be statistically useful. For example, if many small sites with 10 artefacts each were found on ridge tops then it might be possible to group all the sites together to study Aboriginal use of ridge tops within a larger landscape. Ideally, sample sizes should be large enough to be able to carry out statistical tests of significance (Clegg 1990).

2.2.1.2 Comparable assemblages

One way to understand an assemblage is to have another to compare it to. It then becomes possible to investigate similarities and differences, and to discuss reasons for them. If artefact assemblages come from different landscape settings then it may be possible to discuss Aboriginal use of a landscape. For example, one site might be close to a stone quarry and another site might be far away. One site might be close to a big river and another associated with a minor creek in the hinterland. On a stratified site it may be possible to compare an older assemblage from lower deposits with a younger assemblage from upper deposits. If there are no other assemblages for comparison it may still be possible to make behavioural interpretations of the artefacts but it may be difficult to assess the results.

2.2.1.3 Condition

As a general rule artefacts from undisturbed sites may be able to provide more information than artefacts from disturbed sites. On sites in good physical condition it may be possible to identify artefacts relating to individual lithic activities, such as knapping floors (Hiscock & Mitchell 1993). It may be possible to refit or conjoin artefacts, and analyse the evidence from those activities (White 1999). For example, a person may have obtained some stone, taken it to a camp site, flaked it in a particular way, made some tools, left a lot of debris behind, and perhaps took some of the stone with them when they went to another camp. Other people might have obtained different kinds of stone from other quarries and flaked it in other ways, or just picked up a bit of stone that someone had left behind when they camped there once before.

On very heavily disturbed sites the artefacts themselves may be very broken, making it harder to analyse them. However, some disturbed sites may still be able to provide good information, if comparisons are made between sites. If 100 artefacts from one site are compared with 100 artefacts from another site, it might not particularly matter if the two sites have been disturbed or not.

2.2.1.4 Theory and recording

Stone artefacts can be recorded and analysed in different ways to give different kinds of information about different topics. The variables that are recorded and the interpretations which are made will depend in part on the theory which underlies the analysis. If someone wants to know what stone tools were used for, then artefacts should be examined under a microscope for use-wear and residues. If someone wants to know how stone was flaked and tools were made then a technological analysis may record data on stone flaking such as patterns of scarring on cores or flakes. If someone wants to know about how stone materials were obtained (procured), transported and discarded then recording might focus on stone raw materials – information about raw material types and where they occur naturally in the landscape will be critical, and raw material type and size of artefacts may be recorded.

Someone might be interested in the distributions of certain artefact types, so recording might focus on retouched or backed artefacts, rather than debitage. In the future, Aboriginal people might want information about topics or issues that have not yet even been thought about.

Consulting projects may seek to provide a basic description of an assemblage, recording just a few variables to give information about general topics. The present analysis records provenance information (where each artefact was found) and five other variables, with some additional information for modified artefacts and cores. This level of recording should not be regarded as a definitive record of the assemblage. If artefacts are kept in a safe place they can be reanalysed in the future to provide new information and address new questions.

With microscopic use-wear and residue analysis it may be possible to identify the kinds of things that stone tools were used for. It is now known that many backed artefacts have plant residues on them, indicating that they were not always used—if at all—as spear points or barbs (e.g. Barton 1992a, 1992b, 1994; Fullagar 1992, Fullagar *et al.* 1994; although see Fullagar *et al.* 2010 that details conclusive proof that microliths were used as spear points).

If different sites in different kinds of landscape settings were studied it may be possible to say something of peoples' activities in different parts of a region. Some sites may have been occupied as general camps; other sites may have been used for dinner-time camps, or lookout sites for watching kangaroos. People may have used stone in different ways at different kinds of sites, e.g. intensive stone flaking to make stone tools may have been carried out at camp sites, with lots of artefacts left behind. But prepared stone or made tools might have been taken to dinner-time sites and few artefacts left behind. Different numbers of artefacts, and different kinds of artefacts, may have been left at different kinds of sites (e.g. Bamforth 1986, 1991; Binford 1979, 1980; Kelly 1992; Kuhn 1989, 1994; McNiven 1991). Some sites contain stratified deposits, deeper soils having older artefacts, and upper soils having younger (more recent) artefacts. Such stratified assemblages are found most often at stone shelter sites, but sometimes open sites might also have stratified assemblages. From excavations at shelter sites in and around the Blue Mountains, we know that there have been changes over time in the appearance of stone artefact assemblages. Most notable are changes in raw material use (use of different rock types), changes in artefact size, changes in the kinds of stone tools that were made (particularly backed artefacts, but also edge-ground axes), and changes in the way stone was flaked (especially asymmetric alternating and bipolar flaking). There have also been changes in the numbers of sites that were occupied at different times and in the numbers of artefacts that were left behind (e.g. Attenbrow 1987; Johnson 1979; McDonald 1994; White 1999).

Such changes in stone artefact assemblages have probably resulted from changes in how people lived. How many people there were, what group affiliations there were (who they knew, who they visited), the size of territories, how they organised their occupation of their territories, perhaps too, there may have been changes in which sites were significant. For example, if territories were very large then people could have occupied high colder mountain areas in summer, and in winter they could have moved down into lower country, or occupied more sheltered valleys. When population increased people may have had smaller territories, so they may have had to stay within smaller territories year round.

2.2.2 Lithic Recording Scheme

The recording scheme used for this project has been designed to provide information on the research design of the project and to be comparable to other artefact assemblages recorded in the area.

2.2.2.1 Provenance Data

The square and spit number is recorded for artefacts and other material recovered from the excavations.

2.2.2.2 Artefact Type

This category records the type of artefact in each record. Potentially these descriptors could include:

- **Core** (functioning as a raw material supply). A core is a piece of stone which has been knapped to produce flakes. The core may have originally been a cobble, a flake, a broken flake or a naturally broken rock. Cores are identified as artefacts where they display negative flake scars or where flakes (or broken flakes) are reduced as cores.
- **Core Fragment**. During the use of a core it may break when pressure is applied, or more commonly, a portion of the core is removed to make the core a more acceptable shape for the knapper. Core fragments often have the appearance of a flake (i.e. they have flake-like features on the ventral surface) but their dorsal surface displays the attributes of its previous use as part of a core (such as ridged blades).
- **Flake**. The lithic struck from a core that has not been modified. A flake is determined as having a maximum linear dimension no greater than two times its minimum linear dimension. All artefacts classified as flakes are considered complete (portion = C). Flakes are characterised further on the basis of three stages detailed below:
 - o *Primary (P): More than 50% the dorsal surface of the flake is covered in cortex.*
 - o *Secondary (S): Cortex is present but covers less than 50% of the flakes dorsal surface.*
 - o *Tertiary (T): No cortex is present.*
- **Broken flake**. A flake that has been broken, most often post-use. A broken flake may have either the proximal (P) or distal (D) end missing or may be medial (M) and missing both. Characterised in the same manner as a flake (i.e. *primary, secondary and tertiary*).
- **Shatter**. Lithic debitage that exhibits some characteristics of a flake but contains less acute angles along its edges and is nearly as deep as it is wide. Debitage that is considered non-diagnostic.

- **Tested cobble.** Similar to a core but not as worked. Typically formed in the process of selecting materials suitable for further use and often some cortex is still present.
- **Blade.** A blade, also struck from a core as is a flake but often from unifacial or bifacial cores with parallel ridge scars. Blades are more than twice as long as they are wide.
- **Backed artefact.** A flake, flake fragment or blade with blunting (vertical) retouch along one or more margins. The retouch must have occurred after the artefact was struck from its core. The retouch is usually initiated from the ventral surface. Backed artefacts may be of any shape, and particular forms may have included Bondi points, geometrics or amorphous backed artefacts. The presence of chord use-wear is noted where present (the chord is the lateral edge opposite the retouched edge).
- **Hatchet (axe) head.** Essentially taking the form of cores in that they display negative flake scars only (and often referred to as core tools), axes are often manufactured from fine-grained volcanic rocks. When complete they show evidence of edge grinding on the cutting edge. An axe blank has been roughly shaped by removing flakes, but shows no evidence of edge grinding (the manufacturing process was interrupted for whatever reason).
- **Burin.** A burin is formed from a flake after it has been removed from a core. The distinguishing feature of a burin is the removal of a flake (burin spall) originating from the distal end of the flake that partially removes one of the flake's lateral edges. This produces a sharp point at the flake's distal end that was often used for engraving stone or wood.
- **Scraper.** A scraper can be formed from a flake or have the appearance of a core tool. The distinguishing feature of a scraper is steep retouch at one end of the artefact that would enable the tool to be used for wood carving or scraping down the hides of animals for hide preparation.
- **Grinding stone.** Often manufactured from sandstone, grinding stones show evidence of smoothing on one or both sides. Not only does the grinding make the sandstone smooth to touch, but it often causes a concave to be formed in the rock.
- **Anvil.** A rock showing pitting on one or both faces. An anvil could have been used in lithic manufacture.
- **Hammer stone.** As the hammer stone was hand-held it often takes the form of an elongated cobble with evidence of pitting and bashing on at least one of the sides. Hammer stones were used in lithic manufacture, as well as tasks such as breaking down bones (for marrow), or tough vegetation for food preparation.

2.2.2.3 Raw Material Type

The raw material types potentially could include:

- **Chert:** often called silicified tuff or indurated mudstone;
- **Quartz:** most often white or milk quartz;
- **Quartzite:** siliceous stone with granular composition (metamorphosed sandstone);

- **Sandstone:** stone with granular composition but less consolidated than quartzite;
- **FGS** (other fine grained siliceous): this category includes other fine-grained siliceous materials which are not silicified tuff, including chalcedony, agate, etc;
- **Volcanics:** these include basalt, porphyritic volcanic, and other igneous rock types. Due to the small numbers of artefacts of these raw materials, their usually coarse-grained textures, and presence of weathered surfaces, the generic term “igneous” is often used rather than more specific identifications being attempted; and
- **Other:** other rock types which were unidentifiable, usually fairly coarse-grained materials.

2.2.2.4 Size Category

Artefact size was recorded based on size ranges that were termed as a ‘category.’ Each category was based off of the artefacts maximum dimension and categorised in 10 millimetres intervals. Size categories are as follows:

- **1** = 0 to 9 millimetres
- **2** = 10 to 19 millimetres
- **3** = 20 to 29 millimetres
- **4** = 30 to 39 millimetres
- **5** = 40 to 49 millimetres
- and continuing...

2.2.2.5 Notes

This category records type of core, position of retouch or amount of cortex (natural surface) present.

3 EXCAVATION METHODOLOGY

3.1 TEST EXCAVATION OBJECTIVES

The primary objective of the archaeological excavation programme was to assess the nature, extent and integrity of sites LID 3 and LID 34 by means of a test excavation programme. The second objective was to apply the findings of the test excavation programme to better inform the management requirements for both sites in the face of the proposed works.

Beyond these management considerations, the excavation programme also had further research designs as part of its methodology. Given the scope of the excavation programme it was known that broad-area excavation would neither be warranted (given the site's surface manifestations) nor feasible within the excavation time frame. Further, excavation was restricted to lie within the proposed impact footprint and therefore could never fully excavate across the full extent of either LID 3 or LID 34.

The test excavation was designed to:

- Determine whether sub-surface archaeological deposits are present at sites LID 3 and LID 34 and, if so, the integrity, spatial distribution, extent, and nature of these deposits;
- Characterise the soils of the LID 3 and LID 34 with PAD and investigate land-use disturbance;
- Assess the significance of any archaeological deposits; and
- Provide management recommendations.

To determine the *integrity* of the deposit involves an assessment of the 'intactness' of the archaeological material within the landscape. This leads into the second factor, which involves an assessment of the amount of disturbance that has occurred in the landscape either through taphonomic processes or through other forms of sub-surface disturbance such as agriculture practices etc.

A determination of the *spatial distribution* of artefactual material within the limits of a site involves quantifying their presence relative to the identified landscape units. As the test excavation programme was limited to areas within the proposed impact footprint at LID 3 and LID 34, transects were positioned in areas determined to possess the greatest likelihood of encountering archaeological deposits. The extremity of the impact footprint was pegged out to ensure that all investigations remained within the impact footprint.

Determining the *extent* of the site/archaeological landscape involves broad assessment of the boundaries of the artefactual material. This includes attempting to determine the background presence of artefacts versus higher densities or unusual/diagnostic artefact types (i.e.

'features'). The excavation was restricted to the proposed impact footprint, and areas adjacent to the previously located surface scatters.

The *nature* of the site refers to the type of site or types of activities indicated by the artefactual material. In essence, this relates to the nature of the Wonnarua cultural and material use of the area and its resources and how this may be reflected in the material remains at the site.

Data retrieved from the excavations can also shed light on other interesting research issues including:

- The procurement of raw materials and the type of artefacts in relation to raw material choice and availability; and
- A comparison between the assemblages retrieved from these excavations in comparison with other recorded sites in the vicinity.

In conclusion, the results of the excavation programme were to enable an assessment of the significance of the site and/or landscape based on the factors outlined above. In combination with information concerning the nature of the proposed impacts, this data contributes to a determination of appropriate management recommendations.

3.2 TEST EXCAVATION CONSTRAINTS

The impact footprint of the Project specified quite explicitly which areas of LID 3 and LID 34 were to be excavated. As a result, excavation was limited to the western extent of LID 3 and south-western extents of LID 34 where the proposed open cut and auxiliary surface disturbance mining would occur (**Figures 2–3**). As such, the test excavation programme will only inform us of the nature of deposits in a discrete area of each site. The 2011 heritage assessment recorded that both sites extended towards Bowmans Creek and away from the areas of the sites examined here.

3.3 LAYOUT OF EXCAVATION PITS/SAMPLING STRATEGY

The excavation programme was undertaken by archaeologists and members of the RAPs and included the following aspects:

- The Proponent pegged out the extremities of the Impact Footprint for the proposed Entrance Pit Extension as delineated in **Figure 2**;
- Prior to any excavation, the sites were recorded through digital photography;
- Test pit layout was gridded along transects:
 - o LID 3 (#37-3-0452): this comprised 20 transects (A thru T) running northwest southeast spaced at 10m and 20m intervals (covering a 200m distance), with pits along each transect at 10m intervals for approximately 180m (transect rows 1 through 18). Due to the lack of cultural material being recovered from the sieved soil at the time of excavation, the decision was made in consultation with

the RAPs present at the dig to focus on the undisturbed portions of the site closest to the surface manifestation of the site within the erosion gully. As a result, not all pits along transects were spaced at 10m intervals. In some instances pit intervals along transects were as great as 100m. In multiple instances, where cultural material was recovered, pits were expanded. In all, this equated to 100 excavation squares, 0.5m x 0.5m in size (**Figure 5**).

- o LID 34 (#37-3-1150): this comprised 4 transects at the western extent of the site running north-south spaced at 10m and 20m intervals (covering a 100m x 40m area), and two transects on the southern portion of the site spaced at 10m intervals running east-west (covering a 10m x 140m area). Pits along each transect were paced at 20m intervals. In all, this equated to 33 excavation squares, 0.5m x 0.5m in size (**Figure 6**).

As is currently required under the *National Parks and Wildlife Act 1974* (NPW Act), this excavation programme was designed to conform with the Code, which was adopted in the NPW Act Regulations 2009, Clause 3A. Excavations undertaken as per the Code do not require an Aboriginal Heritage Impact Permit (AHIP) under the NPW Act.

3.4 ARTEFACT RETRIEVAL

Excavation was conducted over a five day programme. All excavation pits were hand excavated in 5cm spits for the first 2 spits and 10cm spits thereafter down to the B Horizon clays. Spits were used during excavation as no stratigraphic divisions were noted. 100% of excavated material from the pits was sieved. All deposits were dry sieved on site using sieves of 5mm and 3mm mesh.

4 RESULTS OF THE TEST EXCAVATION PROGRAMME

4.1 FIELD METHODS

The field program was carried out from 16–20 April 2012.

With input from both OzArk and the RAPs, the implementation of the excavation methodology was able to be achieved in the field.

All excavated deposits from each spit were dry-sieved at the test pits. The excavators noted on their square's context sheet such information as the location of any *in situ* artefacts, the nature of the deposit, the number of buckets of soil excavated and any notes on the square's stratigraphy and deposits. Photographs were taken of any test pit exhibiting stratigraphy or containing artefacts.

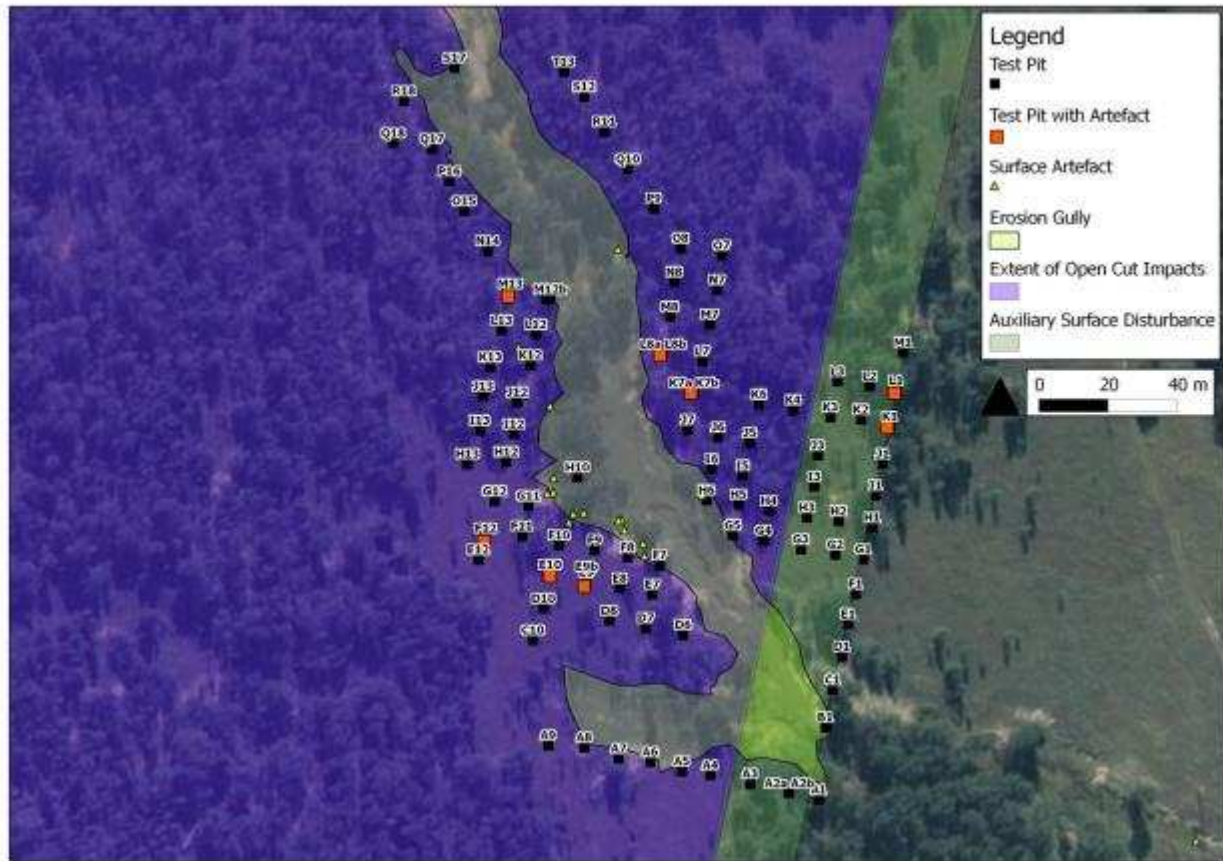
All deposits were dry sieved through 3–5mm aperture sieves and the artefacts retained for further analysis.

4.1.1 LID 3

Initially, at site LID 3, transects A-M were laid out as dictated by the excavation methodology and row 1 for transects A-M were positioned along the pegged edge of the proposed impact footprint. However, as only sparse cultural material was recovered from the first row of these transects the decision was made to concentrate the pit layout along the edges of the erosion gully that represented the site's surface manifestation. The variation in the pit layout in the field versus that of the originally planned methodology was done in an attempt to delineate the boundaries of any potential deposits by focusing efforts around the surface manifestation.

Despite these changes, all pit spacing stayed true to the proposed methods and 10m or 20m pit and transect intervals were used in all circumstances except where pits were intentionally skipped to avoid unwarranted investigation of the culturally sterile clays that were exposed by the erosion gully running through the site. As a result, multiple transects and rows contain only one or two pits. **Figure 5** shows the final pit layout used in the field at site LID 3. The number of pits placed along individual transects was dictated by ground conditions, in field analysis of artefact densities from excavated pits and the location of the impact footprint boundaries.

In five instances, expansions were established around individual pits (**Plate 3**) in order to gain further information from that area. In all but one instance (test pit A2b) the test excavation pit expanded was located adjacent to and expanded off of a pit containing an artefact.

Figure 5: Test pit layout and artefacts recorded at LID 3.

4.1.2 LID 34

At site LID 34 individual test excavation pits were numbered 1 through 33 with individual deposits designated following the pit number, for example, 33.1 refers to Pit 33, Spit 1 (**Figure 6**).

The landform and vegetation cover varied little from transect to transect and the characteristics of the tested area are shown in **Plate 2**.

In the field, all surface artefacts were flagged in order to minimise the risk of inadvertent impact (**Plate 2**).

No test pits were expanded at Lid 34 as only two artefacts were recovered from the 33 excavated pits. Due to a lack of cultural material in the landscape, no clear site area could be established and further excavation of pits was not warranted. All deposits were dry sieved through nested sieves and the artefacts retained for further analysis.

Figure 6: Test pit layout and artefacts recorded at LID 34.

4.2 STRATIGRAPHY

4.2.1 LID 3

100 test excavation pits were completed at site LID 3 and archaeological stratigraphy was not recorded at any location.

The A Horizon soil levels were shallow across LID 3: the average test excavation pit was 17cm deep and, consequently, on average, there were two 5cm spits and one 10cm spit per excavation square. Although two test pits (L1 and H6) were excavated to depths greater than 30cm, most reached the B horizon clays at around 10–20cm (**Plates 4 and 5**).

In general, the soils at LID 3 had a thin organic layer (O Horizon) 3–7 cm thick overlying a topsoil layer of fine alluvial loam (A Horizon) between 5–10cm. Basal clay (B Horizon) was encountered at 17cm depth on average.

At several locations excavation continued down into the B Horizon clays to determine that cultural material did not exist at these levels. A single test pit (H6) was excavated within the erosion gully containing the site's surface manifestation. Test pit H6 was located directly adjacent to a surface artefact and was excavated approximately 33cm (4 spits) into the B Horizon clays (**Plate 6**) that were exposed by the erosion. This was done in order to demonstrate whether the B Horizon soils were culturally sterile: as was initially suspected.

4.2.2 LID 34

33 test excavation pits were completed at site LID 34 and archaeological stratigraphy was not recorded at any location.

At LID 34 deposits were highly variable and test pit depth rarely exceeded 15cm before encountering B Horizon basal clays (**Plates 7 and 8**). In general, the soils at LID 34 had a thin organic layer (O Horizon) 2–5 cm thick overlying topsoil alluvial loam (A Horizon) 5–10cm thick. Basal clay (B Horizon) was encountered at 15cm depth on average. Soil profiles in the north-western areas were extremely shallow typically consisted of a thin (approximately 3–7cm) topsoil/organic layer before either encountering basal clay or bedrock.

Although archaeological stratigraphy was lacking, the soil layers did not appear to be disturbed; however, all artefacts were recovered from the top 10cm.

4.3 HORIZONTAL DISTRIBUTION

Artefact densities across the investigated area of both LID 3 and LID 34 were extremely low and only 10 of the 133 excavated pits contained artefacts. In those squares where artefacts were recorded, artefact numbers were also low with each of the ten pits containing only single artefacts.

4.3.1 LID 3

Figure 5 indicates the location of test pits containing artefacts versus those considered culturally sterile. As can be seen in this figure, clear patterns concerning site dimension and location are hard to discern. In most cases where artefacts were recorded, an expansion pit was excavated; however, adjacent excavation squares or expansion squares often contained no artefacts. Surface artefacts recorded in the area were almost entirely confined to the exposures created by the erosion gully that runs through the site. The low frequency and sporadic distribution of test excavation pits containing artefacts, affords little evidence for establishing clear horizontal distribution of past Aboriginal cultural activity in this area.

4.3.2 LID 34

Figure 6 indicates the location of test pits containing artefacts versus those considered culturally sterile. As can be seen in this figure, clear patterns concerning site dimension and location are hard to discern. Surface artefacts recorded in the area were located on vehicle access tracks and their frequency tended to increase to the east and north of the tested areas. Additionally, both artefacts recovered from the test excavations were recorded in test pits located on the top of the terrace landform in the north-eastern portion of the tested area. The small sample size affords little evidence for establishing clear horizontal distribution of past Aboriginal cultural activity in this area; however, the distribution of surface artefacts and the

location of the only two pits containing artefacts in the northeast of the tested areas indicates the site may be located further in northeast direction closer toward the banks of nearby Bowmans Creek.

4.4 VERTICAL DISTRIBUTION

Excavation at both sites was able to establish that all but one of the recorded artefacts were located in the top-most 10cm of deposits: only one artefact was recorded at 10–15cm.

4.4.1 LID 3

Seven of eight artefacts were recorded in the top 10cm of soil. In spit 1 (0–5cm) three artefacts were recorded (37.5%) while four artefacts (50%) were recorded from spit 2 (5–10cm). A single mudstone flake was recorded in spit 3 (10–15cm) accounting for 39% of all artefacts. Only two test pits (L1 and H6) were excavated below spit 3 and no artefacts were recovered from below 15cm.

Regarding the vertical distribution of artefact size there is a fairly even spread in spits 1 and 2. As can be seen in **Table 1**, artefacts were slightly larger in spit 2 when compared with spit 1; however, the small sample recovered affords little evidence for comparing these results with those from other sites excavated in the region.

Table 1: LID 3: Artefact Log

Test Pit	Spit	Material	Color	Size*	Artefact Type	Stage*	Portion*
E10	2	mudstone	red-brown	4	flake	T	C
E9a	2	mudstone	tan-brown	3	shatter	na	na
F12	2	mudstone	red-brown	4	flake	P	C
K1	2	quartz	milk	3	flake	S	C
K7a	1	quartz	translucent	2	flake	S	C
L1	3	mudstone	red-brown	2	flake	T	C
L8	1	mudstone	tan	2	flake	T	C
M13	1	mudstone	tan	1	flake	T	C

*Refer section 2.2.2 for details on the Lithic recording scheme

4.4.2 LID 34

Both of the artefacts were recorded from the top 10cm of soil (**Table 2**). One artefact was recorded in spit 1 and one artefact was from spit 2. Regarding the vertical distribution of artefact size, the artefacts were of similar size and little can be drawn from such a small assemblage. This site affords little evidence for comparing these results with those from other sites excavated in the region.

Table 2: LID 34: Artefact Log.

Test Pit	Spit	Material	Color	Size	Artefact Type	Stage	Portion
16	2	quartzite	grey	3	flake	T	C
21	1	mudstone	red	3	flake	P	C
*Refer section 2.2.2 for details on the Lithic recording scheme							

4.5 THE ARTEFACT ASSEMBLAGE

'Artefact', by the terms of this report, refers to all stone items that either through evident morphological features or type of raw material was likely to have been manufactured or carried to the site by Aboriginal people. Thus the term embraces flaked pieces and lithic debitage (either small flakes under 5mm in size or shatter fragments). While covered by the term 'artefact', no other artefact type such as hammerstones, blades, scrapers, anvils, grinding dishes or edge-ground tools were recorded during the excavations.

4.5.1 LID 3

Eight stone artefacts were recorded as a result of the test excavation programme. The most numerous artefact type at LID 3 were flaked pieces (87.5%, n= 7; **Plates 9 and 10**) in addition to one shatter fragment (**Plate 10**). While not differentiated in this catalogue, the majority of these flakes were wide and elongate flakes were infrequent. Due to the small sample size of artefacts recovered, no conclusions regarding knapping technique could be drawn at this site. Additionally, the lack of material made any regional comparison with other excavated sites difficult.

4.5.2 LID 34

Only two artefacts were recovered from the test excavation programme at site LID 34 (**Plates 11 and 12**). Both artefacts recovered were complete flakes. Due to the small sample size of artefacts recorded, no conclusions regarding knapping technique could be drawn at this site. Additionally, the lack of material made any regional comparison with other excavated sites difficult.

4.6 ASSEMBLAGE COMPARISON TO NEARBY SITES

In their 2010 report, Umwelt provide an excellent summary of assemblage attributes recorded during various archaeological investigations at sites along Bowmans Creek and its tributaries in the vicinity of RUM approximately 10km south (Umwelt 2010, tables 5.14–5.16). These tables are reproduced below (**Tables 3 and 4**) with the addition of information gained from both current and recent OzArk investigations. In **section 2.1.2.1** the background is provided for those investigations that included an excavation component. For background on the archaeological surveys referred to in the tables below that may not be mentioned in **section 2.1.2.1**, please refer to Umwelt 2010.

Table 3: LID 3 and LID 34: comparison of artefact type with nearby recorded sites.

Author/ Date	Flakes	Flaked Pieces	Cores	Backed Artefacts	Scraper	Pebbles/ Hammerstone	Ground edge axe	Blade	Glass Artefact
Dyall (1976)	336	0	14	44	0	0	0	0	0
Brayshaw (1981)	7	0	0	0	0	0	0	1	0
Brayshaw (1981)	9	0	1	0	0	0	0	0	0
Haglund (1982)	35	10	3	2	2	0	0	30	0
Rich (1990)	79	64	10	0	0	0	1	0	0
Effenberger (1992)	1	0	1	0	2	0	0	2	0
McIntyre (1992)	5	2	2	0	0	0	0	0	0
Ruig (1994)	30	19	1	1	0	0	0	0	0
HLA (1996)	108	0	5	1	0	0	0	0	1
HLA (1996)	22	0	2	0	0	0	0	0	0
ERM (1997)	490	1091	110	27	1	8	1	0	0
ERM (1998)	48	44	18	0	1	1	0	0	0
Umwelt (2000)	9	8	3	0	0	0	0	0	0
HLA (2001)	31	10	7	0	0	0	0	0	0
HLA (2004)	109	0	8	0	0	0	0	0	0
Umwelt (2009)	229	2	21	0	0	0	0	1	1
OzArk (2011)	101	n/a	8	12	7	0	0	n/a	0
OzArk (2012)	9	1	0	0	0	0	0	0	0
Totals	1649	1250	214	87	13	9	2	34	2

Table 4: LID 3 and LID 34: comparison of artefact material with nearby recorded sites.

Author/ Date	Mudstone	Silcrete	Quartz/ Quartzite	Chert	Porcellanite	Petrified wood	Volcanic	FGS	Siltstone
Brayshaw (1981)	4	0	0	5	0	0	0	0	0
Brayshaw (1981)	0	0	0	10	0	0	0	0	0
Haglund (1982)	49	13	5	9	0	0	3	0	0
Godwin (1987)	442	518	14	21	0	3	0	0	0
Rich (1990)	71	40	14	27	0	0	0	1	0
Effenberger (1992)	11	1	0	0	0	0	0	0	1
McIntyre (1992)	0	2	1	5	0	0	0	0	0
Ruig (1994)	25	18	7	0	0	0	1	0	0
HLA (1996a)	31	2	0	0	0	0	0	0	0
HLA (1996b)	10	8	0	0	0	0	0	0	0
ERM (1997)	995	483	75	48	83	24	8	21	0
ERM (1998)	69	26	10	0	0	0	2	0	0
Umwelt (2000)	6	14	0	0	0	0	0	0	0
HLA (2001)	31	8	2	0	5	0	0	0	0
HLA (2004)	32	86	3	0	0	0	0	42	0
Umwelt (2009)	156	84	6	6	0	0	1	0	0
OzArk (2011)	114	75	35	37	0	2	4	n/a	n/a
OzArk (2012)	7	0	3	0	0	0	0	0	0

Totals	2053	1378	175	168	88	29	19	64	1

4.7 SURFACE ARTEFACTS

The recording or collection of surface artefacts was not part of the test excavation methodology. However, in order to minimise the potential risk of impact to the surface artefacts that were visible across the site from the archaeological excavations, surface artefacts were flagged if located in the vicinity of activities that may create potential for disturbance or damage to the artefacts (**Plate 2**).

4.7.1 LID 3

The test excavation programme did record the location of surface artefacts to help aid management of these items in the future and to see if there was any relationship between the distributions of excavation artefacts with that of surface artefacts.

When the two assemblages are mapped (**Figure 5**) there is no clear correlation between the two assemblages. As was noted in **section 4.3.1**, the horizontal distribution of excavation artefacts was directly related to exposure within an erosion gully with artefact density increasing with increased proximity to Bowmans Creek.

4.7.2 LID 34

The test excavation programme did record the location of surface artefacts to help aid management of these items in the future and to see if there was any relationship between the distributions of excavation artefacts with that of surface artefacts.

When the two assemblages are mapped (**Figure 6**) there is no clear correlation between the two assemblages. The horizontal distribution of surface artefacts was directly related to exposure created by access tracks with artefact density increasing with increased proximity to Bowmans Creek.

5 DISCUSSION

5.1 SALIENT FINDINGS FROM THE ARTEFACT CATALOGUE

This discussion will distil the major points of each category that was examined in the artefact catalogue.

5.1.1 Artefact Type

With the exception of one piece of shatter recovered from site LID 3, all the remaining artefacts recovered by the test program were classified as unmodified flakes. Due to the small sample sizes recovered at both sites it was difficult to draw comparisons with other recorded sites in the region. However, as shown in **Table 3** the artefact types at LID 3 are among the more common artefact types of other sites in the region; namely flakes.

No tools were recorded in the limited cultural material recovered by the test excavation program at either site LID 3 or LID 34, as such; the remainder of this section has been omitted.

5.1.2 Raw Material

Indurated mudstone was the most frequently used stone at LID 3 and accounted for six of the eight artefacts recorded: the remaining artefacts recorded were quartz. At site LID 34 only two artefacts were recorded with one composed of indurated mudstone and one of quartzite. Due to the small sample sizes recorded at both sites it is difficult to draw comparisons with other recorded sites in the region. However, as shown in **Table 4** the raw material characteristics of artefacts at LID 34 are typical of the region.

5.1.3 Dimensions

The dimension range of artefacts at both LID 3 and LID 34 was generally small with over 75% of the assemblage at LID 3 measuring, as a maximum dimension, less than 30mm. Both artefacts recovered from LID 34 had maximum dimensions under 30mm.

5.1.4 Cortex

50% of all artefacts at both sites had no cortex. This even rate of cortex demonstrates that core reduction knapping was occurring at both LID 3 and LID 34. No cores were recorded at either site but the high proportion of artefacts with cortex indicates the potential for knapping activity at both sites.

5.1.5 Knapping Type

The majority of knapping type recorded at both was freehand percussion. No bipolar reduction was noted at either site. Only one flake, at site LID 3, was of small enough size (size class 1) to be considered pressure flaked.

5.1.6 Artefact Breakage

The breakage rates at both sites are low (all seven identified flake artefacts are complete) and generally the condition of the artefacts is good with little weathering and little fragmentation.

5.1.7 Heat Affect

No substantial evidence of heat treatment was noted in either the LID 3 or LID 34 assemblages. Without clear indications, such as pot-lidding, it is sometimes difficult to be certain in this category.

5.2 CONCLUSION

In **section 2.2.1**, four considerations were discussed in relation to their effect on the artefact analysis, namely assessing both sites against:

1. Statistically useful sample size;
2. Comparable assemblages;
3. Site condition; and
4. Theory and recording.

Each of these will be considered in turn.

5.2.1 Statistically useful sample size

Only 10 artefacts were recovered from the test excavation at both site areas combined. A total of 8 artefacts were recovered from LID 3, while only 2 were recovered from LID 34. These were not considered statistically useful sample sizes.

5.2.2 Comparable assemblages

While there is a wealth of assemblages within the region with which to compare LID 3 and LID 34, however, the limited sample size makes such comparisons difficult. Specifically, **section 3.6** placed the LID 3 assemblage against the results of other excavations and surveys associated with mine related works around the Bowmans and Bayswater Creek catchments. The tables presented in this section show the artefacts from both LID 3 and LID 34, when compared to other archaeological investigations in the region:

- Sub-surface artefact density was extremely low at both sites; however, this statistic is influenced by the fact that surface artefacts were not included for the purposes of this report while included in the artefact numbers for other sites identified in the tables;
- The extremely small sample recovered makes comparison of artefact types at LID 3 and LID 34 impossible with other sites in the region; and

- The raw materials recorded at both LID 3 and LID 34 exhibit similarities to other sites associated with Bowmans Creek. Most other sites also have indurated mudstone as the most dominant stone present.

When compared to other assemblages several features pertaining to LID 3 and LID 34 emerge:

- The types of raw material recorded are representative of raw materials that have been recorded elsewhere in the region;
- The site type of LID 3 and LID 34 is representative of the most common site type in the Hunter Valley: the open site.

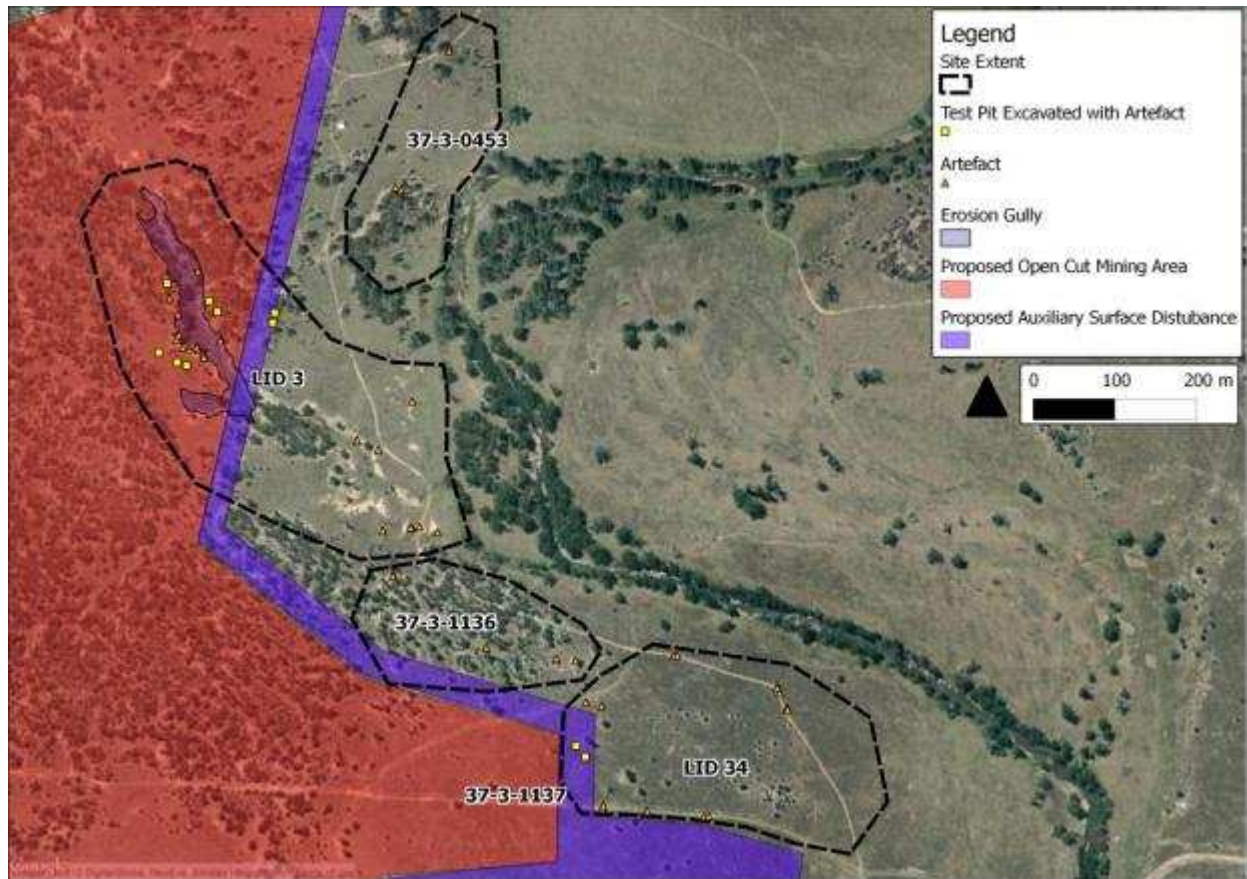
5.2.3 Site Condition

5.2.3.1 LID 3

Examination of the depth at which artefacts were located showed an extremely low density deposit was present up to 10–15cm depth, but drops off completely below 15cm. Given the moderate density of surface artefacts in the erosion gully and extremely low sub-surface artefact densities in the tested areas, it is likely that the landforms that once comprised LID 3 have largely eroded. This indicates that LID 3, in the area investigated, has been subjected to heavy erosional disturbance that has largely displaced the artefacts of the site. The findings of the test excavation indicate LID 3 as a site deflated by erosion (refer to **Figure 7** for revised site extent).

It was also noted in **section 4.2** that there was significant evidence of gulling erosion, this was GPS mapped at the time of the test excavation and evident by the shallow soils (17cm average test pit depth before encountering basal clay). This now indicates that LID 3 is both without visible archaeological stratigraphy and has been deflated by erosion.

Figure 7: Extent of Aboriginal sites in the vicinity of LID 3 and LID 34.



5.2.3.2 LID 34

While moderate disturbance from the construction of vehicle access tracks has impacted site LID 34, much of the deposits appeared to be intact. Examination of the depth at which artefacts were located showed an extremely low density deposit was present up to 10cm depth in the north-eastern tested areas of the site (around pits 16 through 18). Surface artefacts identified at LID 34 were located on access tracks and small erosion scours that crossed the rim of the terrace landform (refer to **Figure 7**). Additionally, the density of the surface artefacts increases in areas closer to the main channel of Bowmans Creek, to the north and east of the tested areas. This indicates that the investigated portions of LID 34 most likely constitute the site's peripheries.

5.2.4 Theory and recording

As noted in **section 2.2.1** any artefact assemblage can be examined in a number of ways in order to obtain different sorts of information. At both LID 3 and LID 34 small sample sizes limited possible interpretation, as such the remained of this section has been omitted.

6 ASSESSMENT OF ARCHAEOLOGICAL SIGNIFICANCE

6.1 INTRODUCTION

The appropriate management of cultural heritage items is usually determined on the basis of their assessed significance as well as the likely impacts of any proposed developments. Scientific, cultural and public significance are identified as baseline elements of significance assessment, and it is through the combination of these elements that the overall cultural heritage values of a site, place or area are resolved.

Social or Cultural value

This area of assessment concerns the importance of a site or features to the relevant cultural group: in this case the Aboriginal community. Aspects of social value include assessment of sites, items, and landscapes that are traditionally significant or that have contemporary importance to the Aboriginal community. This importance involves both traditional links with specific areas, as well as an overall concern by Aboriginal people for their sites generally and the continued protection of these. This type of value may not be in accord with interpretations made by the archaeologist: a site may have low archaeological value but high social value, or vice versa.

Archaeological value

Assessing a site in this context involves placing it into a broader regional framework, as well as assessing the site's individual merits in view of current archaeological discourse. This type of value relates to the ability of a site to answer current research questions and is also based on a site's condition (integrity), content and representativeness.

The overriding aim of cultural heritage management is to preserve a representative sample of the archaeological resource. This will ensure that future research within the discipline can be based on a valid sample of the past. Establishing whether or not a site can contribute to current research also involves defining 'research potential' and 'representativeness'. Questions regularly asked when determining significance are: can this site contribute information that no other site can? Is this site representative of other sites in the region?

Aesthetic value

This refers to the sensory, scenic, architectural and creative aspects of the place. It is often closely linked with the social values. It may consider form, scale, colour, texture and material of the fabric or landscape, and the smell and sounds associated with the place and its use (Australian ICOMOS 1988).

Historic value

Historic value refers to the associations of a place with a historically important person, event, phase or activity in an Aboriginal community. Historic places do not always have physical evidence of their historical importance (such as structures, planted vegetation or landscape modifications). They may have 'shared' historic values with other (non-Aboriginal) communities.

Places of post-contact Aboriginal history have generally been poorly recognised in investigations of Aboriginal heritage. Consequently the Aboriginal involvement and contribution to important regional historical themes is often missing from accepted historical narratives. This means it is often necessary to collect oral histories along with archival or documentary research to gain a sufficient understanding of historic values.

6.2 ASSESSED SIGNIFICANCE OF LID 3 AND LID 34

Social or Cultural Value

The results of the test excavation programme were presented to the RAP representatives at an AFGM specifically held for the purpose of discussing the sites post-excavation.

No specific information re the social or cultural significance of sites LID 3 and 34 was raised at this meeting, although it was overall noted that due to the fact that so many sites are now so eroded (like LID 3 and LID 23) sites in general are even more significant to the Aboriginal community.

Archaeological Value

The analysis of the stratigraphy and artefacts from both site LID 3 and LID 34 demonstrate that at tested portions of both sites hold no archaeological integrity and that, at tested portions of both sites, little or no archaeological deposition was present. The sample size of artefacts recovered at both sites was so low that analysis of these artefacts was unable to fit them into the regional context of previous archaeological research in the area. These aspects significantly limit the archaeological value of either site LID 3 or LID 34. Further, as both LID 3 and LID 34 demonstrated a lack of archaeological stratigraphy and both sites were primarily disturbed/eroded surface manifestations, the archaeological value of both LID 3 and LID 34 are further lowered.

As a result of the archaeological work performed at both sites, a good deal of information pertaining to the site or lack thereof is now known. It is suspected that if further excavation were to take place at either LID 3 or LID 34 within the portions already tested, the results would be a replication of those presented here rather than an extension. For any additional information of either site to be gained excavation would have to be undertaken closer to Bowmans Creek and away from the proposed impacts. It is therefore assessed that there is little further scientific

information that could be gained from the tested portions of either site. As a result, LID 3 and LID 34 are assessed as holding **low archaeological value**.

Aesthetic Value

For the non-specialist, there is little aesthetic value to either site LID 3 and LID 34 or the landscape in which both are located. It is therefore assessed that both LID 3 and LID 34 have **no aesthetic value**.

Historic Value

There are no known Aboriginal associations with either LID 3 or LID 34 and, as such, the site has **no historic value**.

These values were assessed against four main criteria: research potential; representativeness, rarity and education potential. Immediate knowledge was sought from Aboriginal community representatives who attended the excavation but a broader enquiry into local cultural and historical values in regards to sites LID 3 and LID 34 was not conducted and the results of such a study remain unknown.

Table 5 presents a summary of the assessment of values for LID 3 and **Table 6** presents the summary for LID 34.

Table 5: LID 3: assessment of value criteria.

	Research potential	Representativeness	Rarity	Education potential
	Does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?	How much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?	Is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?	Does the subject area contain teaching sites or sites that might have teaching potential?
Archaeological value: does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state?	Low	Low	Low	Low
Aesthetic value: is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state? –	Low	Low	Low	Low
Historic value: is the subject area important to the cultural or natural history of the local area and/or region and/or state?	Low	Unknown	Unknown	Low

	Research potential	Representativeness	Rarity	Education potential
Social value: does the subject area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?	High (Social/Cultural value is determined by the Traditional Owners)			

Table 6: LID 34: assessment of value criteria.

	Research potential	Representativeness	Rarity	Education potential
	Does the evidence suggest any potential to contribute to an understanding of the area and/or region and/or state's natural and cultural history?	How much variability (outside and/or inside the subject area) exists, what is already conserved, how much connectivity is there?	Is the subject area important in demonstrating a distinctive way of life, custom, process, land-use, function or design no longer practised? Is it in danger of being lost or of exceptional interest?	Does the subject area contain teaching sites or sites that might have teaching potential?
Archaeological value: does the subject area have potential to yield information that will contribute to an understanding of the cultural or natural history of the local area and/or region and/or state?	Low	Low	Low	Low
Aesthetic value: is the subject area important in demonstrating aesthetic characteristics in the local area and/or region and/or state? –	Low	Low	Low	Low
Historic value: is the subject area important to the cultural or natural history of the local area and/or region and/or state?	Low	Unknown	Unknown	Low
Social value: does the subject area have a strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?	High (Social/Cultural value is determined by the Traditional Owners)			

7 MANAGEMENT AND MITIGATION: LID 3 AND LID 34

7.1 LIKELY IMPACTS TO LID 3 AND LID 34

Both LID 3 and LID 34 will be impacted by proposed open cut mining activity including construction of an open cut pit, access tracks, haul roads, and overburden emplacement. Any cultural material within the impact footprint has a high possibility of damage and displacement. **Table 7** summarises the potential impact to LID 3 and LID 34. Both sites do extend beyond the impact footprint for this Project: hence destruction to the sites is partial.

Table 7: Impact assessment.

Site Number	Type of Harm (Direct/Indirect/None)	Degree of Harm (Total/Partial/None)	Consequence of Harm (Total/Partial/No loss of value)
LID 3	Direct and indirect harm associated with proposed open cut mining activity. Site will be impacted by construction of open cut pit and auxiliary disturbances.	Partial, total within impact footprint	Partial
LID 34	Direct and indirect harm associated with proposed open cut mining activity. Site will be impacted by construction of open cut pit and auxiliary disturbances.	Partial, total within impact footprint	Partial

7.2 MANAGEMENT AND MITIGATION OF LID 3 AND LID 34

As was seen in the **section 7.1**, impacts to both LID 3 and LID 34 will totally destroy portions of both sites. Complete avoidance of both sites is not considered feasible as the Proponent has already redesigned the proposed Entrance Extension Pit to completely avoid multiple sites and allow for partial avoidance of both LID 3 and LID 34 (refer to OzArk 2012). Management recommendations are made taking into account the following observations:

- The archaeological investigation at LID 3 excavated over 25m² of an estimated 16,500m² contained within the proposed impact footprint covering LID 3. The area excavated represents approximately 0.15% of the portion of LID 3 proposed to be disturbed by the Project;
- The archaeological investigation at LID 34 excavated over 8.25m² of an estimated 7,800m² contained within the proposed impact footprint covering LID 34. The area excavated represents approximately 0.1% of the portion of LID 3 proposed to be disturbed by the Project;
- While further artefacts at both LID 3 and LID 34 are likely to be located in areas that have not been excavated, such artefacts are expected to occur at very low density;
- All artefacts at both LID 3 and LID 34 are located within the top 15cm of soil;
- Additional sub-surface archaeological investigation is not warranted at site LID 3 as no intact sub-surface deposits are expected due to high levels of disturbance from erosion;

- Additional sub-surface archaeological investigation is not warranted at site LID 34 as the projected impacts are to occur on the sites peripheries and are not expected to disturb the primary site area; and
- At LID 3 and LID 34, in the light of the findings of this test excavation programme, have both been assessed as holding high social/cultural values, low archaeological values and no aesthetic and historical values.

As both LID 3 and LID 34 have been assessed as having low archaeological value, further archaeological work is not deemed necessary as a small, yet representative, sample of the site has been thoroughly investigated. The archaeological investigation so far performed enables the site to somewhat placed in its regional context while noting that no unique features, deposits or artefacts were recorded at either LID 3 or LID 34.

As both LID 3 and LID 34 have been assessed as holding high cultural values for the local Aboriginal community (refer to **Appendix 1**), further management of these sites will be required. Preliminary consultation has taken place with the RAPs as to the form of this management through on site discussions.

In order to maximise knowledge of the sites and to minimise the risk of damage to cultural material during construction, sites LID 3 and LID 34 should be salvaged via surface collection and will be included in **Management Group 2 - Sites requiring surface collection and/or artefact relocation** of the LCO report 2012 (see OzArk 2012). An AHIP is required for all actions under this recommendation. The following archaeological recommendations are made concerning the salvage/surface collection of site LID 3 and LID 34:

1. Under supervision of a suitably qualified archaeologist the Aboriginal community should be given the opportunity to collect surface artefacts within the proposed impact footprints at both sites LID 3 and LID 34;
2. Prior to collection, identified surface artefacts within the proposed impact footprint over sites LID 3 and LID 34 should be flagged and an archaeologist should record their location via GPS;
3. Collected surface artefacts should be bagged, labelled and general provenience recorded for further analysis;
4. The collected artefacts would be analysed on-site at XCN Liddell immediately following collection and RAPs will be offered an opportunity to participate in this analysis. A short addendum to this report be written in order to incorporate the findings of the surface collection;
5. Artefacts will need to remain in the care of XCN Liddell until such time as all activities for this project over LID 3 and LID 34 are complete, at which time a location advised for the reburial of the artefact collection will be determined and a Care and Control agreement

submitted where a selection of the artefacts recovered will be placed in the custody of Wanaruah LALC for educational use;

6. During initial surface disturbing works at sites LID 3 and LID 34, the topsoil from the impact footprint that is to be removed for the project, should be windrowed nearby and specifically used to re-dress areas in the vicinity of LID 3 and LID 34 during the rehabilitation phase when the project works are complete. All top soil excavated from these two sites should remain in the local vicinity of the site; and
7. Under supervision of a suitably qualified archaeologist all portions of site LID 3 and LID 34 that are not intended to be impacted by the currently proposed works should be fenced from inadvertent impact.

7.3 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.

Under the *National Parks and Wildlife Act 1974* (NPW Act), which protects all Aboriginal sites and objects, these artefacts have legislative protection. The significance of any artefact or site must be assessed by trained professionals who will evaluate the social/cultural, scientific, historic and aesthetic values of the artefact or site.

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 (Newcastle Office; ph. 131 555 or (02) 9995 5555)
 - b. Wanaruah LALC (in the first instance as a representative of the RAPs; ph. (02) 6543 1288)
4. Facilitate, in co-operation with the appropriate authorities and RAPs:

- 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 RAP consultation and the assessment of the significance of the find(s).
5. Where the find(s) are determined to be Aboriginal Objects as defined by the NPW Act, 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).

What to do if you come across any unanticipated suspected human remains during construction work?

- Cease all ground surface disturbance in the area of the find(s) immediately by notifying machinery operators in the immediate vicinity of the find(s). Also avoid touching the discovered remains.
- Inform the site supervisor as soon as possible and he/she will organise for a qualified professional opinion: usually the police in the first instance.
- Create a buffer zone of 50m x 50m around the find spot. No un-authorised entry or earth disturbance will be allowed until the discovery has been assessed.

7.4 RELEVANT LEGISLATION

Commonwealth, state and local government legislation is relevant.

7.4.1 Commonwealth Legislation

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The purpose of the *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* (Heritage Protection Act) is the preservation and protection from injury or desecration of areas and objects in Australia and in Australian waters that are of particular significance to Aboriginal people in accordance with Aboriginal tradition. Under the Heritage Protection Act the responsible Minister can make temporary or long-term declarations to protect areas and objects of significance under threat of injury or desecration. The Act can, in certain circumstances, override state and territory provisions, or it can be implemented in circumstances where state or territory provisions are lacking or are not enforced. The Act must be invoked by or on behalf of an Aboriginal or Torres Strait Islander or organisation. The Act is rarely applied and is administered by the Department of the Environment, Water, Heritage and the Arts.

Environment Protection and Biodiversity and Conservation Act 1999 (EPBC Act)

This Act applies if the activity is deemed to be a controlled action under the Act or if it is likely to impact places on the Register of the National Estate and is not relevant in relation to this development as no such places are listed on the Register of the National Estate.

7.4.2 State Legislation

The National Parks and Wildlife Act 1974

The NPW Act, administered by OEH, is the primary legislation for the protection of some aspects of Aboriginal cultural heritage in NSW. Section 86 of the Act was amended in 2010 and deals with harming and desecrating Aboriginal Objects.

An Aboriginal object is defined in Section 5 of the NPW Act as follows:

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

- Under section 86 of the NPW Act, it is an offence to 'harm' an Aboriginal object. 'Harm' means any act or omission that:
 - o destroys, defaces, damages or desecrates the object
 - o moves the object from the land on which it had been situated, or
 - o causes or permits the object to be harmed.

There are now two types of offences for harming an Aboriginal object:

- An offence of harming an object which a person knows is an Aboriginal object (a 'knowing offence')
- An offence of harming an object whether or not a person knows it is an Aboriginal object (a 'strict liability offence').

The NPW Act provides several defences to prosecution for both types of offence. Where a person either knows or does not know they are harming an Aboriginal object, a person has a defence where:

1. the harm was authorised by an Aboriginal heritage impact permit (AHIP), and all the permit's conditions are complied with
2. the harm occurred during the exercise of a power or function under the *State Emergency and Rescue Management Act 1989* (for emergencies as defined under that Act)
3. the harm was specifically required or permitted under the terms of a conservation agreement entered into under the NPW Act (only where the agreement was entered

into or modified after the commencement of the *National Parks and Wildlife Amendment Act 2008*).

Where a person does not know they are harming an Aboriginal object, they have an additional defence to prosecution if:

'...[They] exercised due diligence to determine whether the act...would harm an Aboriginal object and determined that no Aboriginal object would be harmed' (a 'due diligence defence').

The NPW Act provides exemptions to harming Aboriginal objects in the following circumstances:

1. Aboriginal people and their dependants are exempt from being prosecuted for harming an Aboriginal object if, in carrying out any traditional cultural activities, they would otherwise harm an Aboriginal object within the meaning of the Act.
2. Emergency fire fighting activities authorised under the *Rural Fires Act 1997*.

There is an additional strict liability offence related to harming an Aboriginal Place. An Aboriginal Place, declared under section 84 of the NPW Act, is 'a place that, in the opinion of the Minister, is or was of special significance with respect to Aboriginal culture'.

The Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) provides a framework for environmental planning and assessment in NSW and requires that consideration be given to environmental impacts as part of the land use planning process.

The NSW government recently (20 June 2011) introduced the Environmental Planning and Assessment Amendment (Part 3A Repeal) Bill 2011 to the Legislative Assembly. The Bill was passed without amendment and is now with the Legislative Council. The Bill repeals Part 3A of the EP&A Act, introduces new provisions for State significant development and outlines transitional provisions for existing Part 3A applications and approved Part 3A projects. These changes will be put in place while the Government undertakes its full review of the EP&A Act over the next 18 months, after which it is likely there will be a new planning framework implemented.

A new Division 4.1 of Part 4 will be inserted into the Act for the assessment of State significant development. It effectively combines aspects of the Part 3A and Part 4 assessment processes. Part 5 of the EP&A Act refers to approvals by determining authorities.

Applicability to the Study Area

No item listed on the national, state and local heritage registries is known to exist within the excavation area. As such, the NPW Act is the only commonwealth or state legislation to apply

to sites LID 3 and LID 34. It was under the provisions of the NPW Act that the test excavation was carried out and it will be under the terms of this Act that the AHIP will be issued. This AHIP, if issued, will allow, with conditions, for the salvage of sites LID 3 and LID 34.

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8 RECOMMENDATIONS

Following archaeological test excavations at sites LID 3 and LID 34 it is determined that there remains a low likelihood for there being further undetected Aboriginal stone artefacts within the portions of this site in the Project's impact footprint. Further, it was assessed that sufficient archaeological knowledge has been gained from the site making further, detailed, archaeological investigation unwarranted.

It is OzArk's knowledge that site avoidance is not an option and that an AHIP application will be made to salvage the site prior to the commencement of the proposed works.

All recommendations made in this report were formed with the input of participating registered stakeholders in accordance with the ACHCR process in order to determine the implications of this report and establish a favourable management strategy for the AHIP application. In order to maximise our knowledge of the site and to minimise the risk of damage to cultural material during construction, the following recommendations are made concerning sites **LID 3** and **LID 34**:

1. Archaeological advice to inform possible management strategies is contained in detail this report in section 6.2, and is summarised here:
 - a. Under supervision of a suitably qualified archaeologist the Aboriginal community should be given the opportunity to collect surface artefacts within the proposed impacts at both sites LID 3 and LID 34;
 - b. Prior to collection surface artefacts identified within the proposed impact footprint at site LID 3 and LID 34 should be flagged and an archaeologist should record their location via GPS;
 - c. Collected surface artefacts should be bagged, labelled and general provenience recorded for further analysis;
 - d. The collected artefacts would be analysed on-site at XCN Liddell immediately following collection and RAPs will be offered an opportunity to participate in this analysis. A short addendum to this report be written in order to incorporate the findings of the surface collection;
 - e. Artefacts will need to remain in the care of XCN Liddell until such time as all activities for this project over LID 3 and LID 34 are complete, at which time a location advised for the reburial of the artefact collection will be determined and a Care and Control agreement submitted where a selection of the artefacts recovered will be placed in the custody of Wanaruah LALC for educational use; and

- f. Under supervision of a suitably qualified archaeologist all portions of site LID 3 and LID 34 that are not intended to be impacted by the currently proposed works should be fenced from inadvertent impact.
2. The ultimate fate of artefacts from the test excavation programme and the proposed salvage programme must be determined as part of the AHIP process;
3. All work should remain within the impact footprint as defined by this report. The impact footprint should be clearly defined in the field during construction to avoid inadvertent impact;
4. During initial surface disturbing works at sites LID 3 and LID 34, the topsoil from the impact footprint that is to be removed for the project, should be windrowed nearby and specifically used to re-dress areas in the vicinity of LID 3 and LID 34 during the rehabilitation phase when the project works are complete. All top soil excavated from these two sites should remain in the local vicinity of the site;
5. All workers during the initial ground breaking phase of construction should be informed of the site's presence and its legislative protection under the NPW Act. This induction should include instruction not to drive excavate or store materials anywhere outside of designated areas. The induction should include the unanticipated finds protocol in this document; and
6. In the unlikely event that human skeletal remains are unearthed during construction, the unanticipated finds protocol should be followed.

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Umwelt 2001	Umwelt (Australia) Pty Limited. <i>Aboriginal Archaeological Assessment Liddell Colliery Continued operations</i> . In <i>Liddell Colliery Continued Operations Environmental Impact Statement</i> . Volume 3. Appendix 11. Prepared for Liddell Coal Operations Pty Ltd.
Umwelt 2004	Umwelt (Australia) Pty Limited. <i>Aboriginal Archaeological Assessment – Glendell Open Cut Mine</i> . Report to Glendell Joint Venture.
Umwelt 2007	Umwelt (Australia) Pty Limited. <i>Glendell Mine. Previous Archaeological Assessment</i> . Report for Xstrata Mt Owen Pty Limited.
Umwelt 2009	Umwelt (Australia) Pty Limited. <i>Aboriginal Heritage Assessment Narama Extended Project</i> . A report prepared for Ravensworth Operations Pty Limited. June 2009.
Umwelt 2009b	Umwelt (Australia) Pty Limited. <i>Archaeological Survey and Salvage Program at Ravensworth West</i> . A report prepared for Ravensworth Operations.
Umwelt 2010	Umwelt (Australia) Pty Limited. <i>Ravensworth Operations Project Aboriginal Heritage and Archaeological Assessment</i> . Report for Ravensworth Operations Pty Limited.

- Umwelt 2011 Umwelt (Australia) Pty Ltd. *Due Diligence Inspection of proposed exploration works, Bayswater Creek Area, Liddell Colliery*. Report prepared for Liddell Coal Operations Limited.
- White 1999 White E. *From artefacts to the actions of people in prehistory: a behavioural study of the W2 stone artefact assemblage, Hunter Valley, NSW*. Master of Philosophy Thesis, University of Sydney.

PLATES



Plate 1: LID 3: Erosion gully where surface manifestation of site was identified.



Plate 2: LID 34: Landform (top) and access track (bottom left) with example of surface artefact (bottom right: axe head).



Plate 3: LID 3: Example of expansion test pits excavated.



Plate 4: LID 3: Profiles of test pits containing artefacts (clockwise: E9a, E10, M13 and F12).



Plate 5: LID 3: Profiles of test pits containing artefacts (clockwise: K1, L1, L8 and K7a).



Plate 6: LID 3: Profile of test excavation pit H6.



Plate 7: LID 34: Profile of test pit 16 containing artefact.



Plate 8: LID 34: Profile of test pit 21 containing artefact.

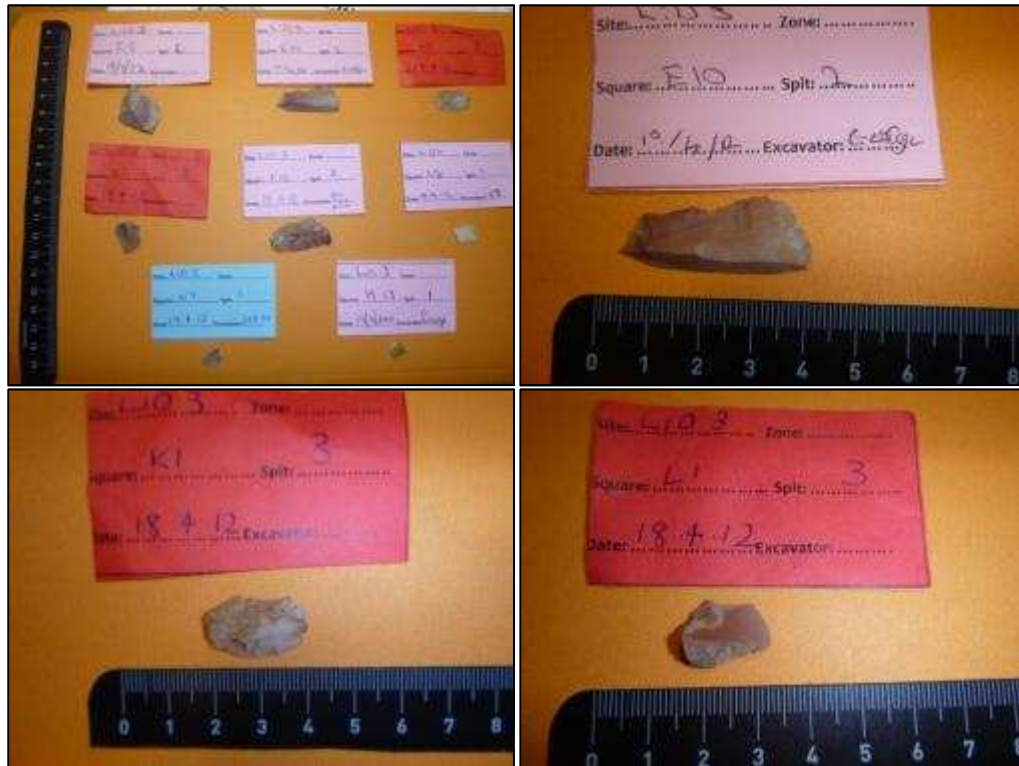


Plate 9: LID 3: Artefacts recovered from test excavation.



Plate 10: LID 3: Artefacts recovered from test excavation.

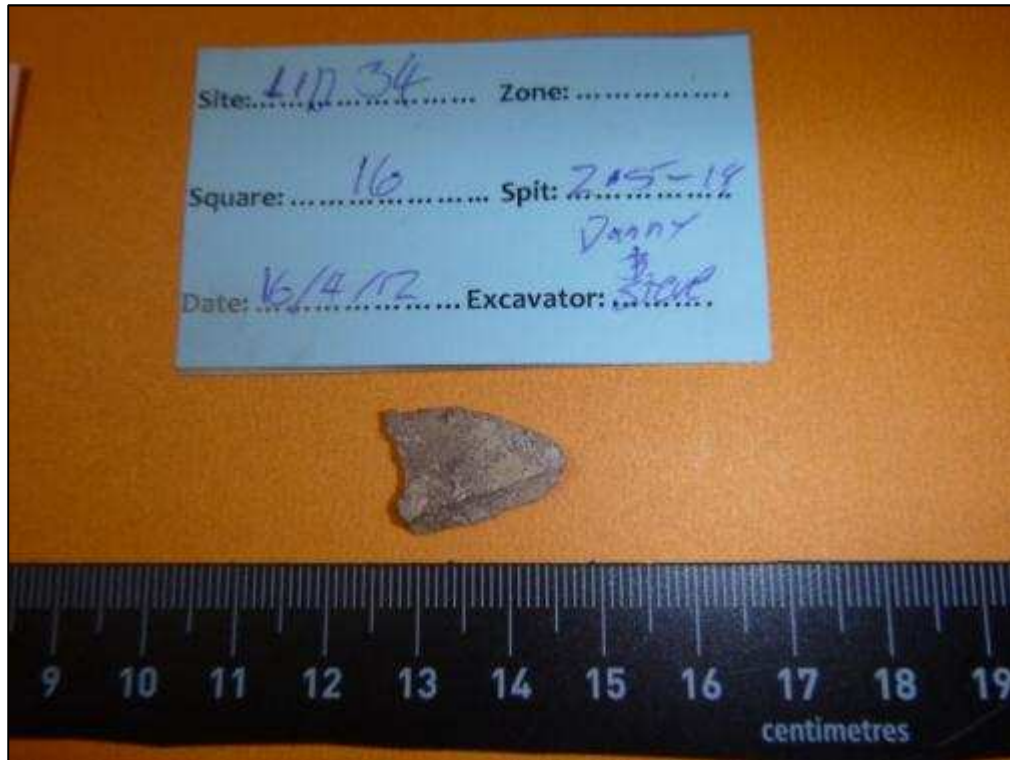


Plate 11: LID 34: Artefact from test pit 16.

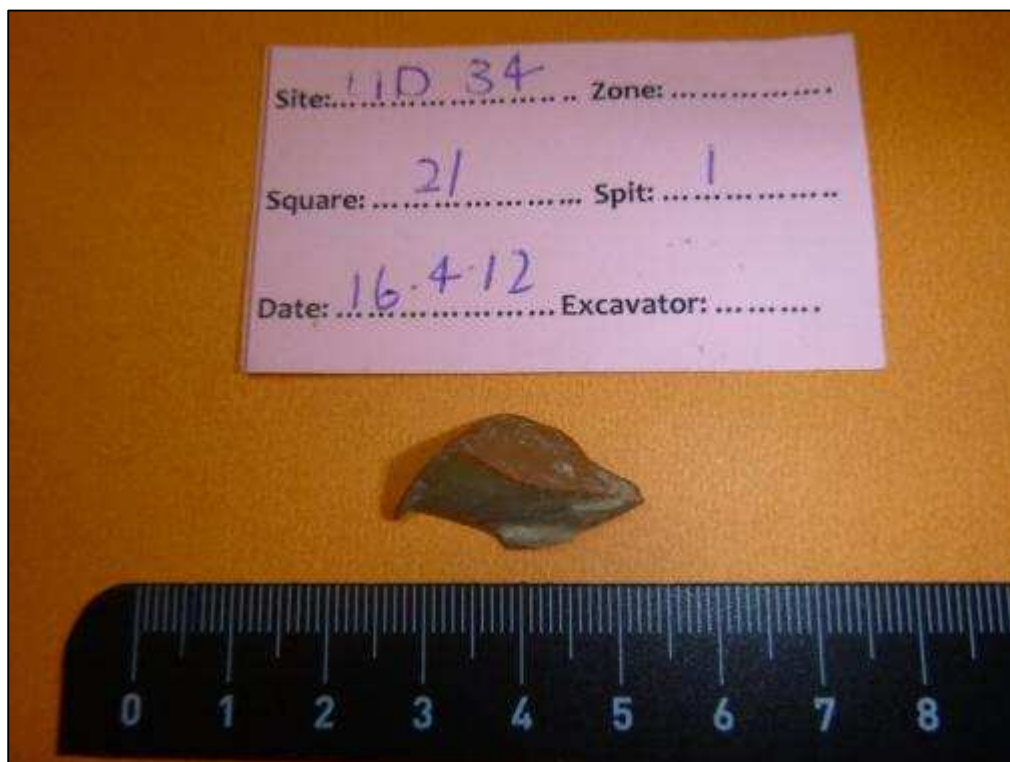


Plate 12: LID 34: Artefact from test pit 21.

APPENDIX 1

COMMUNITY CONSULTATION

Sample Invitation Letter for participation in Test Excavation program.

24th March 2012

Members – Wanaruah LALC
c/- Mr Noel Downs / CEO
PO Box 127
Muswellbrook NSW 2333

Dear Noel

INVITATION: Liddell Colliery, Ravensworth, Excavation.
Project: Proposed Modification to Development Consent DA-305-11-01.

Further to the methodology recently distributed to all registered stakeholders, and discussions at the 29th February meeting, we would like to advise the dates of the test excavation program associated with this project;

- **Test Excavation Date(s):** Monday 16th April to Friday 20th April 2012.
- **Proposed time and location to meet:** Monday 16th April, 7.30 am for a 8.00 am start on site. – Liddell Colliery, Old New England Highway, Ravensworth.
- **Duration:** Five (5) full days of *up to* 8 hours each (this includes induction on Day 1).
- All Site Officers will be required to undertake a Site Familiarisation / Induction on site on Day 1 prior to commencement of work. **ALL TEAM MEMBERS must be present for the Site Familiarisation / Induction on Monday 16th April** even if they are not scheduled to participate in the test excavation on Day 1. Should your Site Officer fail to attend they will not be inducted and will not be permitted on site during the week.

***** IMPORTANT INDUCTION INFORMATION ****

As Liddell Colliery is owned by Xstrata, it is imperative that prior to working on site **ALL participants** are required to have completed the Xstrata Generic Induction. If your organisation wishes to participate, please ensure you appoint a Site Officer who has these necessary qualifications and **forward all relevant induction card numbers and associated paperwork to this office by COB Tuesday 10th April 2012.**

In addition, for Site Familiarisation/Induction booking purposes, the name and details of your site officer are required by **Tuesday 10th April 2012** to secure a place in the course and subsequently on the excavation team.

You would be aware that any team member that has not completed the appropriate inductions will NOT BE permitted on site.

Please note that all employees and contractors of Liddell Colliery may be subject to random drug and alcohol testing. Should your Site Officer refuse testing if requested and/or test positive to drugs or alcohol, he/she will be asked to leave the property. Should this occur, your organisation's payment for that day will be forfeited.

Team details:

In order to be able to undertake this excavation work we will form a combined Archeological team comprising eight (8) Aboriginal Community Stakeholder Groups representatives in addition to five (5) OzArk personnel.

The purpose of this letter is to outline the itinerary and roster for the upcoming test excavation project commencing Monday 16th April 2012 which will continue for one week.

The proposed roster is attached and we invite your organisation to participate in the test excavation program. Please be reminded that it is a requirement we have on file your current **Workers Compensation Certificate of Currency**, due to OH&S legislation we cannot allow your site officer to participate if we do not have a copy of this certificate.

Should you have any issues meeting the roster requirements please contact me as soon as practicable and we will consider alternative arrangements.

Payment Rates and Conditions:

Liddell Coal is to pay [REDACTED]

[REDACTED] Pay rates will be adjusted at the rate of \$68.75 per hour if your representative is late or does not complete the survey work hours.

Should fieldwork be cancelled after commencement of the day's work due to bad weather (such as rain, dangerous storm activity or excessive heat) that prevents fieldwork from being undertaken safely, payment will be adjusted at the rate of \$68.75 per hour. If work is cancelled prior to 4 hours work being completed, a minimum of 4 hours' work will be paid.

A sign on and sign off sheet will be maintained by the Operations Manager. Please feel free to ask for copies of these to be forwarded, should it be required for invoicing.

Invoicing Details:

All invoices should be addressed to:

Liddell Coal Operations P/L
Attn: Ben de Somer
Locked Bag 2,
Singleton Delivery Centre, NSW 2330
e: < bdesomer@xstratacoal.com.au

Work Details:

Inductions and Risk Assessment

As with all test excavation work, inductions will be held on the first day of rostered work. ALL TEAM MEMBERS must be present for the Site Familiarisation / Induction on Monday 16th April even if they are not scheduled to participate in the test excavation on Day 1. Should your Site Officer fail to attend they will not be inducted and will not be permitted on site during the week.

Daily Work Schedule and Times

Work will commence at 8am daily, meeting at the Liddell Colliery Site offices, with a ½ hour morning tea and ½ hours lunch break. Works will cease at 4pm.

Feedback from registered stakeholders indicated they would like to see both wet and dry sieving methods available for the test excavation program. Whilst we will endeavour to make the option of both these methods available, the use of wet sieving will be dependent on gaining safe access to the site for a water truck (based on weather conditions) and also ecological constraints. This is particularly relevant for LID 3 with PAD, as it is thought that access to LID 34 with PAD will not pose any constraints.

Staff requirements

- Each group is responsible for their own OH&S issues; all staff provided should be physically fit, able to manually dig and lift 9L buckets with sand / soil in them and stand for several hours at a time. It is the responsibility of each group to identify if any of your personnel have medical conditions / allergies that should be known to other people participating in the dig in the event of an emergency. The OzArk field director will send home anyone who they determine to be 'unfit for work' or who may pose an OH&S risk to themselves or others.

Your Site Officer will need: **Personal Protective Equipment (PPE)** –

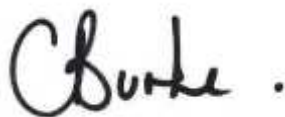
- Construction helmet (with sun visors);
- Long pants and long sleeve (high visibility) shirt;
- High visibility safety vest;
- Steel toe capped boots;
- Sunscreen;
- Water and food for the duration of the excavation.

In order to assist the Aboriginal cultural heritage excavation program, we ask that you confirm your site officer's availability for their rostered day, no later than close of business Tuesday 10th April, 2012. If a rostered Aboriginal party cannot make the work allocated, an alternative will be sought from other Aboriginal parties registered for the project

We look forward to working together with you in undertaking Aboriginal cultural heritage investigation and salvage work.

Please do not hesitate to get in touch should you have any queries regarding the enclosed information.

Yours faithfully



Cheryl Burke /Consultation Officer

In Addition:

It was brought to our attention during the recent stakeholder meeting that Aboriginal cultural knowledge specific to the Liddell Colliery sites/area may be held by older members of the local Aboriginal community. To assist us to formulate an appropriate protocol to meet and consult with any known persons who hold this knowledge, we would appreciate if you could contact us so that we can make arrangements to get in touch and meet with any nominated spokesperson(s), on whatever terms they would prefer. As we wish to understand and incorporate the cultural values of the project site, we are keen to consult with relevant Aboriginal cultural knowledge-holders.

Sample background information correspondence sent to Stakeholders.

LID 3 WITH PAD AND LID 34 WITH PAD (# 37-3-0453 AND #37-3-1150)

Test Excavation Sampling Strategy

Background

Liddell Coal Operations (LCO) intends expanding open cut mining into the Entrance Pit Extension area (proposed Entrance Pit Extension, Figure 1) in part of the area covered by Aboriginal sites AHIMS #37-3-0452 (LID 3 with PAD) and #37-3-1150 (LID 34 with PAD), both of which will be the subject of this test excavation programme. Proposed works in the area will also include open cut mining activity and auxiliary surface disturbance (i.e. overburden emplacement, surface infrastructure, access tracks, haul roads, etc.).

Scientifically, the archaeological deposits at sites #37-3-0452 and #37-3-1150 within the proposed Entrance Pit Extension Study Area have potential to contribute information which would add to a better understanding of the nature and extent of human occupation within the Upper Hunter Valley. It is considered likely that neither of these sites have been significantly impacted (i.e. by earthworks, easement construction or access tracks), and in situ deposits are likely. Additionally, deposits at both of these sites are likely to extend beyond the impacts of the current project, into the area that has been possible to conserve through project re-design.

Deposits across site #37-3-0452 have suffered some edge gully erosion, while site #37-3-1150 has been disturbed by access tracks; however, these access tracks and erosion gullies have made identification of the deposits clearer and significant portions of these deposits are likely intact outside these disturbances. Proposed project impacts will occur in both disturbed and undisturbed portions of both sites.

Purpose of the Test Excavation Programme

The purpose of this test excavation programme is to understand more completely the nature of the sub-surface material within the Impact Footprint such that informed management of this material in the face of the proposed project impacts can be devised and an Aboriginal Heritage Impact Permit (AHIP) obtained from the Office of Environment and Heritage (OEH), if necessary.

The aims are therefore to:

1. Establish the extent of archaeological sub-surface material over the Impact Footprint for the project;
2. Confirm or dismiss predictions about the likely nature of the subsurface deposits in terms of their depositional history and prior disturbance factors; and
3. Develop, in consultation with the Registered Aboriginal parties, an informed management strategy for the archaeological material in the face of the proposed impacts.

As is currently required under the National Parks and Wildlife Act 1974 (NPW Act), this excavation programme has been designed to conform with specifications of the DECCW 2010 Code of Practice for the Investigation of Aboriginal Objects in NSW. This Code of Practice was adopted in the NPW Regulations 2009, Clause 3A. Excavations undertaken as per the Code of Practice do not require an AHIP under the NPW Act.

Impact Footprint

The area over which the project will impact the sites is the area over which the excavations will occur, as shown on Figures 2 and 3. There will be no impacts to the remainder of the sites outside the areas delineated in Figures 2 and 3. The area to be tested is based on the project impacts not on any exact line

of delineation of this part of LID 3 and LID 34 from the remainder of the site, although it is noteworthy that differentiation does occur gradually down the northern slope, with increasing areas of erosion down the slope.

Sampling Strategy

The portion of LID 3 with PAD within the proposed Impact Footprint is approximately 1.65 hectares, equating to approximately 16,500m². This is a little less than one quarter of the overall projected site extent, approximated at 6.9 hectares. The portion of LID 34 within the proposed Impact Footprint is 7,800m² and represents 15% of the total 5.15 hectare projected site extent.

Based on Requirement 16 of the Code of Practice, no more than 0.5% of a site area under investigation may be excavated. Based on the size of the current impact footprint, that would mean that no more than 82.5m² of site LID 3 with PAD and no more than 39m² of site LID 34 with PAD are to be test excavated. Based on previous consultation with the registered Aboriginal parties, a distance varying between approximately 10 m and 20 m between pits along each transect is considered an appropriate sampling method. If transects are spaced at varying intervals of 10 m or 20 m apart, this will ensure that 78 gridded 0.5 x 0.5 m squares are excavated (19.5m²) at site LID 3, while 23 gridded 0.5 x 0.5 m squares will be excavated (5.75m²) at site LID 34.

If within the gridded investigation area there are locations that have been too disturbed to warrant test excavation (i.e. vehicle tracks through site #37-3-1150 or erosion gullies at site #37-3-0452), or are outside the impact footprint as delineated in the field) these will be omitted from the gridded excavation square targets. If areas of specific high artefact density or features are encountered, additional pits will be opened up surrounding these locations so as to better understand their nature. No contiguous areas greater than 3 x 3 m² will be excavated.

Should the necessary information about either of these sites be obtained prior to the excavation of all 101 pits, then the remainder of the pits will not be excavated under this Code Test Excavation Programme.

Personnel and Methods

The excavation programme will be undertaken by archaeologists and members of the Registered Aboriginal parties and will include the following aspects:

- Ensure that the Proponent pegs out the extremities of the Impact Footprint of the proposed Entrance Pit Extension as delineated in Figure 1;
- Prior to any excavation, record the site through digital photography;
- Layout the grid over which the test pits will be located, along transects as noted above:

□ At site #37-3-0452 this will comprise 9 transects running northeast southwest (45 degree angle) 10m and 20 m apart (covering a 120 m

distance), with pits along each transect at 10 m and 20 m intervals for c. 170 m. This equates to approximately 78 excavation squares, 0.5 x 0.5 m in size (Figure 2).

□ At site #37-3-0452 this will comprise 5 transects running northeast southwest (45 degree angle) 20 m apart (covering a 100 m distance), with pits along each transect at 20 m intervals for c. 60 m. This equates to approximately 23 excavation squares, 0.5 x 0.5 m in size (Figure 3).

These numbers will remain flexible allowing the ongoing results from each pit to determine the need / location for additional pits. This relates to the point below discussing the expansion of pits should features be encountered.

- Initial excavation squares will be excavated in 5 cm spits to determine whether archaeological stratigraphy is present. If not, spit size will be increased to 10 cm. If true archaeological stratigraphy is recognised, this will be used rather than spits.
- Soil taken directly to the sieving tables in labelled buckets. Separating the deposits artificially through this spit process allows the material obtained (i.e. charcoal or artefacts or faunal remains etc) to be separated according to depth which can aid in understanding the 'story' of the site's occupation, in the absence of true stratigraphy.
- The excavated material from all pits will be sieved on site (nearby) using either dry or wet sieving through nested sieves of 6-8 mm and 2.5-3.5 mm mesh. All the material excavated would be sieved.
- A standard excavation recording form will be used for each excavated pit. Details will include; date, site recorder, spit number and depth, description of finds, description of soil, sketch plan of excavation (if relevant to show structure), end of spit levels, soil pH (when necessary or appropriate) and a bucket tally;
- If intact archaeological deposits are encountered or archaeological features, then additional archaeological pits may be excavated to ensure documentation of any features and/or retrieval of artefacts and other relevant archaeological material. A feature would include a high density of artefacts within a square, or a pit containing rare or unusual artefacts, or other signs of human occupation i.e. ground ovens / hearths or charcoal concentrations.
- Drawings will then be made of all sections of each excavated pit.
- Analysis will be made of all retrieved material.
- If charcoal from a secure context is obtained, it may be sent to a laboratory for C14 dating (Proponents agreement pending).
- If deposits dictate, further dating attempts may be warranted (e.g. thermoluminescence - Proponents agreement pending).
- All artefacts will be analysed and photographed and the more diagnostic artefacts will be drawn by our lithic specialist – Ben Churcher.
- Post excavation analysis will identify the range, distribution, density and types of artefacts recovered stone raw material types, their relative percentage of cortex, and stage in the reduction sequence (i.e. core or flake). A review of previous Aboriginal heritage assessments and geological mapping may provide an indication about where raw materials were sourced from for making stone tools in particular, whether the stone came from river alluvium, outcrops or lag deposits within the soil. This may assist in determining what type of activities the Aboriginal people carried out at the site and the relationship with local resources (fauna, flora, water and stone).
- Any faunal remains will be analysed by our fauna specialist – Phillip Cameron.
- Remnant shell and bone fragments may assist in determining what food Aboriginal people may have eaten in the shelter and possible foraging strategies. In conjunction with in situ stone tools, bone / shell fragments may also provide evidence of specific usage of stone tools for food processing.
- Artefacts will need to remain in the care of OzArk EHM until such time as the analysis is complete. Once complete the artefacts will be returned to the Xstrata Liddell Coal Operations offices where they will be kept in a locked location until such time as the site is salvaged or monitored, and any additional artefactual material is retrieved.

- Once all activities for this project over LID 3 and LID 34 are complete, artefacts will be amalgamated and either a Care and Control agreement will be submitted, or a location advised for the reburial of the artefact collection.
- If artefacts are encountered but deposits are deemed to be disturbed and unlikely to reveal scientific information about human occupation in prehistory, then further excavation may not be warranted, however monitoring of the earth disturbing components of the vent fan construction may be requested by the Aboriginal community for the purpose of retrieving artefacts. If so, this may form part of the subsequent AHIP that may be sought over the site.

Figure 1: Project Site.

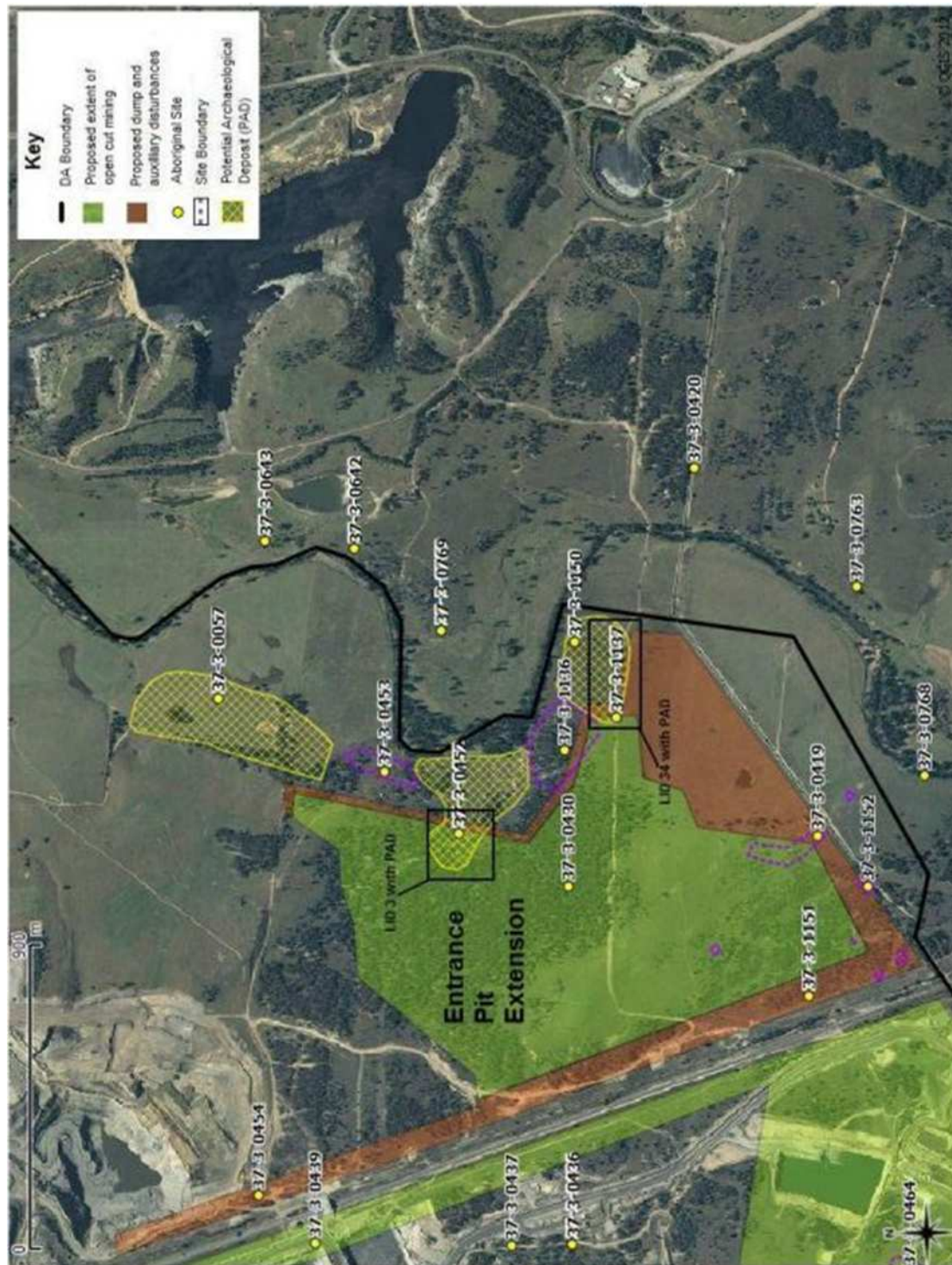
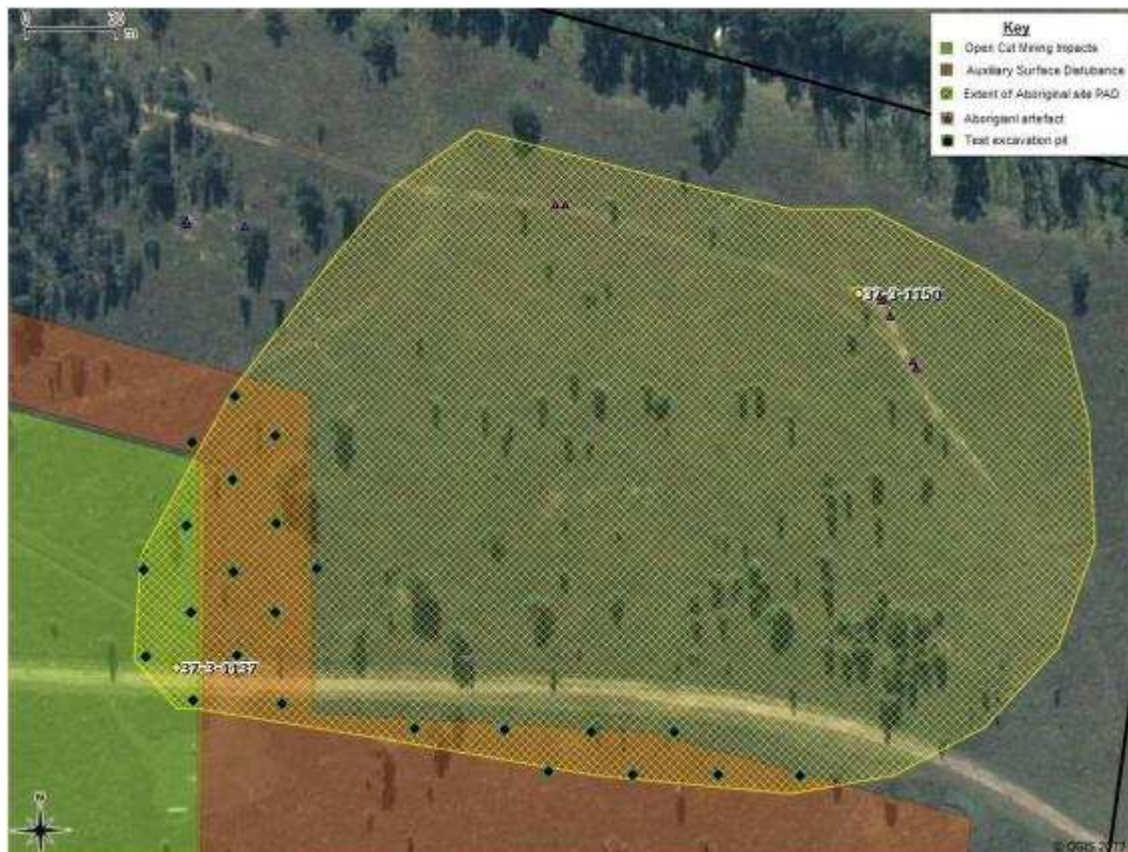


Figure 2: Site #37-3-0452 archaeological test excavation pit layout in relation to proposed Liddell Coal Operations proposed Entrance Pit Extension Project Site.



Figure 3: Site #37-3-1150 archaeological test excavation pit layout in relation to proposed Liddell Coal Operations proposed Entrance Pit Extension Project Site.



Participation records for test excavation.

LIDDELL
JOB# 685

OzArk EHM P/L INDUCTION 'SIGN ON/OFF' SHEET. Contractors / Staff / Associates			
I have been briefed and fully understand the policies and procedures for the Liddell Colliery Excavation			
DATE	NAME	ORGANISATION	SIGNATURE
12/4/12	Danny Farley	Tecumseh	[Signature]
16/4/12	Steven Kelly	Tecumseh	[Signature]
16/4/12	Kylie Saunders	HVAC	[Signature]
16/4/12	Nerida Saunders	WVAC	[Signature]
16/4/12	TERRY PROTHES	TPH	[Signature]
16/4/12	Anna Smeatfield	OZARK	[Signature]
16/4/12	GEOFF SANDFORD	C.C.C	[Signature]
16/4/12	Anna McEwen	CC	[Signature]
16/4/12	Rebecca Simpson	CC	[Signature]
16/4/12	Donna Simpson	CC	[Signature]
16/4/12	Robert Fletcher	WINDMILL WIND	[Signature]
16/4/12	Robert Lister	WINDMILL WIND	[Signature]
16/4/12	Jenni Smeatfield	OZARK	[Signature]
16/4/12	Van Fothergill	Simon	[Signature]

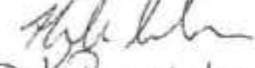
Name	Company
Danny Smith	Tecnomat
Steve Varty	Tecnomat
Kylie Saunders	HVAC
Nendo Saunders	WLAL
Kay Bartholomew	Yincor
TERRY MATTHEWS	TAG
DELEE MATTHEWS	WCH

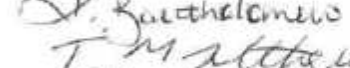
18 04 12

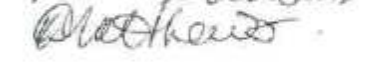
Sign













049 0281
0425230

OzArk EHM P/L
INDUCTION 'SIGN ON/OFF' SHEET.

Contractors / Staff / Associates

[illegible]

Community Consultation Log.

15.02.12	ALL STAKEHOLDERS SENT A HARD COPY OF THE DRAFT REPORT in addition to the METHODOLOGY for the Test Excavation. Invitation to DISCUSS AT MEETING WEDNESDAY 29TH February @ Liddell Colliery		
20.02.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths mob: 0429 989 878 e; h973809@bigpond.net.au	Rhonda phoned, left message on answerphone, advised she would be at meeting on 29th Feb
20.02.12	T&G Cultural Consultants	Greg Griffiths	Greg phoned to advise that T&G would have a representative attend the meeting on the 29th Feb.
28.02.12	Ungooroo Aboriginal Corporation (UAC)	Jess Garland <admin@ungooroo.com.au	received email from Jess Garland, UAC are unable to send a rep to the meeting tomorrow.
28.02.12	Yinarr Cultural Services	Kathie Steward Kinchela	emailed Kathie in relation to another matter and requested RSVP re: meeting tomorrow, Kathie replied saying she will be there representing Yinarr
28.02.12	Cacatua Culture Consultants	Ms Donna Sampson e: 'cacatua@resetdsl.net.au	emailed to request confirmation that a representative will attend the meeting tomorrow.
28.02.12	Widescope Indigenous Group P/L	Donna	phoned the office and advised that Steven Hickey would be at the meeting on behalf of Widescope.
03.03.12	Tocomwall	Scott Franks	In response to an email confirming that Tocomwall would have two reps on site Scott advised that both his site officers would need to do an XCN generic first, he would be booking them in and seeking re-imbursement from XSTRATA.
	MEETING HELD AT LIDDELL COLLIERY 29 FEBRUARY - ATTENDEES AS LISTED ON SIGN IN SHEET - MINUTES TAKEN		
13.03.12	ALL STAKEHOLDERS SENT A HARD COPY AND EMAIL OF NOTIFICATION OF AN ORIENTATION DAY TO BE HELD 22ND MARCH - SPECIFICALLY FOR STAKEHOLDERS WHO HAVE NOT PARTICIPATED IN THE PROJECT THUS FAR.		
13.03.12	Cacatua Culture Consultants	Ms Donna Sampson e: 'cacatua@resetdsl.net.au	Received correspondence via email commenting on the proposed methodology and discussions @ the meeting, CCC support the Test Excavation sampling and excavation program.

13.03.12	Yinarr Cultural Services	Kathie Steward Kinchela	<i>Dear Cheryl</i> <i>I cannot attend this day as I have to be in Newcastle to attend meeting is there another day I could attend</i> <i>Cheers</i> <i>Kathie</i> Advised Kathie this was intended to be the only date, however since she has been to the sites & meeting before let her know it was optional and for those who had not been involved up until this point.	
14.03.12	Wonn1 Contracting Corporation	Arthur Fletcher	Arthur called to note that the 22nd March is the morning that the Minister is signing a biobanking agreement with ARTC and it involves Aboriginal people in Hunter area and he plans to attend and thinks others may too. Because of this he would not be able to attend the visit as planned, and possibly others may not be able to either. He suggests any day the following week. My response was that as the letters have gone out we will wait and see maybe whether we get other calls in relation to the meeting or not, eg. If 5 people say they will make it, then we will still run with it. I noted that Ben, (Xstrata) may then be able to take him out separately at another date. He said he may check what others are doing and get back to me.	JB pho ne

14.03.12	Ungooroo Aboriginal Corporation	Jessi Garland	<i>Good morning Cheryl,</i> <i>We have had a few problems the last few days as our phone and internet lines were cut over the weekend.</i> <i>I have just received your email from yesterday, Re: Liddell Colliery Development Modification. I am unsure if we have already sent a representative from Ungooroo Aboriginal Corporation previously and am wondering if you could advise me if we wither have or have not for this project.</i> <i>Thank you very much.</i> <i>Regards</i> Responded advising that UAC did have a site officer attend the site work back in September, response as follows: <i>At this time our other site workers are engaged otherwise we may have sent someone.</i> <i>At the moment there is so much work around that we are spread a little thin, however please keep us in mind for any future works.</i>	
22.3.12	Wanaruah LALC	Crystal	Called to say that she had a representative at Liddell for the site . I noted that as they had not RSVP'd - and neither had anyone else - the site visit had been cancelled, as per the letter. She said she thought she had faxed us but that their fax machine was playing up. I noted we had not received a fax and that it could be easier to either email or call, to ensure positive contact is made. I apologised and noted that we were rescheduling the meeting for Wed 28th and that we would be sending out another letter today.	J B p h o n e
16.03.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths mob: 0429 989 878 e; h973809@bigpond.net.au	Rhonda phoned to advise that the HVAC are in support of what the WLALC have to say about the report and test excavation methodology, HVAC do not make decisions indenpendant of the WLALC and agree with whatever they submit. Rhonda also noted that she would not be attending the site visit, she participated in the fieldwork, has been to previous meetings and was also at the original inception meeting when a site visit was undertaken.	
23.03.12	Site orientation date re-scheduled to Wednesday 28th March, notice emailed to all stakeholders notification of test excavation also sent to all stakeholders RSVP by Tuesday 10th April 2012			

23.03.12	Wonn1 Consultants	Arthur Fletcher ph: 0402 146 193	phoned Arthur to advise of date and let him know he will be receiving this and additional information via email today. Arthur confirmed that both he and Suzie Worth will attend the site visit.
23.03.12	Tocomwall	Scott Franks	via email <i>Cheryl,</i> <i>Thank you for this email. Could you please ensure that Yarrawalk is now refer to as Tocomwall. Also further to Tocomwall working position with Xstrata Operation in the hunter valley, Tocomwall is managing the field involvement for the Plans Clans of the Wonnarua people and as with our commitment to the BOP and Rav North project we will be insisting that this position is carried threw all Xstrata operation.</i> <i>Tocomwall will have the following.</i> <i>3 reps on site from start to finish at our pre-set cost as struck with Bop. Could you please ensure that this is committed it agreed to for this project before the start to avoid any delays, at this stage we will be committing the following to the project.</i> <i>Danny Franks Senior Field Manager</i> <i>Steven Verrey Field Officer</i> <i>3rd person to be advised if available.</i> <i>Regards,</i> <i>Scott Franks</i> Note that Scott Franks had also contacted Jodie Benton (out of the office at the time) and basically reiterated the above information.
27.03.12	Wonn1 Consultants	Arthur Fletcher ph: 0402 146 193	Arthur phoned the office to advise his preferences for the excavation, although he is not rostered on the Monday & Tuesday he would prefer to come that day (due to the orientation scheduled then). Arthur also queried how the roster was formulated and discussed issues about who was entitled to speak for Country etc.
28.03.12	Site Orientation attended by Arthur Fletcher, Suzie Worth, Jodie Benton, Jenn McGhee, Ben de Somer		
29.3.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths mob: 0429 989 878 e; h973809@bigpond.net.au	Rhonda phoned to check about the upcoming excavations and to make sure the meeting yesterday was not one she was meant have attended. I noted it was an orientation and she didn't;t need to come as she had been there for the survey. She will be teaming up with Ungoroo for the excavation positions.
	Yinarr Cultural Services	Kathie Steward Kinchela mob: 0432 720 623	Kathie phoned and advised that Owen Davison will be representing YCC on the three days they are rostered.

30.03.12	Myland Cultural & Heritage Group	Mr Warren Schillings ph: 0431 392 554	Warren phoned about the site orientation day and queried the excavation, advised if he did have a site officer please ensure they had done the XCN generic.
30.03.12	T&G Cultural Consultants	Greg Griffiths	Greg contacted the office to advise that he would be the cultural (knowledge) contact for their organisation, T&G will also be able to send a representative on the dates.
07.04.12	Wattaka Wonnarua TO Services	Mr Des Hickey ph: 0432 977 178	via email - response <i>Hi Cheryl</i> <i>I try very hard to get a rep there on the two days that Wattaka is on.</i> <i>Why do I have two days and the others have three days</i> <i>Cheers"</i> <i>Des</i> replied to Des & requested that he confirm a site officer as Liddell required this information for the site famil and we needed numbers confirmed so we were not short.
08.04.12 EASTER SUNDAY ...	EMAILED ALL STAKEHOLDERS as a reminder that stakeholders who had not responded needed to do so by COB Tuesday 10th April to advise of availability of site officers for excavation commencing 16th April 2012. Noted again requirements pertaining to XCN inductions and site famil on the first day.		
09.04.12	Cacatua Culture Consultants	Donna Sampson e: 'cacatua@resetdsl.net.au	via email response <i>Hi Cheryl,</i> <i>Though I was the only one worked all the time even on holidays.</i> <i>As per early email we will have a rep on site on our days as per roster, Monday Thursday Friday.</i> <i>At this point in time it will be the manager George Sampson or the supervisor Adam Sampson.</i>
09.04.12	Widescope	Carolyn Hickey e: 'Widescope.group@live.com	via email response <i>Hi Cheryl,</i> This is Conformation on Widescopes attendance for the Test Excavation held at Liddell. Attending Site Officer; Steven Hickey Thank you Carolyn Hickey

			response via email <i>Thanks Cheryl, I have included Rebecca Lester our other sites officer and Fiona our bookkeeper in this email for there response to your email below</i> <i>Cheers</i> <i>Laurie Perry</i>
10.04.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda phoned to confirm that Kylie Saunders will be participating in the dig on behalf of HVAC Mond-Wednesday and on behalf of UAC on Thursday & Friday.
10.04.12	Myland Cultural & Heritage Group	Warren Schillings e: <schillo@yarnteen.com.au	VIA EMAIL <i>Hi, Cheryl</i> <i>Its Warren Schillings from Myland Cultural & Heritage Group,I don't think im going To be able to get someone there whos inducted for tomorrow.</i> <i>Very Sorry for the late notice.</i> <i>Yours in Culture</i> <i>Warren Schillings</i>
11.04.12	Wanaruah LALC	Krystal 02 6543 1288	Krystal phoned to confirm Nerida Saunders as the WLALC rep. I advised that Nerida may potentially be required on Thursday and Friday however this would be discussed & decided with the team in the field.
11.04.12	Ngarramang-Kuri Aboriginal Culture & Heritage	Mr Abie Wright Ph: 0466 589 238	phoned to advise that Lenard Wright would be the rep for the FW, however was asked to confirm if Lenard had his XCN generic as without it they will not allow him to work on site. Abie said he would check and call back.
11.04.12	T&G Cultural Consultants	Greg Griffiths	phoned Greg to confirm if they had a site officer available for the excavation, he advised their rep would be Bobby Smith and assured me that Bobby had completed the XCN generic and would be right to come on Monday
12.04.12	Yinarr Cultural Services	Kathie Steward Kinchela mob: 0432 720 623	phoned to advise that Owen will not be able to participate in the dig next week (rostered 3 days), YCC will be represented by Kay Boney who Kathie was having complete an XCN induction in the next couple of days.

12.04.12	Ungooroo Cultural and Community Services	Ms Rhonda Ward e: <ungooroo5969@hotmail.com	EMAILED UCCS noting that due to lack of response we can only assume that they do not have a rep available for the excavation received email from rhonda advising she UCCS did not have site officers available however she indicated if the days were extended it may be worthwhile & she could find someone. In return email I reminded Rhonda that if she had a site officer they would need to have completed the XCN induction as per every Xstrata site and the correspondence which was sent out.
12.04.12	Kawaway	Mark Hickey	EMAILED Kayaway noting that due to lack of response we can only assume that they do not have a rep available for the excavation via email response <i>So sorry Cheryl you are correct in your assumption for the life of me I could not find anyone to cover the work and it seems to be the going thing these days, not to worry. I look forward to working with you and Oz Ark some time in the future thanks for the heads up. Kind Regards, Mark.</i>
12.04.12	Wattaka Wonnarua Cultural C. Service	Des Hickey <wonnaruato@bigpond.com>	EMAILED WWCCS noting that due to lack of response we can only assume that they do not have a rep available for the excavation <i>Hi Cheryl I tried, I do not have anybody available at this time maybe on the next roster days I will have someone please keep me informed Regards" Des</i>
12.04.12	Wonnarua Nation Aboriginal Corporation	Laurie Perry Rebecca Lester	EMAILED WNAC noting that due to lack of response we can only assume that they do not have a rep available for the excavation
12.04.12	Ngarramang-Kuri Aboriginal Culture & Heritage	Mr Abie Wright e: <abie@yarnteen.com.au Ph: 0466 589 238	EMAILED Abie noting that due to lack of response we can only assume that they do not have a rep available for the excavation
12.04.12	Myland Cultural & Heritage Group	Mr Warren Schillings e: <schillo@yarnteen.com.au	EMAILED Myland noting that due to lack of response we can only assume that they do not have a rep available for the excavation

13.04.12	notified mine of confirmed site officers and although told repeatedly that ALL site officers were required to have completed an XCN generic induction to be allowed on site (as with all other XCN sites) some site officers did not have this qualification which in turn made it difficult to construct a working roster of people that did have necessary quals and of course ensured that everyone would have issues with who was working which days when in actual fact everyone had opportunity to send someone and be represented and it is not the fault of this organisation or Liddell Colliery that stakeholders cannot arrange to induct their workers or do not have workers available for this excavation because they are working on another project in the Valley.		
13.04.12	T&G Cultural Consultants	Tony Griffiths ph: 0428 147 417	several phone calls whereby a few site officer names were given however they had not done their XCN generics, Tony adamant that he had done one however this did not seem to be the case, T&G advised in the end that Terry Matthews would be on site, however this was late in the day and since no one could check in at Liddell Terry Matthews would be turning up on Monday for the site famil.
13.04.12	Widescope	Carolyn Hickey 0434 480 558	emailed Widescope, spoke to Steven & left verbal message on Carolyn's mobile. Apparently Steven does not have an XCN generic and if he doesn't he is not able to participate in the works next week.
	Widescope	Donna 0434 480 558	Spoke to Donna @ Widescope to clarify that without the generic Steven could not work on site, noted that this is applicable to all Xstrata sites and was quite clear in the correspondence which was distributed to all stakeholders. Emailed Donna another copy of the letter and contact details for Tesa training who hold the XCN inductions.
13.04.12	Tocomwall	Scott Franks ph: 0404 171 544	phoned Scott, unable to source additional site officers due to the induction requirement.

17.04.12	Tocomwall	Scott Franks ph: 0404 171 544	via email <i>Dear Cheryl,</i> <i>Could you please confirm the following.</i> <i>A basalt Axe was located yesterday near or on a road where the Liddell team were setting up. I have been advised that Arthur Fletcher found this item and the from what I understand Arthur and Josh (your Josh) took the item bagged it and placed it in a Ozark Vech. What I am trying to ascertain is if the object was with in the approved area to be recovered.</i> <i>Regards,</i> <i>Scott Franks</i> <i>Director & Aboriginal Heritage Manager</i> in addition to this email Maria Cotter contacted the office and Jodie Benton (although on annual leave) to discuss this issue and advise that they would be reporting it to OEH.
18.04.12	Wonn1 Consultants	Arthur Fletcher	Arthur contacted the office to check on the work for tomorrow, queried weather situation as Rebecca had advised it was fairly wet where she was working and wondered if the excavation was still going (Rebecca Lester, rostered on Thur/Friday). Arthur also noted the fact that Tocomwall had two reps and felt that this was not fair, also talked about representation of the 'Nation' his people who seemed to be underrepresented and he did not mean to give grief to our team on site with this issue but wanted it bought up, in addition to the fact that another group had four reps rostered on thursday & friday and were thus over-represented.
19.04.12	T&G Cultural Consultants	Gordon Griffiths 4934 4244	Gordon phoned 18/4 re: payment for meeting in December which he had never billed for, advised I would fax information to him, Gordon also queried if they needed another worker for the dig tomorrow to contact him and he would have someone available
02.05.12	Wattaka Wonnarua Cultural C. Service	Des Hickey 4 Kennedy St SINGLETON NSW 2330 ph: 0432 977 178 <wonnaruato@bigpond.com>	Sent Via mail and email cultural knowledge request letter. *Note only sent to selected stakeholders as per decision made at last meeting.
02.05.12	Widescope Indigenous Group P/L	c/- Amanda Hickey 73 Russell Street Emu Plains 2750 ph; 0434 480 558 e: 'Widescope.group@live.c	Sent Via mail and email cultural knowledge request letter. *Note only sent to selected stakeholders as per decision made at last meeting.

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02.05.12	Wonn1 Consultants	Arthur Fletcher 619 Main Road GLENDALE NSW 2285 ph: 0402 146 193 <wonn1sites@gmail.com>	Sent Via mail and email cultural knowledge request letter. *Note only sent to selected stakeholders as per decision made at last meeting.
02.05.12	Kayaway Eco Cultural & Heritage Services	Members – Kayaway Eco Cultural & Heritage Services c/- Mr MarkHickey 6/20-22 Government Rd Thornton NSW 2322 e: 'kayaway@rocketmail.com' Phone 0432 829 335	Sent Via mail and email cultural knowledge request letter. *Note only sent to selected stakeholders as per decision made at last meeting.
13.07.12			Stakeholders emailed (and faxed) notification of an upcoming meeting on 14th August to discuss the draft report which is due to be released soon.
20.07.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda phoned to advise that unfortunately she has another commitment on that date and cannot make the scheduled meeting.
24.07.12	Yinarr Cultural Services	Kathie Kinchela	emailed to advised she was available for the meeting 14/8/12
31.07.12	ALL STAKEHOLDERS sent a hard copy of the draft report: Archaeological Test Excavations at LID 3 (#37-3-0452) AND LID 34 (#37-3-1150)', OzArk Environmental & Heritage Management P/L 2012, and invited to attend a meeting scheduled Tuesday 14th August. Meeting is to discuss the results of the test ex and possible management strategies for the AHIP application. Comments on report due Friday 31st August and RSVP for meeting due 9th August,2012.		
07.08.12	Ungooroo Aboriginal Corporation (UAC)	Jessi Garland	Good morning Cheryl, I am unsure if have already RSVP'd for this meeting and my apologies if I have doubled up. Mr Allen Paget is rostered to attend this meeting on 14th August 2012 at Liddell Colliery. I will forward Mr Paget's comments on draft report before the date of the meeting. If you require anything further please let me know.
07.08.12	ALL stakeholders emailed (& faxed) notification that the meeting has been rescheduled until Tuesday 28th August		

07.08.12	Ungooroo Aboriginal Corporation (UAC)	Jessi Garland	Hi Cheryl, That is fine. I have booked Allen to attend meeting on re-scheduled date.
07.08.12	Wattaka Wonnarua Cultural C. Service	Des Hickey	Hi Cheryl I will be attending the meeting on the 28th August 2012 Cheers" Des
07.08.12	Wonnarua Nation	Laurie Perry	Thanks Cheryl, I have forward to our team Cheers Laurie Perry
10.08.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Good Morning Cheryl, Tuesday 28th August for the meeting at Liddell Colliery suits Hunter Valley Aboriginal Corporation. Rhonda Griffiths will be in attendance. Regards Rhonda Griffiths Director/Chairperson VIA EMAIL
13.08.12	Widescope Indigenous Group P/L	c/- Donna Hickey e: 'Widescope.group@live.com	Hi Cheryl, Widescope will be attending the meeting on the 28th August, Steven Hickey will be Widescopes representative Please feel free to contact me on the details supplied above. Thank you Donna Hickey
17.08.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda phoned the office to confirm she is able to attend the meeting on the 28th August.
23.08.12	Wanaruah LALC	Mr Noel Downs 02 6543 1288	spoke to Noel who intends on attending on behalf of WLALC.
23.08.12	Yinarr Cultural Services	Kathie Steward Kinchela	Kathie phoned to advise she will be attending the meeting. Unfortunately her father has recently passed away and since she has been with family she has not had much of an opportunity to go over the report. If an extension is needed she will notify us at the meeting next week.
23.08.12			EMAILED ALL stakeholders who have not yet RSVP'd (due by COB today) as a reminder to RSVP
23.08.12	Cacatua Culture Consultants	Donna Sampson	Donna phoned and advised George will be attending the meeting next week.
23.08.12	Kayaway	Mark Hickey	Mark emailed and advised he will be at the meeting.

23.08.12	Tocomwall	Scott Franks	Scott emailed and advised that hopefully Mr French can attend.
27.08.12	Myland Cultural & Heritage Group	Mr Warren Schillings ph: 0431 392 554	Warren phoned to advise David Ahoy will be attending the meeting on behalf of Myland
27.08.12	Wonn1 Consultants	Arthur Fletcher ph: 0402 146 193	no active voicemail
27.08.12	T&G Cultural Consultants	Tony Griffiths ph: 0428 147 417	advised they will try and have a representative there, could not confirm who it may be at present.
27.08.12	Ungooroo Cultural and Community Services	Ms Rhonda Ward ph: 0450 754 199	10.27 am engaged
27.08.12	Ngarramang-Kuri Aboriginal Culture & Heritage	Mr Abie Wright Ph: 0466 589 238	left detailed message on mobile to contact office and RSVP, please.
27.08.12	Wonnarua Nation Aboriginal Corporation	Laurie Perry Mob : 0412 593 020	left message on mobile message bank. Laurie returned the call and advised Rebecca Lester is likely to attend on behalf of the Wonnarua Nation.
28.08.12	DAY OF MEETING - stakeholders attended Kathie Kinchela/ Rebecca Lester / David Ahoy / Ben Quinlan / Donna Sampson / Rhonda Griffiths / Allen Paget / Des Hickey		
28.08.12	Kayaway	Mark Hickey 0432 829 335	phoned mobile, not answering left message.
28.08.12	Wonnarua Culture Heritage	Gordon Griffiths ph: 0401 028 807	contacted @ 9.05am, something else has come up, unable to make this meeting.
28.08.12	Yarrowalk Enterprises	Scott Franks ph: 0404 171 544	phoned mobile, not answering, left message @ 9.15am
28.08.12	Wonn1 Consultants	Arthur Fletcher ph: 0402 146 193	advised by those at the meeting that Arthur was at another meeting today.
21.09.12		ALL STAKEHOLDERS	all Stakeholders mailed a copy of the following documents: 1. Minutes from the AFGM held 28th August 2012; 2. Hard copy of the PowerPoint presentation from the August meeting with RAPs; 3. Feedback form; and 4. Liddell Colliery Aboriginal Cultural Heritage Management Plan (Jan 2008). Comments due by COB 12th October, 2012.

25.09.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda phoned the office to confirm that HVAC had received the paperwork. Rhonda noted that it is their policy to concur with the comments that the WLALC submits.
12.10.12		ALL STAKEHOLDERS	All Stakeholders emailed a reminder that comments on the proposed management recommendations are due by COB today. (T&G no email, faxed reminder to this organisation)
12.10.12	Wanaruah LALC / Hunter Valley Aboriginal Corp.	Noel Downs e<wanaruah@bigpond.net.au	received letter via email with comments on the recommendations set out in the test excavation draft report (see Appendix 3 of the Aboriginal heritage assessment report)
12.10.12	Ungooroo Aboriginal Corporation (UAC)	Jessi Garland Administration Coordinator e <admin@ungooroo.com.au	VIA EMAIL Hi Cheryl, I have just spoken to Mr Paget and he made the following comment; "I agree with the methodology for the proposed Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth" If you require anything further, please let us know. Regards Jessi Garland Administration Coordinator
15.10.12	Wonnarua Nation Aboriginal Corporation	Laurie Perry e <l.perry@optusnet.com.au	VIA EMAIL Hi Cheryl I have read the report and satisfied with the management recommendations in the report. Cheers Laurie Perry CEO
15.10.12	Wonn1 Sites Arthur Fletcher	Suzie Worth (on behalf of Arthur Fletcher)	VIA EMAIL - letter attachment Hi Cheryl Attached is Arthur Fletcher's comments – sorry I didn't get them to you earlier – had massive computer problems, but all fixed now!!!:) Kind regards, Suzie Worth

16.10.12	Cacatua Culture Consultants	Patricia Kennedy e <cacatua@resetdsl.net.au	VIA EMAIL Sorry we have not replied sooner to the report the manager is away I have contacted her, she has read and discussed the paper work. Cacatua is happy with the information supplied and agree. Yours Truly Patricia Kennedy. Accounts Dept
17.10.12	Hunter Valley Aboriginal Corp,	Rhonda Griffiths	Rhonda left a message on the answerphone, advised she will speak with Noel Downs and phone back.
07.11.12	all stakeholders who had not responded to the initial invitation to comment were emailed another reminder and asked to submit feedback by Friday 9th November.		
07.12.12	TOCOMWALL PTY LTD	Scott Franks e: yarrowalk@tpg.com.au	Cheryl, I do recall reading the report and feel with this area in particular we could not agree or support the recommendation. The area in question is not understood with regard to the cultural importance of the area most of the stake holders making statements have known known cultural knowledge or are they in fact excepted as having a continued physical connection to the area but are suggesting off setts and agreeing to the destruction of a place that my direct family have been associated with and is extremely important. Regards, Scott Franks
07.12.12	TOCOMWALL PTY LTD	Scott Franks ph: 9542 7714	Scott phoned the office as a follow up to this email to advise he was not launching a personal attack, however discussed the incident where the stone axe had been picked up and removed at the commencement of the excavation. Scott is off the opinion that this indicates that the mine are all to happy to go ahead and 'rip up the land' and it was a rushed project where they just wanted to hurry it along to get the project finished to the detriment of the true Aboriginal custodians of the land.
08.11.12	Hunter Traditional Owners	Ms Paulette Ryan 0432 672 273	left detailed message on mobile to contact office and advise if HTO have any comments on the report and management recommendations discussed at the meeting, outlined in the report and summarised in the package sent out recently.

08.11.12	Kayaway Eco Cultural & Heritage Services	Mr MarkHickey Phone 0432 829 335	left 10 second message asking Mark to contact the office.
08.11.12	T&G Cultural Consultants	Greg Griffiths ph: 0428 147 417 (not on this number today) ph: 0401 028 807	contacted Greg's mobile number, after asking what it was about I advised it was about comments for the Liddell Coal Project, the gentleman advised Gred was 'not on this number today', advised I should contact the mobile number we have for Shannon. Contacted the second mobile number and left a 10 second message asking either Shannon or Greg to contact the office.
08.11.12	Ungooroo Cultural and Community Services	Ms Rhonda Ward ph: 0450 754 199	left 10 second message asking Rhonda to contact the office.
08.11.12	Wattaka Wonnarua Cultural C. Service	Des Hickey ph: 0432 977 178	spoke to Des and as a reminder I said I would email through the summary of the recommendations so that he could look at it. Des agreed that would be good and that he will take a look at them and respond by tomorrow. Emailed through the summary and feedback form as sent out to all stakeholders in September.
08.11.12	Wonnarua Culture Heritage	Shannon Griffiths ph: 0401 028 807	Shannon returned the call and advised that he was happy with the management recommendations set out in the report and had no additional comment
08.11.12	Widescope Indigenous Group P/L	c/- Amanda Hickey 73 Russell Street Emu Plains 2750 ph; 0434 480 558 e: 'Widescope.group@live.com	VIA EMAIL Hi Cheryl, yes Widescope is satisfied with the management recommendations as written in the Test Excavation Report. Regards D Hickey
08.11.12	Wattaka Wonnarua Cultural C. Service	Des Hickey <deshickey@bigpond.com	received letter via email with comments on the recommendations set out in the test excavation draft report (see Appendix 3)

Minutes of Consultation Meeting.

Consultation Meeting Regarding AHIP application associated with proposed Modification to Development Consent DA-305-11-01, Liddell Colliery, Ravensworth.

**28th August 2012
Liddell Colliery.**

Meeting commenced: 9.10 am

Present:

- Rebecca Lester – Wonnarua Nation Aboriginal Corp.
- David Ahoy – Myland Cultural & Heritage Group
- Ben Quinlan - T&G Cultural Consultants
- Kathie Kinchela – Yinarr Cultural Services
- Donna Sampson – Cacatua Culture Consultants
- Rhonda Griffiths – Hunter Valley Aboriginal Corporation'
- Allen Paget – Ungoorooo Aboriginal Corporation (UAC)
- Des Hickey - Wattaka Wonnarua Cultural C. Service
- Nicole Armit - GSSE
- Ben de Somer – Liddell Coal Operations
- Jodie Benton – OzArk EHM
- Cheryl Burke – OzArk EHM

Welcome and introductions

Welcome to Country by Allen Paget.

Introduction of attendees.

Jodie Benton addresses actions of meeting held in February.

- Seek consultation with elders with Arthur Fletcher and Steve Hickey's assistance

Correspondence was distributed to the Hickey family and Arthur Fletcher requesting assistance to formulate an appropriate protocol to meet and consult with knowledge-holders known to them. This correspondence was mailed specifically to the stakeholders who had suggested that consultation methods with Elders should take a more informal approach. No responses were received Jodie notes the challenges of trying to consult with those people who stakeholders feel are the most appropriate to speak with.

- Hold another site visit for interested RAPs to visit the sites, because some RAPs joined late and had not had the opportunity for a Liddell project reconnaissance.

Ben de Somer advises that invitations were distributed to all stakeholders to participate in this additional site visit. The first site visit was cancelled due to poor weather and the second scheduled date went ahead and was attended by Arthur Fletcher and Suzie Worth, areas visited included Bowmans Creek, Bowmans Ridge sites and Chain of Ponds.

9.30 am Des Hickey arrives @ the meeting.

- Follow up with XCN issue of ACH work rates, and Aboriginal employment opportunities/strategy across the business.

Ben de Somer clarifies the work rates for the Liddell Colliery project are now consistent with all other XCN mines, the standard rates for 2012 – 2013 have been set at \$68.75 per hour. Ben advises he is unsure of the review period however this is the current XCN rate.

- Review employment opportunities for land management tasks in the areas to be protected along Bowmans Ck.

Ben de Somer addresses employment strategies and XCN's commitment to the Reconciliation Action Plan (RAP). Ben summarises the Australian Indigenous Minority Supplier Council (AIMSC) process; support of the Many Rivers organization supplying low interest business loans for Aboriginal businesses and mentoring program. Ben confirms there will be employment opportunities for land management team members, however the area in question is rather small and thus the volume of work is equally small, unlike the larger conservation areas on the RAV North project. Ben advises ideally Liddell will utilise existing partnerships that XCN have established with specific organisations and training programs can be facilitated.

Donna Sampson notes the problems with land management traineeships and how after these are completed there are no employment prospects, after a two year traineeship there are no further opportunities.

Kathie Kinchela says there should be Aboriginal identified positions.

Ben discusses how realistically in the Bowmans Creek area it would only involve two to three weeks of land management work and potential fencing work, the existing fencing has been established through consultation with archaeologists and stakeholder representatives, however this will need to be maintained, similar to weed management, and the occasional feral control / field shoot. As there is no dedicated offset area at Liddell (like Mangoola), because the project is much smaller, the plan will be to broadly fence off areas rather than individual sites.

Donna Sampson says it is important there is Community involvement in any fencing work as it is Community who best know where around the sites should be fenced.

Ben notes that once Liddell move from the development modification stage they revert to management plan maintenance phase, which will involve bi-annual meetings regarding these general management issues.

Allen Paget asks about the life of the mine and Ben recaps this issue and says although mining itself is based on variables, the current plan is to have finished the bulk of mining in 2023, approximately, and finishing completely by 2028 including mine closure activities. Ben discusses the areas which are being extended for mining, referring to the map on screen, noting the current development consent boundary and where mining will be extended to. Ben notes the map is an outdated version however Jodie Benton advises the older map has been provided so that stakeholders can see how the plans have changed since project inception.

Kathie Kinchela requests a large copy of this map for attendees. Ben agrees to print out maps in the break.

- Complete test excavation program.

The test excavation program was completed in April 2012; outcomes will be discussed after the break.

Jodie Benton gives a quick recap of the meeting for Des Hickey who was a late arrival.

Break for Morning tea 10.00 – 10.15 am

All attendees have a copy of the map presented on the overhead, general discussion and summary on the changes to the impact footprint since project inception. Jodie talks about how the stakeholders were not happy with the original Entrance Pit Boundary impacting a number of sites along Bowman's Creek, and through consultation at the post survey meeting in December, 2011, the boundary was pulled in so that sites were avoided as opposed to being impacted.

Jodie and Nicole discuss how the proposed limit of mining associated with the Entrance Pit extension was pulled away from the highly sensitive areas, which Jodie notes as a positive. Effectively this meant that the areas requiring investigation during the test excavation were much smaller, as the majority of identified sensitive areas will now be avoided and therefore not impacted by the extension.

Jodie presents a summary of the test excavation program, discussing the density of artefacts and nature of occupation within the impact footprint. No testing was done in the conserved area as it is no longer being impacted.

Kathie queries the distance between the impact area and the conserved area. Ben advises this issue was incorporated into the mine design and there is approximately a 50 m buffer, the conservation zone Sensitive Archaeological Landform (SAL) will be conserved and there is a definite delineation between works and the conservation area.

Des asks if there has been any field survey work done in the proposed mining extension areas. Jodie advises that, as per the report, the survey was completed by a team of archaeologists and stakeholder representatives in September 2011.

Jodie explains how the test excavation focused on the areas of the recorded sites that were within the impact footprint, and that although the landscape and sites within it were looked at as a whole (as opposed to dots on a map indicating individual sites), only parts of the SAL were test excavated, being those under threat. The results of the test excavation has shown that only a small amount of archaeological material remains in the area (due to the significant impact of erosion) and, the artefacts recovered represent the remains of a now deflated site.

General discussion about the statistics noted in the draft excavation report, as per the PowerPoint presentation; very low artefact density; 8 artefacts recovered from 100 test pits, all artefacts recovered from top 15 cm of soil.

General discussion about the management of sites LID 3 and LID 34. Jodie also suggests the potential for topsoil that needs to be stripped from the Impact Footprint in the areas of these sites being retained and used on site for re-vegetation or erosion protection. On a cultural level retaining the soil would mean that all materials remain in the general vicinity of the site.

Ben agrees that this is a great concept, however he will need to investigate it further as he feels it may not be very practical. The issue would be the collection and storage location of the soils and he is unable to commit to this without looking further into the matter.

Kathie asks about further sieving. Jodie explains that due to the low density of the artefacts it is maybe not really realistic that further sieving be undertaken, given the demonstrated exceedingly low density. Kathie notes her concern that non-visible artefacts have the potential to be harmed. Ben says that the retaining and relocation of the soil will be subject to many factors which he will explore.

Donna Sampson suggests that the soil which is removed should be used in other areas very nearby – of the same site complex and within the SAL -where there is a lot of erosion. Jodie agrees that this idea is ideal, and notes that we will need to include rehabilitation to cover this in the AHIP application. As the soil will stay on Country this idea is perfect to ensure any artefacts remain very close to their original locations.

Jodie suggests that visible artefacts on the surface be collected prior to works commencing and that the Care and Control of these artefacts needs to be addressed. Subsequent to any artefacts being collected Jodie advises that they should potentially be catalogued and depending on the wishes of the Community they could be reburied.

Donna asks about having a shipping container for storage on site whilst the collection works are taking place, and if there is an opportunity for the Community to be involved in the analysis of the artefacts. General discussion about training the Community in artefact analysis during this project, Jodie says that if LCO are happy to support this idea it sounds like a good option. Jodie mentions that due to the likelihood there will not be numerous artefacts this work should potentially take one day and that perhaps there is no need for a shipping container.

Donna suggests that a locked filing cabinet would be best for temporary storage of any artefacts collected and queries if there is an opportunity for the artefacts to stay on site in a conservation area. Ben advises that there are no formal conservation areas as such, however the artefacts can be returned to the SAL that will now be conserved due to the re-working of the impact footprint. Ben notes that the co-ordinates of any relocated artefacts will be recorded and Jodie notes these must also be provided to OEH with the ASIRFs

Kathie Kinchela agrees that it is important that artefacts stay on Country.

Donna Sampson notes that it would be a good idea if a couple of nice pieces are selected and placed in a locked display cabinet at the LCO site for educational purposes. Currently education for contractors involves slides and presentations, to have a physical example of artefacts would be very beneficial and informative.

Jodie discusses the management recommendations relating to site LID34, explaining that the density of artefacts is incredibly low and that presuming the main part of the site is conserved we are only impacting the edge of it.

General discussion about the management of the other sites (Chain of Ponds Creek area), these recommendations were discussed at the last meeting, however Jodie recaps this since only two people who were present at the February meeting are here today.

Des Hickey queries how much topsoil there is, Jodie confirms the topsoil is only 2-3 cm thick.

Donna Sampson asks why the recommendation is to surface collect only along Chain of Ponds Creek sites if artefacts are still there, shouldn't it be managed differently? Jodie reminds everyone that a Section 90 has previously been issued and salvage has been undertaken (LID SE01/LID 30/LID 32 and Glendell G13), the Section 90 is still active and does not expire until 2016.

Des Hickey requests that this be checked as he is surprised that the duration of the AHIP is so long. Des also queries when the survey was undertaken and who was involved. General recap of the dates and stakeholder involvement.

Donna Sampson queries when the collection works would be undertaken. Ben discusses the timeframe associated with the construction of a water void, the water storage areas and dams. The priority area would be around the Bowmans Ridge Site followed by the South Cut area.

Jodie advises for this reason she would want the AHIP to cover a time period of 5-10 years so that it was active for the entire project. Nicole Armit notes that the project has not been hurried and LCO commenced consultation early so that stakeholders would be involved in the very early stages.

Jodie discusses the management recommendations of additional extant sites LID33 and Ravensworth A. Recommendations for both sites include surface collection and in addition for Ravensworth A vegetation clearance. General discussion about the management of top soil and keeping the soil on site for erosion control.

Jodie and Ben discuss the rehabilitation strategy for the Bowmans Creek area and how the material can be used to have a positive effect on site conservation. Discussion relating to the surface collection of artefacts and the subsequent cataloguing, recording and analyzing which should take place on site.

Nicole queries the fate of the artefacts, would all objects collected be managed the same way and be reburied in the same area?

Donna Sampson suggests a workshop to discuss the reports and the management recommendations for the sites. As this is the fourth meeting in a series to achieve that outcome, general discussion follows on how best to gain a response. Donna mentions that the minutes to the meetings should be distributed earlier and be accompanied by a feedback form which summarises what was discussed at this meeting. Jodie agrees that this is a good method and may help achieve more effective communication. Instead of sending out the entire report again with amended recommendations, it is decided a summary will be distributed and stakeholders will be invited to submit a written comment on the re-worked management recommendations.

- Long term managements of artefacts.

General discussion about a smaller assemblage of collected artefacts to be displayed on site. Other artefacts should be reburied outside the impact footprint and potentially near Bowmans Creek within the Entrance Pit Boundary area (that being the area where the impact footprint was reduced and other sites along Bowmans Creek were avoided). It is noted that the Care and Control of objects to be placed on display (on AHIP) is generally through Wanaruah LALC.

Donna Sampson asks about the European heritage sites. General discussion clarifying that the Chain of Ponds Hotel is owned by Coal and Allied and that the stockyards possibly associated with this site (on the Liddell site) are not original, and they are likely to have replaced any original yards that may have been there. These sites (the yards), will be documented for archival purposes and then may be destroyed as a result of the project

General discussions about how the mine has been operating for a long period of time, thus the amount of surveys undertaken have been numerous.

A thank you is extended to everyone for attending the meeting today.

Meeting Concludes: 12.10 pm

ACTIONS:

- OzArk to summarise management actions (i.e the recommendations that will accompany the EA report) for distribution to stakeholders with meeting minutes. A feedback form is to be included for comment on the management options discussed.
- Confirmation of AHIP #2438 expiry date – confirm this is valid for 10 years.