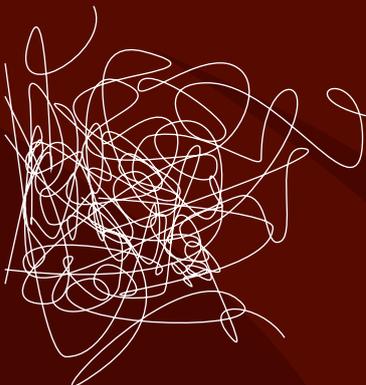
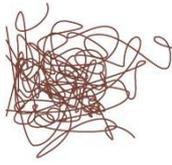




'OAKBURN' TAMWORTH, NSW:
ABORIGINAL CULTURAL HERITAGE ASSESSMENT REPORT
PREPARED FOR BAIADA POULTRY PTY LTD



EVERICK HERITAGE CONSULTANTS
JANUARY 2019



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EXECUTIVE SUMMARY

PSA Consulting Australia has been engaged by Baiada Poultry Pty Ltd (the 'Proponent') to prepare an Environmental Impact Assessment ('EIS') to support a Development Application for a new processing plant at 'Oakburn' 1154 Gunnedah Road, Westdale Tamworth, NSW (the 'Project Area'). Everick Heritage (the Consultant) were commissioned by PSA Consulting Australia to undertake an Aboriginal Cultural Heritage Assessment ('ACHA') for the project.

The brief for this project was to undertake an ACHA of a suitable standard to support the EIS. The assessment aims to:

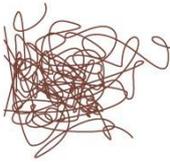
- a) identify whether any Aboriginal Objects or places of such cultural heritage significance are located within the Project Area that the intended future use of those lands would be inconsistent with appropriate heritage management standards; and
- b) identify appropriate heritage assessment and management practices that might inform future development applications.

The methods employed for this assessment included:

- a) a search of relevant Aboriginal heritage registers;
- b) a review of cadastral mapping and tenure;
- c) a review of historic aerial photography and resources relating to past land uses and associated disturbances of the Project Area;
- d) consultation with the Tamworth Local Aboriginal Land Council (TLALC);
- e) a targeted archaeological survey, sampling key landforms and areas of archaeological potential; and
- f) an assessment of the potential for the Project Area to contain significant Aboriginal heritage and the impact the Project may have on said heritage, consistent with the Office of Environment and Heritage *Due Diligence Code for the Protection of Aboriginal Objects in NSW* (2010).

The methods used for this assessment are in compliance with the OEH '*Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*' (2010) and all relevant legislation as described in Section 2 of this report. The following report complies with the accepted methodology for undertaking a Due Diligence Assessment under the *National Parks and Wildlife Act 1974* (NSW).

The Development Application will seek Development Consent for the following key elements which have the potential to impact on Aboriginal heritage:



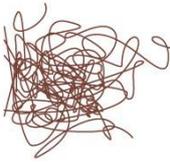
- A new Poultry Processing Plant with a production capacity of 3 million birds per week;
- A new site access road connection to Armstrong Street / Goddard land via Workshop Lane which will be used for all staff and heavy vehicles as opposed to the existing access to the Oxley Highway; and
- Waste Water Treatment via a new CAL / SBR / pond system (Note that there is a current DA for Stage 1 of this system currently being assessed by Tamworth Regional Council).

A search was conducted on 4 June 2018 April 2014 of the OEH Aboriginal Heritage Information Management System (AHIMS service number 348963) for Lot 100 DP1097471 with a buffer of 1000 meters. A total of three (3) Aboriginal Cultural Heritage sites were within the boundary of the Project Area, a further six (6) sites were located in close proximity to the Project Area. The **Tamworth Regional Local Environment Plan 2010 (LEP)** contains no Aboriginal heritage listings within close proximity to the Project Area.

The Project Area is within the area administered for Aboriginal cultural heritage purposes by the Tamworth Local Aboriginal Land Council ('Tamworth LALC'). A survey for Aboriginal cultural heritage was conducted by Christopher Fermor, Sites Officer of the Tamworth LALC and Everick Heritage Consultant, Adrian Piper on June 6th 2018.

As a result of the desktop study and field inspection the following conclusions were established with Sites Officer Christopher Fermor of the Tamworth LALC.

- a) No Indigenous cultural heritage sites or objects were identified within the lands subject to the Baiada Pty Ltd Oakburn Development Application.
- b) It is understood that site previously identified with the Project Area have been subject to salvage under a AHIP.
- c) Consultation with Tamworth LALC through the Sites Officer found no places or desktop history of Aboriginal 'intangible' cultural heritage on the site or association with spiritual or mythological stories or places elsewhere.
- d) The Project Area was found to be highly disturbed in a manner which constitutes 'disturbance' within the meaning of the Due Diligence Code and is consistent with the Due Diligence Code.
- e) The high degree of disturbance with regular slashing over the proposed Processing Plant including carpark and roads has allowed for high levels of ground visibility and extensive areas where the surface is clearly visible, which lead to a high degree of confidence in the effectiveness of the survey and the conclusion as to the absence of Aboriginal cultural heritage.
- f) Due to the effectiveness of the survey it is believed that there are no areas considered to contain potential archaeological deposits of significant Aboriginal heritage, such that they warrant additional archaeological investigation or in-situ conservation as a heritage protection zone.



- g) The proposed route of the Workshop Lane easement has been positioned to avoid any channelling of the Boltens Creek tributary thus diminishing the likelihood of encountering subsurface Aboriginal objects such as artefacts.

There were no items of historic heritage found during the site inspection.

The Consultant is of the opinion that the proposed Processing Facility and ancillary works will not impact on Aboriginal objects. As a precautionary measure the following recommendations are provided.

Recommendation 1: Additional Investigation

Having consideration for the extent of historic ground disturbance and the results of the previous and current archaeological investigation it is not considered that test pit excavations would result in a significant change in the outcomes of the cultural heritage assessment.

Recommendation 2: Aboriginal Objects Find Procedure

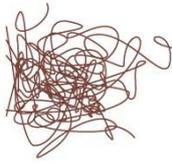
It is recommended that if suspected Aboriginal material has been uncovered as a result of development activities within the Project Area:

- a) work in the surrounding area is to stop immediately;
- b) a temporary fence is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;
- c) an appropriately qualified archaeological consultant is to be engaged to identify the material; and
- d) if the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the OEH guidelines: *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).

Further, it is recommended that Aboriginal sites monitors from Tamworth LALC are engaged to support the Finds Procedure for the initial ground works as they affect the topsoil with the potential to contain Aboriginal Objects.

Recommendation 3: Aboriginal Human Remains

Although it is unlikely that Human Remains will be located at any stage during earthworks within the Project Area, should this event arise it is recommended that all works must halt in the immediate area to prevent any further impacts to the remains. The Site should be cordoned off and the remains themselves should be left untouched. The nearest police station (Tamworth), the Tamworth LALC and the OEH Regional Office (Coffs Harbour) are all to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the Site for criminal activities, the Aboriginal community and the OEH should be consulted as to how



the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.

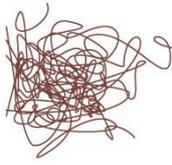
It is also recommended that in all dealings with Aboriginal human remains, the Proponent should use respectful language, bearing in mind that they are the remains of Aboriginal people rather than scientific specimens.

Recommendation 4: Notifying the OEH

It is recommended that if Aboriginal cultural materials are uncovered as a result of development activities within the Project Area, they are to be registered as Sites on the AHIMS, managed by the OEH. Any management outcomes for the site will be included in the information provided to the AHIMS.

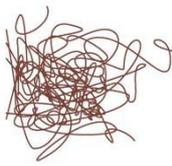
Recommendation 5: Conservation Principles

It is recommended that all effort must be taken to avoid any impacts on Aboriginal Cultural Heritage values at all stages during the development works. If impacts are unavoidable, mitigation measures should be negotiated between the Proponent, OEH and the Aboriginal community.



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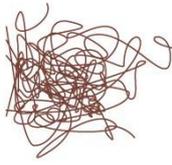


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DEFINITIONS

The following definitions apply to the terms used in this report:

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](#).

Aboriginal Place means any place declared to be an Aboriginal place (under s. 84 of the NPW Act) by the Minister administering the NPW Act, by order published in the NSW Government Gazette, because the Minister is of the opinion that the place is or was of special significance with respect to Aboriginal culture. It may or may not contain Aboriginal Objects.

ACHCRP Guidelines means the OEH Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010).

Archaeological Code of Practice means the OEH Code of Practice for Archaeological Conduct in New South Wales (2010).

Due Diligence Code means the OEH Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010).

NPW Act means the National Parks and Wildlife Act 1974 (NSW).

NPW Regulations means the National Parks and Wildlife Regulations 2009 (NSW).

OEH means the New South Wales Office of Environment and Heritage.

Project Area means the Baiada property 'Oakburn' comprising parts of Lot 100 DP1097471 situated at 1154 Gunnedah Road Tamworth, NSW subject to development consent for the Baiada Poultry Pty Ltd Processing Plant.

Proposed Works means all activities associated with construction and landscaping of the poultry processing facility including access road and utilities.

Proponent means Baiada Poultry Pty Ltd.

TLALC means the Tamworth Local Aboriginal Land Council

The Project means any subsequent development within the Project Area.



1. INTRODUCTION

1.1 Purpose of the Cultural Heritage Assessment

PSA Consulting Australia has been engaged by Baiada Poultry Pty Ltd (the 'Proponent') to prepare an Environmental Impact Assessment ('EIS') to support a Development Application for a new processing plant at 'Oakburn' 1154 Gunnedah Road, Westdale Tamworth, NSW (the 'Project Area'). Everick Heritage (the Consultant) were commissioned by PSA Consulting Australia to undertake an Aboriginal Cultural Heritage Assessment ('ACHA') for the project.

The brief for this project was to undertake an ACHA of a suitable standard to support the EIS. The assessment aims to:

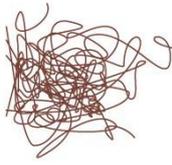
- a) identify whether any Aboriginal Objects or places of such cultural heritage significance are located within the Project Area that the intended future use of those lands would be inconsistent with appropriate heritage management standards; and
- b) identify appropriate heritage assessment and management practices that might inform future development applications.

1.2 Project Methodology

The methods employed for this assessment included:

- a) a search of relevant Aboriginal heritage registers;
- b) a review of cadastral mapping and tenure;
- c) a review of historic aerial photography and resources relating to past land uses and associated disturbances of the Project Area;
- d) consultation with the Tamworth Local Aboriginal Land Council (TLALC);
- e) a targeted archaeological survey, sampling key landforms and areas of archaeological potential; and
- f) an assessment of the potential for the Project Area to contain significant Aboriginal heritage and the impact the Project may have on said heritage, consistent with the Office of Environment and Heritage *Due Diligence Code for the Protection of Aboriginal Objects in NSW* (2010).

The methods used for this assessment are in compliance with the OEH '*Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales*' (2010) and all relevant legislation as described in Section



2 of this report. The following report complies with the accepted methodology for undertaking a Due Diligence Assessment under the *National Parks and Wildlife Act 1974* (NSW).

1.3 The Project

The Development Application will seek Development Consent for the following key elements which have the potential to impact on Aboriginal heritage:

- A new Poultry Processing Plant with a production capacity of 3 million birds per week;
- A new site access road connection to Armstrong Street / Goddard land via Workshop Lane which will be used for all staff and heavy vehicles as opposed to the existing access to the Oxley Highway; and
- Waste Water Treatment via a new CAL / SBR / pond system (Note that there is a current DA for Stage 1 of this system currently being assessed by Tamworth Regional Council).

1.4 Site locality

The site is located on land known as “Oakburn” located at 1154 Gunnedah Road, Westdale NSW (formally described as Lot 100 DP1097471, parish of Murroon and County of Parry. The site has an area of approximately 57.6Ha located to the north of the Tamworth Airport, and approximately 7.5km north-west of the Tamworth Central Business District.

1.5 Report Authorship

The desktop study was undertaken by Everick Senior Archaeologists Adrian Piper and Tim Hill. The field inspection was conducted by Senior Archaeologist Adrian Piper. This report was written by Tim Hill, Adrian Piper and Robert Mazlin.

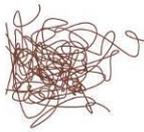


Figure 1: Project Area & Regional Locality

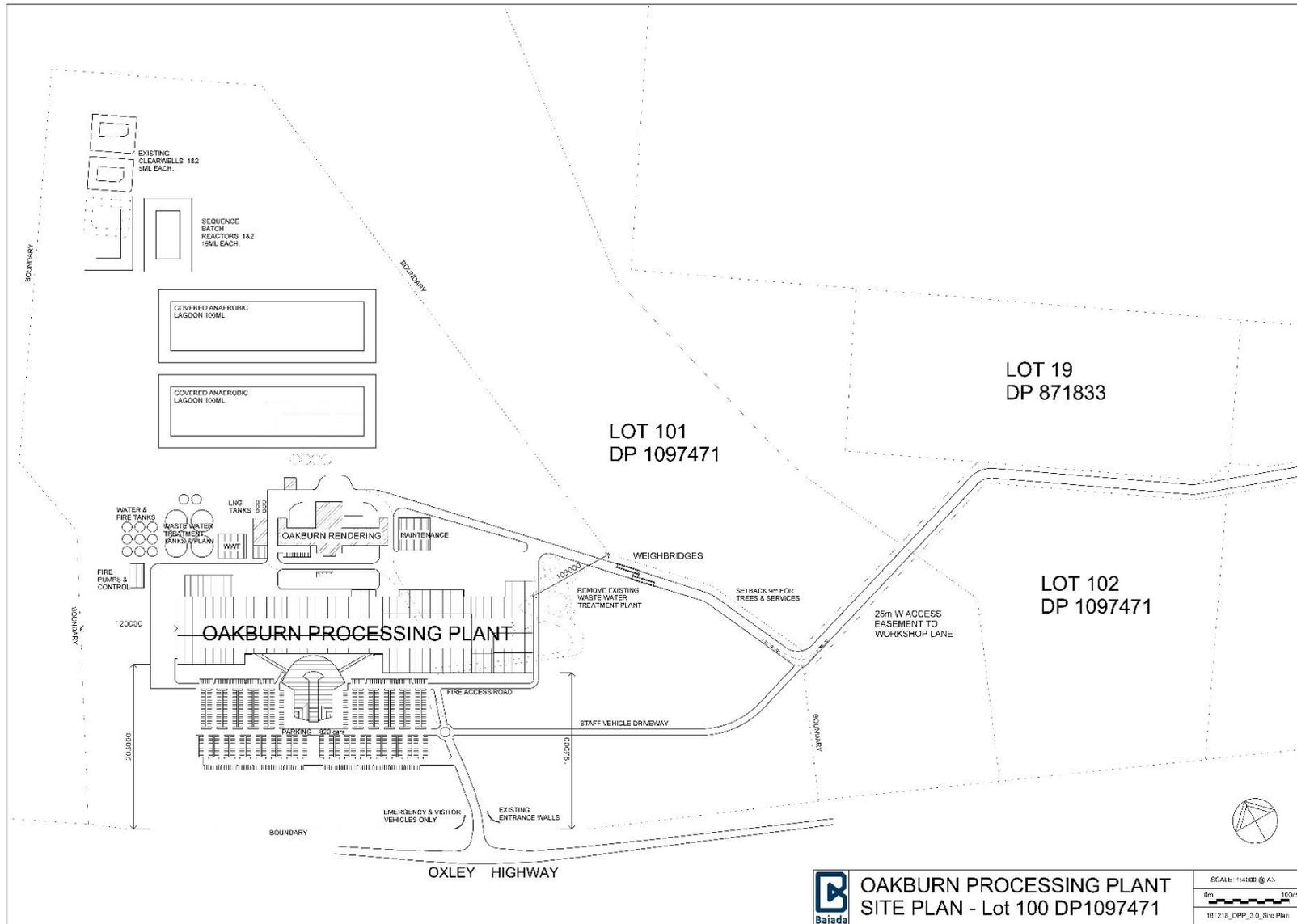
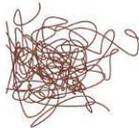
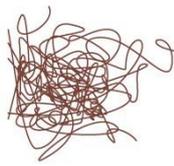


Figure 2: Technical details of the Proposed Works.



2. LEGISLATIVE AND PLANNING CONTEXT

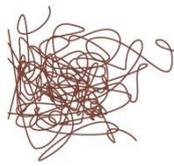
The following legislation provides the context for cultural heritage in NSW: the *National Parks and Wildlife Act 1974* (NSW), the *Environmental Planning and Assessment Act 1979* (NSW) and the *Heritage Act 1977* (NSW) and local council Environmental Plans and Development Control Plans. The Commonwealth also has a role in the protection of nationally significant cultural heritage through the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth), *The Protection of Movable Cultural Heritage Act 1986* (Cth) and the *Historic Shipwrecks Act 1976* (Cth).

For the purposes of this assessment it is the State and local legislation that are most relevant. The consent authorities will be the Tamworth Regional Council and, where a referral agency is required, the OEH. Approval from the OEH will also be required should development activities impact on identified Aboriginal Objects. The information below lists the legislative and policy framework within which this assessment is set.

2.1 The *National Parks and Wildlife Act 1974* (NSW) and the *National Parks and Wildlife Regulation 2009* (NSW)

The *National Parks and Wildlife Act 1974* (NSW) (NPW Act) is the primary legislation concerning the identification and protection of Aboriginal cultural heritage. It provides for the management of both Aboriginal Objects and Aboriginal Places. Under the NPW Act, an Aboriginal Object is any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area, regardless of whether the evidence of habitation occurred before or after non-Aboriginal settlement of the land. This means that every Aboriginal Object – regardless of its size or seeming isolation from other Objects – is protected under the Act.

An Aboriginal Place is an area of particular significance to Aboriginal people which has been *declared* an Aboriginal Place by the Minister. The drafting of this legislation reflects the traditional focus on Objects, rather than on areas of significance such as story places and ceremonial grounds. However, a gradual shift in cultural heritage management practices is occurring towards recognising the value of identifying the significance of areas to Indigenous peoples beyond their physical attributes. With the introduction of the *National Parks and Wildlife Amendment Act 2010* (NSW) the former offence provisions under Section 86 of ‘disturbing’, ‘moving’, ‘removing’ or ‘taking possession’ of Aboriginal Objects or Places have been replaced by the new offence of ‘harming or desecrating’. The definition of ‘harm’ is ‘destroying, defacing or damaging an Object’. Importantly in the context of the management recommendations in this assessment, harm to an Object that is ‘trivial or negligible’ will not constitute an offence.



The new amendments also significantly strengthen the penalty provisions. The issue of intent to harm Aboriginal cultural heritage has been formally addressed by separating it from inadvertent harm. The penalty for individuals who inadvertently harm Aboriginal Objects has been set at up to \$55,000, while for corporations it is \$220,000. Also introduced is the concept of '*circumstances of aggravation*' which allows for harsher penalties (up to \$110,000) for individuals who inadvertently harm Aboriginal heritage in the course of undertaking a commercial activity or have a record for committing similar offences. For those who knowingly harm Aboriginal cultural heritage, the penalty will rise substantially. The maximum penalty will be set at \$275,000 or one year imprisonment for individuals, while for corporations it will rise to \$1,100,000.

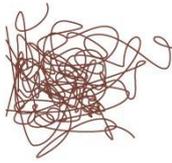
Where a land user has or is likely to undertake activities that will harm Aboriginal Objects, the Director General (OEH) has a range of enforcement powers, including stop work orders, interim protection orders and remediation orders. The amended regulations also allow for a number of penalties in support of these provisions. The NPWA also now includes a range of defense provisions for unintentionally harming Aboriginal Objects:

- a) undertaking activities that are prescribed as 'Low Impact';
- b) acting in accordance with the Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales (2010) ('Due Diligence Code');
- c) using a consulting archaeologist who correctly applies the OEH Code of Practice for Archaeological Conduct in New South Wales (2010) ('Archaeological Code of Practice'); and
- d) acting in accordance with an Aboriginal Heritage Impact Permit (AHIP).

2.1.1 '*Low Impact Activities*'

The new regulations allow for a range of low impact activities to be undertaken without the need to consult the OEH or a consulting archaeologist. Generally, those who undertake activities of this nature will not be committing an offence, even if they inadvertently harm Aboriginal Objects. These activities include:

- a) Maintenance – For example on existing roads and tracks, or on existing utilities such as underground power cables and sewage lines.
- b) Farming and Land Management – for land previously disturbed, activities such as cropping, grazing, bores, fencing, erosions control etc. *
- c) Removal of dead or dying vegetation - only if there is minimal ground disturbance.
- d) Environmental rehabilitation – weed removal, bush regeneration.



- e) Development in accordance with a Development Certificate issued under the EPA Act 1979 (provided the land is previously disturbed). *
- f) Downhole logging, sampling and coring using hand held equipment.
- g) Geochemical surveying, seismic surveying, costeaning or drilling. *

* This defense is only available where the land has been disturbed by previous activity. Disturbance is defined as a clear and observable change to the land's surface, including but not limited to land disturbed by the following: soil ploughing; urban development; rural infrastructure (such as dams and fences); roads, trails and walking tracks; pipelines, transmission lines; and storm water drainage and other similar infrastructure.

2.2 Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW

The Due Diligence Code operates by posing a series of questions for land users before they commence development. These questions are based around assessing previous ground disturbance. An activity will generally be unlikely to harm Aboriginal Objects where it:

- a) will cause no additional ground disturbance;
- b) is in a developed area; or
- c) is in a significantly disturbed area.

Where these criteria are not fulfilled, further assessment for Aboriginal cultural heritage will typically be required prior to commencing the activity.

2.3 The ACHCRP (2010)

The OEH has recently published the Aboriginal Cultural Heritage Consultation Requirements for Proponents (2010) (ACHCRP). These requirements replaced the former Interim Community Consultation Requirements for Applicants (2004) (ICCR) as of 12 April 2010. The ACHCRP provide an acceptable framework for conducting Aboriginal community consultation in preparation for Aboriginal Heritage Impact Permits. Proponents are also required to follow the ACHCRP where undertaking a project that is likely to impact on cultural heritage and/or where required by the consent authority.



2.4 The Tamworth Local Environmental Plan 2010

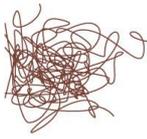
The Tamworth LEP 2010 provides statutory protection for items already listed as being of heritage significance (Schedule 5), items that fall under the ambit of the *Heritage Act 1977* (NSW) and Aboriginal Objects under the *National Parks and Wildlife Act 1974* (NSW). It aims to ensure best practice components of the heritage decision making process are followed.

For listed heritage items, or building, work, relic or tree and heritage conservation areas, the following action can only be carried out with the consent of the Tamworth Regional Council:

- a) demolishing or moving a heritage item or a building, work, relic or tree within a heritage conservation area;
- b) altering a heritage item or a building, work, relic, tree or place within a heritage conservation area, including (in the case of a building) making changes to the detail, fabric, finish or appearance of its exterior;
- c) altering a heritage item that is a building by making structural changes to its interior;
- d) disturbing or excavating an archaeological site while knowing, or having reasonable cause to suspect that the disturbance or excavation will or is likely to result in a relic being discovered, exposed, moved, damaged or destroyed;
- e) disturbing or excavating a heritage conservation area that is a place of Aboriginal heritage significance;
- f) erecting a building on land on which a heritage item is located or that is within a heritage conservation area; and/or
- g) subdividing land on which a heritage item is located or that is within a heritage conservation area.

In addition, Council may not grant development consent without considering the effect the proposed development will have on the heritage significance of heritage item or heritage conservation area concerned. Furthermore, in regards to Aboriginal heritage significance (Part 5.8) the consent authority must, before granting consent under this clause to the carrying out of development in a place of Aboriginal heritage significance:

- a) consider the effect of the proposed development on the heritage significance of the place and any Aboriginal object known or reasonably likely to be located at the place, and
- b) notify the local Aboriginal communities (in such way as it thinks appropriate) about the application and take into consideration any response received within 28 days after the notice is sent.

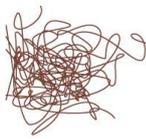


3. ABORIGINAL COMMUNITY CONSULTATION

3.1 Consultation timeline

We recognise that there is Traditional Owner knowledge associated with the region that may have to be treated in a confidential manner. We will be seeking advice from Aboriginal stakeholders as to the appropriate protocols to be adopted in regard to such knowledge if it arises. Everick acknowledges that the Aboriginal community are the primary determinants of the significance of their cultural heritage.

Contact was made with the Tamworth Local Aboriginal Land Council (TLALC) CEO Fiona Sharpe on June 4th 2018. Arrangement was made for the Land Council's Site Officer Christopher Fermor, to assist the CHA and field inspection on June 6th 2018. Mapping and details of the Project were emailed to the CEO on June 4th.



4. ABORIGINAL CULTURAL HERITAGE

4.1 The OEH Aboriginal Heritage Information Management System (AHIMS)

Care should be taken when using the AHIMS database to reach conclusions about site prevalence or distribution. For example, a lack of sites in a given area should not be seen as evidence that the area was not occupied by Aboriginal people. It may simply be an indication that it has not been surveyed for Aboriginal cultural heritage, or that the survey was undertaken in areas of poor surface visibility. Further to this, care needs to be taken when looking at the classification of sites. For example, the decision to classify as an artefact scatter site containing shell rather than a midden can be a highly subjective exercise, the threshold for which may vary between archaeologists.

A search was conducted on 4 June 2018 of the OEH Aboriginal Heritage Information Management System (AHIMS service number 348963) for Lot 100 DP1097471 with a buffer of 1000 meters. A total of three (3) Aboriginal Cultural Heritage sites were within the boundary of the Project Area, a further six (6) sites were located in close proximity to the Project Area (Figure 3). A summary of these Sites has been provided in Table 1 and relevant site cards are provided in Appendix B).

Table 1: AHIMS Registered Sites

AHIMS ID	Site Name	Easting	Northing	Context	Features	Permit
29-2-0076	Oakburn 1	293800	6560750	Open site	Artefact: Isolated Find	1139
29-2-0077	Oakburn 2	294200	6560450	Open site	Artefact; Isolated find	1139
29-2-0129	Boltons Creek 1	293313	6560814	Open site	Artefact : 15	
29-2-0130	Boltons Creek 2	293555	6561168	Open site	Artefact : 28	
29-2-0131	Boltons Creek 3	293570	6561459	Open site	Artefact : 4	
29-2-0132	Boltons Creek 4	294039	6561643	Open site	Artefact : 141	
29-2-0133	Boltons Creek ST 1	293508	6561076	Open site	Modified Tree (Carved or Scarred) : 1	
29-2-0214	Oakburn 3	294100	6560650	Open site	Artefact : 1	
29-2-0331	Boltons Creek 01	294105	6561724	Open site	Artefact : -	

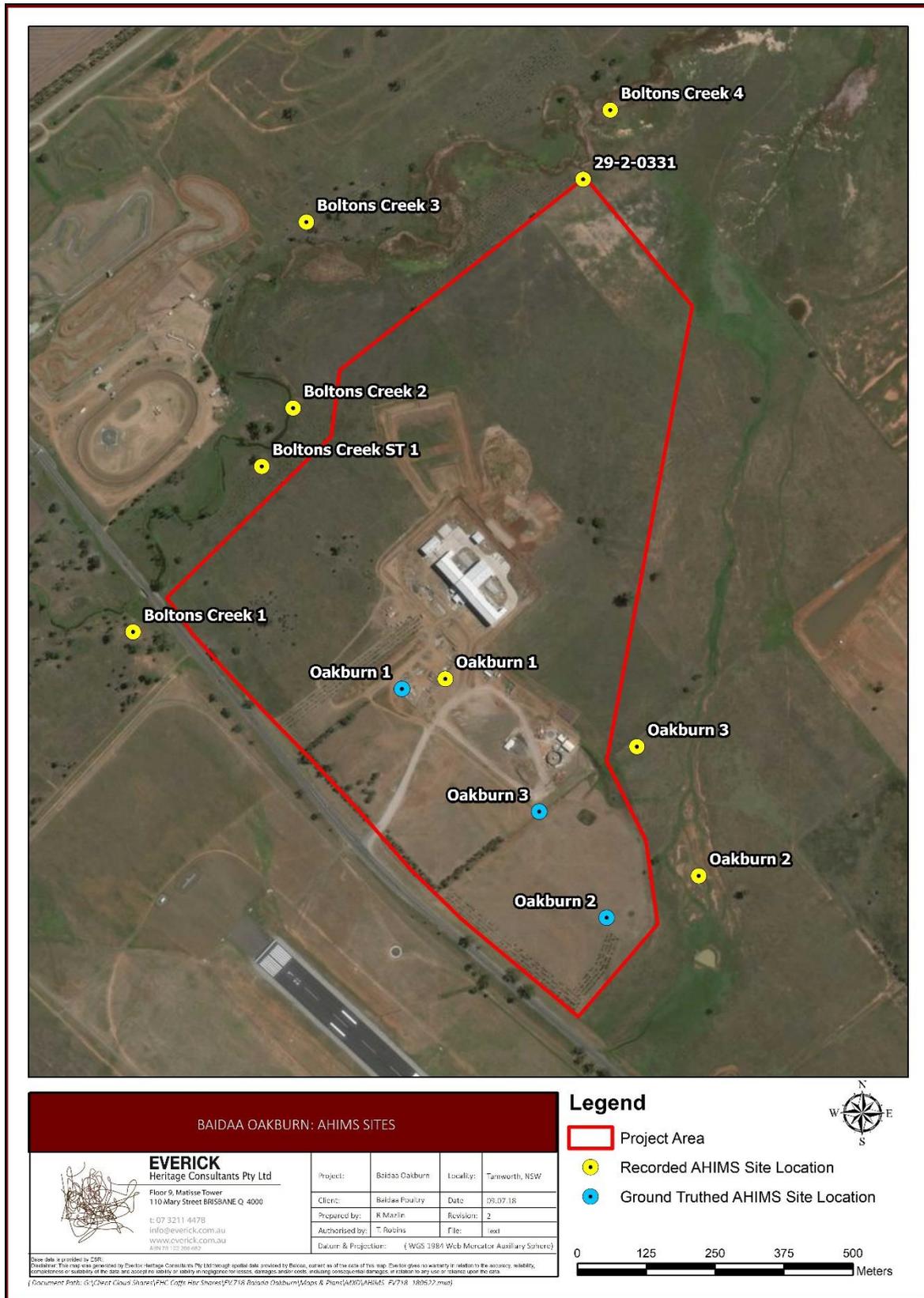
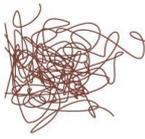


Figure 3: AHIMS Search Results



Sites within the Project Area are 29-2-0076 (Oakburn 1), 29-2-0077 (Oakburn 2) and 29-2-0214 (Oakburn 3), each are registered as isolated stone artefacts. Based on the Oakburn site cards (Appendix B) the artefacts were mapped within the main paddocks of the original Oakburn property. Their environmental context is open flats (Oakburn 1) or flats adjacent to an ephemeral branch of Boltons Creek (Oakburn 2 and 3). The Oakburn 1 location was in the vicinity of the former homestead, yards, out buildings, tracks and trees of which there is now no trace. The location is within the footprint of the proposed Processing Plant in a screen of planted trees (Figure 4). The Oakburn 2 and 3 locations were open paddocks south of the existing entrance toward a tributary of Boltons Creek. The locations are almost bare, levelled open paddock today (Figure 5). The area of both locations has been altered by mechanical scraping to create bare earth conditions with an artificial mound and drainage channel created in the area of the original homestead. The three stone artefacts that comprise the three sites were removed for analysis by Pat Gaynor and Jan Wilson 1998 under a Consent Permit from OEH (Wilson/McAdam 2000: 51-52). There is no record as best that can be determined, that the artefacts were returned to their original locations.



Figure 4: Survey Unit 1: Location of Oakburn 1 site on a line left of tree view north.



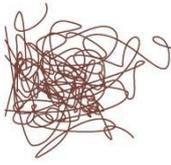
Figure 5: Location of Oakburn 2 site view south east.

To the north of the Project Area there are three (4) artefact scatters (#29-2-0130, 29-2-0131, 29-2-0132 and 29-2-0331) and one (1) modified tree (#29-2-133) located on the narrow Boltons Creek flood flats. These sites are Boltons Creek 1, 2, 3 and 01. Site 29-2-0331 is a low density scatter of two artefacts located approximately 20m from the north-west corner of the Project Area in an area disturbed by tree plantings. The review of site recordings from a previous assessment in the rezoning phase of development for the wider area, has an additional three sites named Boltons Creek 1, 2 and 3 on the upper reaches of Boltons Creek, 6-7 kms to the south, in the vicinity of Oxley Lane and Heiligmans Lane. The duplication of site names has arisen from there being two Aboriginal heritage assessments on sections of Boltons Creek the first probably in 1996 (Lovell and Jones) the second in 1998 (Gaynor and Wilson). An additional artefact scatter (#29-2-0129) is located on the opposite side (south) of the Oxley Highway to the Assessment lands, on Boltons Creek (Everick 2015).

4.2 Other Heritage Registers: Aboriginal & Historic Cultural Heritage

The following heritage registers were accessed on 5 June 2018 for the Tamworth region:

- **The National Heritage List (Australian Heritage Council):** Contains no Aboriginal heritage listings within close proximity to the Project Area.



- **Commonwealth Heritage List (Australian Heritage Council):** Contains no Aboriginal heritage listings within close proximity to the Project Area.
- **Register of the National Estate (Australian Heritage Council):** Contains two Indigenous place listings for Moore Creek and Tamworth, neither of which are located within the Project Area.
- **The State Heritage Register (NSW Heritage Office):** Contains no Aboriginal heritage listings within close proximity to the Project Area.
- **The Aboriginal Place Register:** Contains no Aboriginal Place listings in the Project Area.
- **The State Heritage Inventory:** Contains no Aboriginal heritage listings within close proximity to the Project Area.
- **The Register of the National Trust of Australia:** Contains no Aboriginal heritage listings within close proximity to the Project Area.
- **Tamworth Regional Local Environment Plan 2010 (LEP):** Contains no Aboriginal heritage listings within close proximity to the Project Area.



5. LANDSCAPE CONTEXT

5.1 Environment Locality

The Project Area is situated within a soil landscape described as undulating to low rolling hills interspersed with gullies and gilgai (Banks 2001). These landscapes are predominantly cleared, formerly heavily cultivated open grasslands (Banks 2001). The landscape can be described as small alluvial drainage plains and depressions between the surrounding rolling and undulating landscapes (Banks 2001:176). The high volumes of hydro activity within this landscape have resulted in severe gullying (Banks 2001:177).

Original vegetation across the Warral Station landscapes was assessed by Banks (2001) as open woodland and closed grasslands. The woodlands consisted mainly of various eucalypt species, but also included acacia species and other moderate growth bushes and shrubs. The closed grasslands were mainly plains grass (*Stipa aristigulumis*) and Blue Grass (*Dicanthium sericeum*).

The Development Application footprint has been heavily cleared of original tree cover, extensively cultivated and now the site of the Oakburn Rendering Plant. Currently vegetation over the proposed Processing Plant precinct is bare earth and low slashed grasses. The proposed Waste Water Treatment Plant is mainly vegetated with closed grass cover for approximately two thirds, the remainder bare earth. The proposed Workshop Lane Access Easement crosses a dry lightly grassed plain for approximately 714 metres adjoining the Baiada eastern boundary.

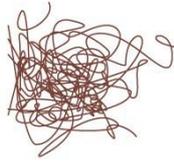
5.2 Historic Aerial Photography

Historic aerial photography of the Project Area was reviewed to ascertain land uses and the level of past ground disturbance as it might affect Aboriginal cultural heritage. This information is used to assist in developing a predictive model for potential cultural heritage site locations (Appendix C).

The 1953 Historic Aerial images illustrates that by the 1950's the Project Area had been extensively cleared, excluding only isolated pockets of vegetation on the banks of creek lines and gullies. Both the Oxley Highway and Wallamore Road are well-formed at this time. Mitchell (1831) noted the areas surrounding Tamworth as generally thinly wooded. It is likely then that the initial clearing of this area was undertaken by hand. The Project Area appears to be set up for pastoral or for cultivation purposes stemming from the Australian Agricultural Company Grant (Section 6.2 and Section 7), both of which were the most common land use practices throughout the region.



Conclusions: From the historic aerial photography, it is clear that initial vegetation clearing, pastoral and cultivation activities took place prior to the 1950's. Selective clearing may have caused ground disturbance and may have had an impact upon the integrity of any Aboriginal Objects particularly modified trees, however this cannot be demonstrated through analysis of the historic aerial photographs alone. Other disturbance likely to have impacted on the integrity of Aboriginal sites, may come as a result of intensive historic use of the Project Area for mustering of stock or cultivation under the Australian Agricultural Company Grant (Section 6.2 and Section 7). The potential for stock trampled stone artefacts and undisturbed artefacts to be located well below the ground surface within the Project Area cannot be completely ruled out, particularly given the results of the AHIMS search results (Section 4.1). With the lack of vegetation clearly evident over this area, and having regard to the soil type, periods of rain would have seen ground disturbance up to half a metre deep in gully areas particularly adjacent to the Boltons Creek systems. That being said, the Assessment lands probably remained virtually unchanged until Baiada ownership, the demolition of all trace of the former 'Oakburn' infrastructure and construction of the Rendering Plant.



6. PREVIOUS ARCHAEOLOGICAL AND CULTURAL HERITAGE ASSESSMENTS

6.1 Synthesis of Archaeology and Ethno-history

7.1.1 *Settlement*

The Gamilaroi (also referred to as Komilaroi) has been recognised by researchers as the primary linguistic group for the greater New England region (Wilson and McAdam 2000; Carey 2006; Tindale 1974). The exact territorial boundaries of the Gamilaroi have been disputed. One of the earliest attempts to map the language group territory was by Matthews (1917) who recorded the dialect from Jerry's Plains in the Hunter River region, stretching north to the Gwydir River and into the southern reaches of Queensland (see also Wilson and McAdam 2000). Tindale (1974) disputed Matthews (1917) assertion of the southerly extent of Gamilaroi territory, arguing that the Gamilaroi only maintained a marginal strip of territory which did not extend as far south as Jerry's Plains in the Hunter River region. Carey (2006) argued further that the Gamilaroi territory extended from the Hunter Valley westward to Coonabarabran and north of the township of Moree into south-western Queensland (Carey 2006:5).

As a linguistic group, the Gamilaroi people spoke a range of dialects throughout the New England region. Wilson and McAdam (2000) cite Milliss (1980a; 1980b) who also recognised two distinct groups, the *Corbon Gamilaroi* who occupied areas surrounding the Peel River including Liverpool Plains, and the *Gammon Gamilaroi* who occupied the southern part of the language territory. Wilson and McAdams (2000) note that within these two language groups existed a number of subgroups, each maintaining individual group identities and land territories. Carey (2006:5) identifies two sub-communities of the Gamilaroi which occupied the area now known as Tamworth: the Mooni people and the Goonoo Goonoo people. Wilson and McAdam (2000) also record the Gunnedah and Manilla people, originally recorded by Garret (n.d.). The Goonoo Goonoo people are said to have occupied the Peel River flatlands, including the lands which comprise Project Area (Carey 2005).

The antiquity of occupation of northern New South Wales is still debated, with sites dated between 3,600BP and 20,000BP (Wilson and McAdam 2000). Wilson and McAdam (2000) provided a brief summary of the dated sites for the Tamworth region, the oldest of which was Bendemeer II, dating to 4,950BP. This is not to say that occupation of the Tamworth region did not occur prior to this date. Rather, it is likely a reflection on the lack of archaeological investigations in the region and the preservation of datable materials in *in situ* contexts.



7.1.2 *Movement*

Hobden et al (2005) describes the Gamilaroi as having strict laws based on the intricate relationship with the landscape around them. Early population estimates made by European settlers record that between 4000 and 12,000 Aboriginal peoples inhabited camps located in the Peel River valley, south of modern day Tamworth (Hobden et al 2005; Wilson and McAdam 2000). Groups would gather and move across the landscape, participating in trading practices with other groups throughout the region (Carey 2006). However, it was a way of life that rapidly disappeared under the impacts of disease and restrictions on Aboriginal groups by ‘authorities’ on the movement of Aboriginal people. Unfortunately, conflicting historical accounts and the lack of detailed reports means that the exact numbers and movement of the Gamilaroi populations in the Tamworth region will never be accurately determined. That being said, the TRC noted that in the 2006 census a total of 3,739 people, representing 7.3% of the Tamworth regional population identified as Aboriginal (TRC 2012:88). So while the numbers of past populations of Aboriginal groups cannot be accurately determined, the higher than average number (being 2.2% across most of NSW according to the TRC) of Aboriginal identified persons within the Tamworth region, does indicate the rich cultural history of the region.

The few eyewitness accounts of the Aboriginal occupation of the Tamworth region come from early settlers who entered the region as part of John Oxley’s 1818 expedition (Carey 2006). Oxley recorded the Peel River flatlands as an extensive grassed vale ideal for settlement (Carey 2006:8). It was this recommendation that spurred an influx of European settlement north of Liverpool Plains through to what is now Tamworth, as part of the ambitions of the Australian Agricultural Company.

Established in 1824, the Australia Agricultural Company was provided unoccupied lands by the crown for the purposes of “cultivation and improvement of wastelands in the colony of New South Wales and other purposes amongst which was the production of fine merino wool as an article of export to Great Britain” (Carey 2006:12). The Peel River district was selected as an area suitable for these purposes.

Increasing presence of Europeans from the 1830’s had detrimental impacts for the Gamilaroi peoples inhabiting the Peel River region south of Tamworth (Carey 2006), with conflict and disease decimating the population (Carey 2006). The increasing agricultural cultivation forced groups to extend their subsistence practices further from the Peel River in pursuit of plant resources and game which had been driven further from the valley as a result of the expanding European settlements (Carey 2006).



7.1.3 Economy

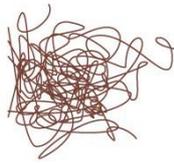
Early historical accounts record the strict division of land territories by Gamilaroi sub-groups, with some accounts of inter-group violence as a result of territory and resource based clashes, particularly after the intensification of European settlement (Wilson and McAdams 2000). A range of materials utilised by the Gamilaroi groups was recorded by Parker (1909); Mitchell (1839) and O'Rourke (1997). The stone tool element in the material culture included axes, though small and unspecialised flakes were also commonly noted (Balme 1986; Parker 1909; O'Rourke 1997), though to the Consultant's knowledge, little analysis of assemblages from this region has been conducted in any great deal. The resources of the Pilliga forests were used extensively in the technology of the Peel River region, which is heavily dependent on wood and bark fibre (Parker 1909). Timbers were used to manufacture spears, a variety of clubs, shields and boomerangs. Bark was also used for shelter. Parker (1909) Also documented is the fashioning of bone into fine needle like points which were used to craft water canteens from the skins of possum and kangaroo species.

Subsistence practices of the Aboriginals of the Tamworth area were based on the exploitation of both terrestrial and freshwater resources located within the landscape (Mitchell 1839; Parker 1909; O'Rourke 1997). Parker (1909) records the methods used to trap smaller game such as bird species, possums and pademelons included the crafting of netting from Kurrajong bark and Burraungah grass. Netting was used both actively and as part of snares (Parker 1909). Larger species, such as Kangaroo and Wallaby, were often stalked and herded in groups and taken by spears once surrounded by a hunting party, particularly during ceremonial gatherings (Parker 1909; Wilson and McAdams 2000).

Ethno historical records are largely directed towards descriptions of hunting techniques which employed large groups of people and obvious types of technology requiring demonstrable physical skills: the use of the woomera, spears, clubs, boomerangs and the like. The role of plant foods in the local economy is often understated or overlooked entirely. Parker (1909) accounts gathering activities including the raiding of emu nests, sourcing of honey from native bees and procuring thistle tops, pigweed and crowfoot, all of which were eaten raw. Parker also notes extensive seed exploitation and grinding activities (1909), where the seeds of *Sterculia* and other similar species were ground and made into cakes. She describes the grinding stones as similar to the "saddle-stone querns' occasionally found in ancient British sites" (Parker 1909).

6.2 Predictive Modelling- Previous Archaeological Assessments

The review of previous assessments has been particularly informed by the Wilson and McAdam (2000) study as part of the *Tamworth Aboriginal and Archaeological Study* in conjunction with the Tamworth LALC. The study included a review of all previous Aboriginal heritage/archaeological assessments, oral Aboriginal history and



historical data for the Tamworth region. These reports include Balme 1986, Byrne 1989, Griffiths 1995a, 1995b, Gaynor and Wilson 1995, 1998, Lovell and Jones 1996, McDonald 1998, McAdam 2000 and Everick 2014. A review of numbers of previous cultural heritage studies prior to the Wilson and McAdam report is not attempted here as those findings and their outcomes are included within the findings made by Wilson and McAdam. At that point, the year 2000, very few Aboriginal archaeological sites had been registered in the Tamworth region being composed of 8 isolated artefacts, 14 artefact scatters, 1 quarry and 2 Modified trees (Wilson and McAdam 2000: 50).

Of studies specific to the Project Area there are three prior to the current assessment. The first in 1996 (Lovell and Jones) in relation to the *Tamworth Effluent Irrigation Scheme*, assessed an area that appears to have included the Boltons Creek floodplain where it passes between the current assessment lands of Lots 6, 100 and 102. According to Wilson and McAdam, the Lovell and Jones report noted five (5) isolated artefacts and one (1) artefact scatter with little information as to the nature of the artefacts or their location.

A subsequent study by Gaynor and Wilson (1998) assessed virtually the same lands as the Lovell and Jones report, unaware of the previous study as there was no record of the report with the NSW NPWS and no site card details. Therefore Wilson and McAdam concluded that the details of site contents and four of the site locations remained unknown at the time of their report i.e. 2000. However according to the AHIMS search there are now four (4) artefact scatters and one (1) scarred tree in the area assessed by Lovell and Jones. Conversely these may not be the Lovell Jones sites as they are referred to as, five (5) isolated artefacts and one artefact scatter. As the site locations are not within the lands of the current Assessment the issue does not have a bearing on the current Oakburn Development Application.

The Gaynor Wilson study assessed a small portion of the *Oakburn* property for Baiada Pty Ltd recording three Aboriginal sites: three (3) isolated artefacts. These were located in a non-perennial branch of Boltons Creek to the east of the current Baiada Pty Ltd construction site (i.e. the existing Rendering Plant) on the Oxley Highway. The three artefacts were removed for analysis by Consent and not returned to their 'found' location. In effect the sites exist in name only, unless further Aboriginal materials were found in the same locations.

More recently Everick Heritage (2014) assessed for Aboriginal cultural heritage approximately 454 Ha of surrounding lands under the Glen Artney Industrial Development rezoning proposal. The study identified a number of Aboriginal sites the nearest being the artefact scatter # 29-2-0331 briefly described in Section 4.1.

Wilson and McAdam made a number of relevant predictive modelling statements for archaeological sites in the immediate Tamworth region, on the basis of their review of Aboriginal site types and their environmental contexts



recorded up to the year 2000. They found that (although note the results of the Everick 2014 assessment discussed below):

- All sites are within 400m of a water source and generally much closer.
- Modified trees and artefact scatters are usually within 150m of a water source. Modified trees are commonly found on white box, or red river gum.
- Larger sites that contain a greater number and variety of stone artefacts, are found near more permanent creeks and springs and /or rock pools.
- The most common artefact types are flakes, broken flakes, retouched flakes, flaked pieces and cores. Raw materials included chert, cherty argillite, hornfels, quartz, andesitic greywacke tuff and chalcedony (Wilson and McAdam 2000:60-61).

Their review of Aboriginal site contexts in a radius of 50 km of the Tamworth PO concludes with the following predictive model:

- The majority of Aboriginal archaeological sites are in areas of low slope in close proximity to water courses.
- Largest sites i.e. those containing >500 artefacts are near permanent rivers or creeks and contain a wider variety of artefacts.
- The second largest group of sites i.e. with <1000->150 artefacts are found on small tributaries with permanent holes or springs.
- A third group containing <150 artefacts are found on the upper reaches of intermittent creeks and tributaries.
- All Modified trees are within 100m of a water course produced on Moombi apple box, red gum, white box and bimbale box (Wilson and McAdam 2000:66-70).

Everick (2014a & 2014b) undertook cultural heritage due diligence studies of large tracts of land immediately south of Tamworth city, along Goonoo Goonoo Road and Duri Road respectively. Adopting a targeted survey strategy, Everick recorded twenty (20) sites in total. The majority of these sites were artefact scatters (10), located along ephemeral watercourses. However, expanding on Wilson and McAdam's (2000:66-70) research, four of these sites (2 scarred trees with associated artefact scatters, and two artefact scatters) were found between 500m and 1000m from the nearest water source. All four sites were located on a prominent ridge line adjacent to Duri Road, with high quality metamorphic cobbles scattered across the surface.



It was Everick's conclusion that these cobbles represented a local stone resource which was accessed for the production of stone tools. The high levels of ground disturbance across the ridge line, including evidence of rock picking and ploughing, meant that conclusions as to the intensity of use, or whether the ridge could be classified as a traditional 'quarry', could not be made. However, on the evidence there was a possibility that quarrying activities were occurring in this area.

In relation to existing development in the Tamworth City environs and future development options in the northwest Tamworth region, the report advances a number of predictive models. The most relevant to the current Oakburn Lands Assessment, is the section under *Areas of Future Investigation*. The following is a summary of the Wilson and McAdam conclusions.

- Aboriginal sites will predominately consist of isolated artefacts and artefact scatters on lower slopes close to water courses.
- Modified trees may be found within 100m of watercourses.
- Burials occur along watercourses.
- Ceremonial grounds may be found within 600 m of the ecotone between alluvial flats on water courses and red brown solodic soils on slopes and crests.
- Ongoing cultivation means high disturbance and the likelihood of undisturbed sites is highly unlikely. Therefore south of the Peel River, Aboriginal sites are most likely to consist of highly disturbed artefact scatters and the occasional scarred tree in cultivated areas. (Wilson and McAdam 2000:98-99).

Purcell (2000; 2002) conducted a regional cultural heritage assessment for the Brigalow Belt South Bioregion, which was presented as a report for NPWS. The report was conducted in two stages over a 52,409sq km survey area. On completion, 1940 Aboriginal sites were identified from Stage 1 and Stage 2 and 98 sites from an AGL gas pipeline survey that included the headwaters of Boltons Creek and Timbumburi Creek in the Tamworth region. In regard to predictive modelling for sites and their relationships to water the study found that 90% of sites were within 200-300m of a water source. The results for Stage 2 were consistent, with the addition that sites in floodplains of first order rivers were on average 400m from the watercourse (Purcell 2002:48-49).



6.3 Predictive Modelling-Potential Site Types: Aboriginal Archaeological Sites in the Tamworth Region

From the review of previous archaeological and cultural heritage assessments in the Tamworth region and beyond it is proposed that specific environment contexts including alluvial landforms, low hills, lower slopes and spurs, are likely to contain the majority of evidence of Aboriginal occupation. The following site types have been identified in the above contexts in the Tamworth region.

7.3.1 *Isolated Artefacts*

These will consist of single stone artefacts, which may have been randomly discarded or lost. They may occur in almost any environmental context exploited by Aboriginal people. They are commonly stone axes, single cores, hammer stones, pebbles, flakes and grinding stones and/or grooves. Their presence may indicate that more extensive scatters of stone artefacts exist or existed nearby, perhaps obscured by vegetation or dispersed by mechanical means. Predicting isolated artefacts that fall into a nonspecific category archaeologists refer to as 'background scatter' is not possible but are most likely within 300m of Boltons Creek to the north and an ephemeral tributary to the south east.

7.3.2 *Open Campsites/Artefact Scatters*

Scatters of stone tools, stone debris and possibly associated with bone and hearths. Their exposure to the elements means that evidence of food resources used on the site (with the exception of shellfish) is usually lacking. They consist of low or high density scatters of primary and secondary flakes in addition to the types of artefacts found as isolated finds. Artefact scatters may be associated with other features e.g. quarries, hearths, ground ovens, modified trees, rock shelters, ceremonial grounds. Open campsites may also contain burials when located on sand strata.

The review of predictive modelling from previous reports suggests artefact scatters may be found on lower slopes within a radius of up to 200-300 metres beyond the channels of Boltons Creek.

7.3.3 *Middens*

Shell middens are deposits of shell and other food remains accumulated by Aboriginal people as food refuse. Cupper describes inland NSW middens as typically comprising shells of the freshwater lacustrine mussel *Velesunio ambiguus* or the freshwater riverine mussel *Alathyria jacksoni*. Freshwater middens are most frequently found as thin layers or small patches of shell and often contain stone or bone artefacts and evidence of cooking. Such sites



are relatively common along the watercourses of the North West Slopes and their associated lakes and other wetlands (Landscape 2010: E24-27).

The Peel River and its tributaries have been a central landscape feature for the Aboriginal occupation of the Tamworth Region. The conditions for freshwater shellfish within the two stream channels no doubt exist. However there does not appear to be a report of midden sites in the Tamworth region to date.

7.3.4 Quarry Sites

The most well-known Aboriginal quarry in the Tamworth region is the 'Daruka' axe quarry in the upper reaches of Moore Creek where andesitic greywacke has been excavated from beds and fabricated and traded in blank form across the region and down the Darling River system. The Marengo quarry is in the same general area, where hornfels have been extracted from scree slopes below outcrops and fabricated. Other sources of siliceous types of stone are reported to be the pebble beds of the Peel River. There are no ridges or elevations that might contain exposures of bedrock or pebbles/gravels therefore it is highly unlikely that stone resources suitable for Aboriginal stone tool fabrication exist in the Project Area.

7.3.5 Modified Trees

Modified trees result from the removal of bark for use as covering, shields, containers or canoes. There may also be carved trees where the bark has been removed and geometric patterns incised on the tap wood in the vicinity of burials. No doubt, as an outcome of widespread intensive land clearing and natural causes their numbers are greatly diminished. The historical imagery does show that the configuration of trees within the Project Area has remained relatively unchanged since the 1950's.

Numerous modified trees have been located within the Tamworth region (Wilson and McAdam 2000). They are numerically the most common type of site after artefact scatters, to be recorded in the open plains and hills landscapes. If old growth trees survive, particularly within 100m of the watercourses there is a potential for modified trees. There have only been two trees that may be old growth trees within the Project Area these have been inspected in prior surveys and found not to contain Aboriginal modification.

7.3.6 Burials

Human burials are typically individual or small group internments which can usually be found in sandy soil substrates such as creek lines or within small rock crevices. Most of the known burials have been located by accidental means through mechanical disturbance or natural erosion.



Burials can be considered of very low potential to be located within the Project Area given the location of the long and high levels of ground disturbance. That being said, landscapes in areas immediately surrounding drainage lines have increased archaeological potential to contain burials, though the overall risk is very low. Additionally, natural erosion patterns within this landscape may have resulted in the displacement and destruction of these features.

7.3.7 Ceremonial Sites

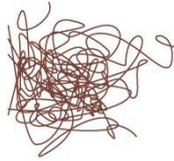
Ceremonial grounds are typically places identified by Aboriginal groups as places of importance which were visited by groups to mark or commemorate rites or other occasions. One such example is Bora grounds, earthen mounds crafted in a circular formation which were used for the purposes of ceremonial practices.

There is no previous record of the presence of a ceremonial site at the Project Area, nor knowledge in relation to such sites, conveyed by the TLALC during previous assessments undertaken in May 2014 and January 2015 (Everick 2015) or during the current assessment (Everick 2018).

7.3.8 Mythological Sites

These sites are natural features, which derive their significance from an association with stories of the creation and mythological heroes.

There is no previous record of Aboriginal mythological associations to the Project Area, nor knowledge in relation to such sites conveyed by the TLALC, during previous assessments undertaken in May 2014 and January 2015 (Everick 2015) or during the current assessment (Everick 2018).



7. FIELD SURVEY METHODS AND RESULTS

7.1 Aboriginal Community Participation

The Project Area is within the area administered for Aboriginal cultural heritage purposes by the Tamworth Local Aboriginal Land Council ('Tamworth LALC'). A survey for Aboriginal cultural heritage was conducted by Sites Officer of the Tamworth LALC Christopher Fermor, and Everick Heritage Consultant, Adrian Piper on June 6th 2018.

7.2 Survey Strategy and Conditions

The archaeological or scientific aim of the cultural heritage survey was to locate physical evidence of Aboriginal occupation within the Project Areas; the evidence of which is most commonly stone artefact scatters; individual (isolated) artefacts; shell debris and in clear ground situations traces of bone (human and animal) and ash-stained earth that might represent fireplaces. Woodland areas or isolated 'old growth' trees would be inspected for evidence of Aboriginal scarring due to bark removal or holes/notches cut into bark and tap wood.

It was also important to reassess for additional Aboriginal objects the locations of the previously registered Aboriginal sites Oakburn 1 (29-2-0076), Oakburn 2 (29-2-0077) and Oakburn 3 (29-2-0214). It is known that the three stone artefacts were removed from the property for research purposes (see Section 4.1) and apparently not returned to their place of origin. However there may have been changes by natural means or otherwise to the landscape that could have exposed additional Aboriginal heritage objects.

The field survey aimed to inspect the development proposal areas which were considered to have archaeological potential based on the predictive model from the review of previous studies and the results of the AHIMS search. As this assessment relates to a specific Development Application and relatively small development 'footprints' of approximately 13 Ha, a total coverage strategy was adopted. For the purposes of description the assessment lands were assessed as follows:

- Oakburn Processing Plant precinct;
- Internal connecting road from Workshop Lane access roundabout to the Processing Plant carpark and Rendering Plant;
- Access easement from/to Workshop Lane from the eastern Baiada boundary roundabout; and
- Rendering Waste Water Treatment Plant.

Ground coverage was achieved through pedestrian east west transects of approximately 16m by two persons over the new Processing Plant and car parking precinct. As the ground is level and almost bare for the majority of the



area, the transect width was effective for the recognition of Aboriginal objects. The internal connecting road was covered in the direction of the road by two passes in an easement width of 25m. Similarly the proposed access from Workshop Lane to the Baiada eastern boundary was covered in the same manner (Figure 13). It was the intention to achieve maximum coverage of the proposed Rendering Waste Water Treatment Plant, a series of tanked ponds, where visibility was high at the northern end where two ponds are shown but low for the remainder where only random search for exposed soils was possible.

7.3 Assessment Methods

The assessment methods aimed to inspect exposed ground surfaces as conditions would allow; to record any archaeological material found and assess its significance; and assess the potential for concealed Aboriginal archaeological sites. Photographs were taken as a record of general features and conditions and to document the degree of surface visibility. Notes were made of the degree of surface visibility, the area of visibility, ground cover, land uses and any other relevant features. A hand-held GPS (GDA 94 datum) is used to record locations of sites found, the extent of survey coverage except where fence lines, google and topographic mapping provided clear reference points. Mapping and plans used in this assessment were provided by PSA Consulting Australia Pty Ltd and represent the level of information provided to Everick Heritage and the TLALC.

Had any sites or Aboriginal objects been found their location would have been photographed, generally described and recorded with a GPS (WSG94 datum). A note would be made of artefact types and their numbers. General characteristics of the artefacts would be noted including; raw material type and condition; the degree of weathering and heat cracking; and the length, width and thickness of all or a sample number of artefacts. The details would be logged on standard OEH Site Recording Forms for registration with the OEH AHIMS.

In addition to assessing the cultural heritage potential of the Project Area, the survey aimed to confirm the interpretation of the nature and degree of ground disturbance observed in the 1953 historical aerial photograph and obvious construction and infrastructure development post the 2015 assessment. The desktop aerial imagery review concluded the Project Area would be a highly disturbed landscape (Section 5.2).

7.3 Constraints to Site Detection-disturbance history

An assessment of the constraints to site detection is made to assist in formulating a view as to the effectiveness of the field inspection to find Aboriginal sites and cultural materials. It also assists in the forming of a view of the likelihood of concealed sites keeping in mind a site specific knowledge of the impacts that European land uses and natural processes may have had on the 'survivability' of Aboriginal sites in an Project Area. The constraints to site detection are almost always most influenced by post European settlement land uses and in some areas by natural



erosion processes. The area of surface exposure and the degree of surface visibility within exposed surfaces are usually the product of 'recent' land uses e.g. ploughing, road construction, natural erosion and accelerated (manmade) erosion (McDonald et al 1990:92).

All of the land within the Baiada boundary has been subject to a high degree of historical and recent ground disturbance. Aerial imagery indicates that all of the lands subject to this Development Application has been cultivated prior to 1953 and following. No doubt as would be normal practice, agriculture alternated with grazing. These activities may have the effect of dispersing Aboriginal campsites of stone, shell and fireplaces (hearths) from their original context or 'setting' thus diminishing their scientific significance. If the common practice of ring barking was undertaken in the early years of the Oakburn property it is likely that numbers of Aboriginal scarred trees were destroyed. As the property is devoid of old growth trees with possibly two exceptions it is reasonable to conclude intensive tree clearing has taken place. Repeated ploughing will also disperse stone artefacts both laterally and vertically reducing the scientific 'integrity' of the sites. However this does not necessarily diminish their cultural significance to Aboriginal Sites Officers and other Aboriginal parties.

In the modern era post nineteen nineties the Baiada holding of the former Oakburn property, has largely been levelled and scraped by mechanical means. All trace of the former homestead, yards, out buildings, fencing, dam, trees etc. has been removed. A large flat mound on the north western side of the Baiada entrance is the approximate position of the former homestead. The three Aboriginal sites recorded on the property were recorded prior to the removal of the homestead and surrounding infrastructure, therefore ground conditions around the locations of the three sites today are no doubt markedly different to those of 1997 when they were recorded. All three sites were described as "...located on almost level ground associated with an old cultivation paddock..." (AHIMS Site cards Appendix B).

Since the property has become a Baiada Pty Ltd site the Rendering Plant and associated Waste Water Treatment Plant, internal roads, filtration ponds and utilities have been constructed resulting in the removal and respreading of sub soils. Given the Project Area is only 57.6 Ha and taking into account historical ground disturbances through pastoral and agricultural practices and modern construction ground disturbance, it is reasonable to state that land uses have been intensive over time and would be highly destructive to Aboriginal sites had they existed. It is also the case that three prior cultural heritage assessments (1996, 1998, and 2014) over the former Oakburn property have not found additional Aboriginal objects to those detailed in Section 4.1 and Section 6.2.



7.4 Survey Units

The field assessment was organised around the specific features of the Development Application and inspections of the locations of the Oakburn AHIMS sites (Figure 4, Figure 5 and Figure 6). A summary of the landscape features and broad disturbance types are listed in Table 2. The assessment was primarily focussed on a low slope 'Plain' type landform which had been extensively cleared and cropped (Figure 7-Table 2).

Table 2: Summary of Environment and Ground Disturbance for Survey Units.

<i>Survey Unit</i>	<i>Environmental Description</i>	<i>Ground Disturbance Summary</i>
Processing Plant and Location of Oakburn 1	Plain	Total clearing, cultivation, grazing, and demolition of Oakburn infrastructure, mechanical scraping and regular slashing.
Rendering Waste Water Treatment Plant	Plain	Total clearing, grazing, cultivation, possible occasional slashing.
Road to Workshop Lane access Roundabout from Processing Plant	Plain	Total clearing, grazing, cultivation, mechanical scraping, and regular slashing.
Road from Workshop Lane access Roundabout to Rendering Plant Store Workshop	Plain	Total clearing, grazing, cultivation, construction earthworks respread soils, regular slashing.
Location of Oakburn 2 and 3	Plain	Total clearing, grazing, cultivation, mechanical scraping and regular slashing.
Workshop Lane easement to internal roundabout	Plain	Clearing, grazing, cultivation.

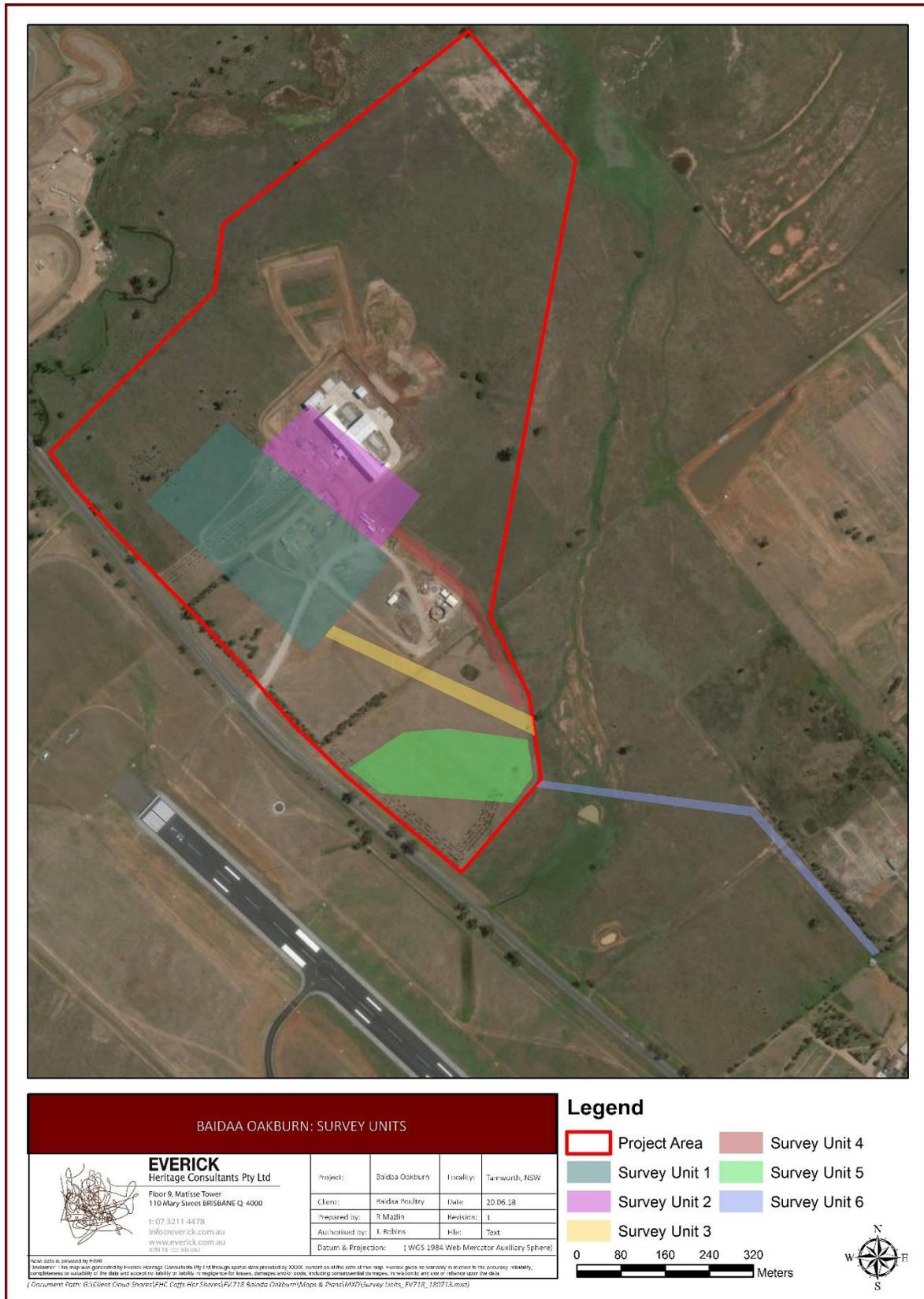
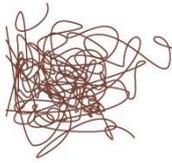


Figure 6: Location of archaeological survey units.

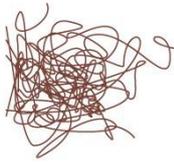


Figure 7: Survey Unit 1 survey unit. Processing Plant site. High surface visibility.



Figure 8: Survey Unit 1. Processing Plant view west.



Figure 9: Unit 2 survey unit. Rendering Plant Waste Water Treatment Plant looking west.



Figure 10: Survey Unit 3. Internal road between Processing Plant to eastern roundabout.

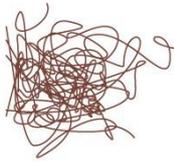


Figure 11: Survey Unit 4. Internal road to Rendering Plant from eastern roundabout.



Figure 12: Oakburn Rendering Plant and bitumen access.



Figure 13: Survey Unit 6. Workshop Lane Access Easement view north west.



Figure 14: Survey Unit 6 Workshop Lane Access Easement view north-west to Baiada south eastern boundary.



7.6 Ground Surface Visibility

Ground Surface Visibility (GSV) is a measure of how much ground surface (or bare earth) can be seen at the time of an archaeological survey. It is usually worked out as a percentage (%) of the overall Project Areas, although it can also be worked out as a range when GSV changes dramatically within the Project Areas. For this assessment, GSV was worked out by assessing a 1 m x 1 m area and inferring how much ground surface was seen within that. This gave a percentage of GSV within the square, which was extrapolated to an entire Project Area – so long as the ground conditions did not fundamentally change.

Table 3 and Table 4 present information on the extent to which survey data provides sufficient evidence for an evaluation of the distribution of archaeological materials across the study area. The evaluation of survey coverage provides a measure of the potential for each of the landform elements to reveal archaeological evidence. The calculations in Table 1 do not provide an exact percentage of area but a reasonable estimate of ground available for sampling.

Table 3: Survey Coverage.

<i>Survey Unit</i>	<i>Landform</i>	<i>Survey Unit Area (sq. m)</i>	<i>Visibility (%)</i>	<i>Exposure (%)</i>	<i>Area Effectively Surveyed (sq. m)</i>	<i>Effective coverage %</i>
1	Plain	60490	5	85	46274	76.5
2	Plain	9990	95	5	30	0.25
3	Plain	880	70	85	710	80.75
4	Plain	850	90	25	149	17.5
5	Plain	10750	95	85	8224	76.5
6	Plain	10870	70	25	1902	17.5

Table 4: Landform summary- sampled area.

<i>Landform</i>	<i>Landform Area (sq. m)</i>	<i>Area effectively surveyed (sq. m)</i>	<i>% of landform effectively surveyed</i>	<i>Number of sites</i>	<i>Number of artefacts or features</i>
Plain	93860	57494	61	0	0



8. RESULTS

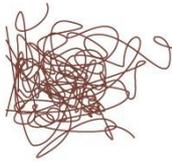
8.1 Aboriginal Heritage

As a result of the desktop study and field inspection the following conclusions were established with Sites Officer Christopher Fermor of the Tamworth LALC.

- h) No Indigenous cultural heritage sites or objects were identified within the lands subject to the Baiada Pty Ltd Oakburn Development Application.
- i) It is understood that site previously identified with the Project Area have been subject to salvage under a AHIP.
- j) Consultation with Tamworth LALC through the Sites Officer found no places or desktop history of Aboriginal 'intangible' cultural heritage on the site or association with spiritual or mythological stories or places elsewhere.
- k) The Project Area was found to be highly disturbed in a manner which constitutes 'disturbance' within the meaning of the Due Diligence Code and is consistent with the Due Diligence Code.
- l) The high degree of disturbance with regular slashing over the proposed Processing Plant including carpark and roads has allowed for high levels of ground visibility and extensive areas where the surface is clearly visible, which lead to a high degree of confidence in the effectiveness of the survey and the conclusion as to the absence of Aboriginal cultural heritage.
- m) Due to the effectiveness of the survey it is believed that there are no areas considered to contain potential archaeological deposits of significant Aboriginal heritage, such that they warrant additional archaeological investigation or in-situ conservation as a heritage protection zone.
- n) The proposed route of the Workshop Lane easement has been positioned to avoid any channelling of the Boltons Creek tributary thus diminishing the likelihood of encountering subsurface Aboriginal objects such as artefacts.

8.2 Historic heritage

There were no items of historic heritage found during the site inspection.



8.3 Discussion

Having consideration for the previous archaeological assessments, the site inspection, consultation with Tamworth LALC and taking into account historical ground disturbances through pastoral and commercial activities it is reasonable to conclude that the Proposed works are unlikely to cause additional destructive impacts to Aboriginal sites or objects. The previously recorded sites comprise three isolated artefacts which have been removed off site.

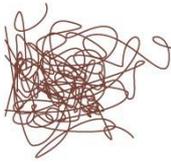
The predictive model developed by previous studies proposed, that there may be a higher potential for sites with large numbers of stone artefacts within 200-300m of Boltons Creek beyond the boundaries of the Project Area. However this was not supported by the current site inspection. Boltons Creek is ephemeral in nature and the lack of permanent water may account for the lack of intensively used campsites. The three artefacts once found in the Project Area represent a low level of discard typical of what archaeologists call 'background scatter' of which as the name implies there is no specific means of predicting their whereabouts.

The known sites in Boltons Creek at least, are within the stream flow zone which may suggest that beyond the immediate flow zones, land uses have removed all other cultural heritage evidence. High degrees of disturbance through clearing, stock trampling and intensive cultivation can be expected to have had a major destructive impact upon ground sites making it highly unlikely that 'in situ' and therefore scientifically significant sites will have survived if they had existed. Added to the disturbance scenario is the total removal of all trace of the original Oakburn homestead precinct and the earthworks associated with the construction of the Rendering Plant.

The very high percentages of Survey Coverage (Table 3) allow conclusions to be made as to an absence of Aboriginal cultural heritage with confidence. The high proportions of ground surface effectively surveyed produced unusually high effective coverage percentages between 60% and 80% over most of the Development Application features particularly the proposed Processing Plant. The drought conditions were a contributing factor to the high levels of ground surface visibility and therefore to the outcome of an effective coverage.

8.4 Historic Cultural Heritage

No items or places of potential historic heritage significance were located within the Project Area therefore a Historic cultural heritage significance assessment is not warranted.



8.5 Secretary's Environmental Assessment Requirements.

8.5.1 *An assessment of Aboriginal and non-Aboriginal heritage items and values of the site and surrounding area in accordance with the relevant Office of*

The assessment has been completed using the *Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales* (OEH 2010). A Statement of Heritage Impact was not completed on the grounds that no items of local historic significance were identified during the assessment.

8.5.2 *A locality/ context plan showing heritage items.*

A map showing the location of known heritage items is provided in Figure 3.

8.5.3 *Compliance with Heritage guidelines.*

The assessment has complied with the following guidelines;

- *Code of Practice for Archaeological Investigations of Aboriginal Objects in NSW* (OEH, 2010)
- *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011).

The report has not considered the following guidelines on the grounds that the Proponent is not intending on applying for an Aboriginal Heritage Impact Permit;

- *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (OEH 2010).

However, it is noted that the assessment was undertaken in consultation with the Tamworth LALC who provided the following;

- Advice on previous archaeological studies;
- Advice on potential intangible cultural values; and
- Verification of the adequacy of the archaeological assessment.

The report has not considered the following guidelines on the grounds that historic items of local significance were not identified during the study;

- *NSW Heritage Manual* (Heritage Office 1996);
- *The Burra Charter* (Australian ICOMOS 2013);
- *Statements of Heritage Impact* (Heritage Office 2002)



8.5.4 Documentation in the form of an Aboriginal Cultural Heritage Assessment Report.

The assessment has been structured as an Aboriginal Cultural Heritage Assessment only as the proponent is not intending to apply for an Aboriginal Heritage Impact Assessment.

8.5.5 Consultation with Aboriginal people must be undertaken and documented in accordance with the Aboriginal cultural heritage consultation requirements for proponents 2010 (OEH).

Consultation in accordance with the consultation requirements was not undertaken as the Proponent is not applying for an AHIP.

8.5.6. Demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes.

The assessment has determined that the Proposed Works will not impact on Aboriginal objects or an Aboriginal place. As such, the primary management response has been the implementation of a Finds Procedure (see below). In this instance additional investigation has not been considered necessary given the nature and extent of known heritage from previous studies.

8.5.7. Historic heritage.

The assessment did not identify any items of State or local historic significance and as such a Statement of Heritage Impact has not been completed.



9. RECOMMENDATIONS

The Consultant is of the opinion that the proposed Processing Plant, ancillary works and Workshop Lane access construction will not impact on Aboriginal objects. As a precautionary measure the following recommendations are provided.

Recommendation 1: Additional Investigation

Having consideration for the extent of historic ground disturbance and the results of the previous and current archaeological investigation, it is not considered that test pit excavations would result in a significant change to the outcomes of the cultural heritage assessment.

Recommendation 2: Aboriginal Objects Find Procedure

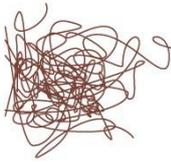
It is recommended that if suspected Aboriginal material has been uncovered as a result of development activities within the Project Area:

- a) work in the surrounding area is to stop immediately;
- b) a temporary fence is to be erected around the site, with a buffer zone of at least 10 metres around the known edge of the site;
- c) an appropriately qualified archaeological consultant is to be engaged to identify the material; and
- d) If the material is found to be of Aboriginal origin, the Aboriginal community is to be consulted in a manner as outlined in the OEH guidelines: *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (2010).

Further, it is recommended that Aboriginal sites monitors from Tamworth LALC are engaged to support the Finds Procedure for the initial ground works as they affect the topsoil with the potential to contain Aboriginal Objects.

Recommendation 3: Aboriginal Human Remains

Although it is unlikely that Human Remains will be located at any stage during earthworks within the Project Area, should this event arise it is recommended that all works must halt in the immediate area to prevent any further impacts to the remains. The Site should be cordoned off and the remains themselves should be left untouched. The nearest police station (Tamworth), the Tamworth LALC and the OEH Regional Office (Coffs Harbour) are all to be notified as soon as possible. If the remains are found to be of Aboriginal origin and the police do not wish to investigate the Site for criminal activities, the Aboriginal community and the OEH should be consulted as to how the remains should be dealt with. Work may only resume after agreement is reached between all notified parties, provided it is in accordance with all parties' statutory obligations.



It is also recommended that in all dealings with Aboriginal human remains, the Proponent should use respectful language, bearing in mind that they are the remains of Aboriginal people rather than scientific specimens.

Recommendation 4: Notifying the OEH

It is recommended that if Aboriginal cultural materials are uncovered as a result of development activities within the Project Area, they are to be registered as Sites on the AHIMS, managed by the OEH. Any management outcomes for the site will be included in the information provided to the AHIMS.

Recommendation 5: Conservation Principles

It is recommended that all effort must be taken to avoid any impacts on Aboriginal Cultural Heritage values at all stages during the development works. If impacts are unavoidable, mitigation measures should be negotiated between the Proponent, OEH and the Aboriginal community.



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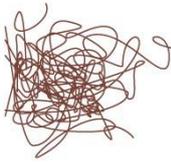
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Wilson, J.M. and
McAdam, L. 2000.

The Tamworth Aboriginal/Archaeological Site Study. Report Prepared for the
Tamworth City Council, Northern NSW.



APPENDIX A: AHIMS SEARCH RESULTS



Office of
Environment
& Heritage

AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref/PO Number : EV.718

Client Service ID : 348963

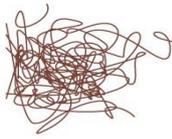
SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
29-2-0076	Oakburn 1	AGD	56	293800	6560750	Open site	Valid	Artefact : -	Isolated Find	103183
	<u>Contact</u>	<u>Recorders</u>	J.M Wilson.Archaeological Surveys & Salvage ,Mr.Richard Kelly							
	<u>Permits</u>	1139								
29-2-0077	Oakburn 2	AGD	56	294200	6560450	Open site	Valid	Artefact : -	Isolated Find	103183
	<u>Contact</u>	<u>Recorders</u>	J.M Wilson.Archaeological Surveys & Salvage ,Mr.Richard Kelly							
	<u>Permits</u>	1139								
29-2-0129	Boltons Creek 1	AGD	56	293313	6560814	Open site	Valid	Artefact : 15		97360
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson							
	<u>Permits</u>									
29-2-0130	Boltons Creek 2	AGD	56	293555	6561168	Open site	Valid	Artefact : 28		97360
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson							
	<u>Permits</u>									
29-2-0131	Boltons Creek 3	AGD	56	293570	6561459	Open site	Valid	Artefact : 4		97360
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson							
	<u>Permits</u>									
29-2-0132	Boltons Creek 4	AGD	56	294039	6561643	Open site	Valid	Artefact : 141		97360
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson							
	<u>Permits</u>									
29-2-0133	Boltons Creek ST 1	AGD	56	293508	6561076	Open site	Valid	Modified Tree (Carved or Scarred) : 1		
	<u>Contact</u>	<u>Recorders</u>	Janice Wilson							
	<u>Permits</u>									
29-2-0214	Oakburn 3	AGD	56	294100	6560650	Open site	Valid	Artefact : 1		103183
	<u>Contact</u> T Russell	<u>Recorders</u>	Archaeological Surveys & Salvage							
	<u>Permits</u>									
29-2-0331	Boltons Creek 01	GDA	56	294105	6561724	Open site	Valid	Artefact : -		
	<u>Contact</u>	<u>Recorders</u>	Mr.Adrian Piper							
	<u>Permits</u>									

Report generated by AHIMS Web Service on 04/06/2018 for Pauline Fowler for the following area at Lot : 100, DP:DP1097471 with a Buffer of 1000 meters. Additional Info : Site location.

Number of Aboriginal sites and Aboriginal objects found is 9

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

Page 1 of 1



APPENDIX B: AHIMS SITE CARDS

OAKBURN 1 (#29-2-0077)

[X] New recording [] Additional Info

RECEIVED NPWS
 ? - FEB 1998
 Cultural Heritage Services Division

National Parks and Wildlife Service
 Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444
 Standard Site Recording Form Revised 5/88

1:250,000 map sheet: TAMWORTH NPWS Code: 29-2-0077

AMG Grid reference: 294200 mE 6560450 mN
Full reference - please include leading digits

Scale of map used for grid reference: 25K 50K 100K 250K
Please use largest scale available

1:25K, 50K, 100K map name: TAMWORTH 1:250K 9035-1-N 2LF0

HEAD OFFICE USE ONLY:
 NPWS Site no: 29-2-
 Site types: _____
 Accessioned by: _____ Date: _____
 Data entered by: _____ Date: _____
 Owner/Manager: TAMWORTH CITY COUNCIL
 Address: PO BOX 555 TAMWORTH 2340

Site name: OAKBURN 2 Locality/property name: OAKBURN
 NPWS District: COFF'S HARBOUR Region: NORTHERN

Reason for investigation: SURVEY OF PROPOSED RENDERING SITE FOR "BAIADA POULTRY LTD" OF TAMWORTH OCT 1997
PJ GAYNOR & JM WILSON

Portion no: 432 Parish: _____
 Photos taken? YES
 How many attached? 1

Barcode: 29-2-0077

How to get to the site (refer to permanent features, give best approach to site eg. from above, below, along cliff)
(Draw diagram on separate sheet)
TAKE OXLEY HIGHWAY FROM WEST TAMWORTH, GO PAST LAWN CEMETARY NEXT PROPERTY ON RIGHT IS OAKBURN! THIS OPPOSITE THE WESTERN END OF THE TAMWORTH AIRPORT. APPROXIMATELY 9.125 KM FROM TAMWORTH P.O. (SEE ATTACHED MAP FOR ARTEFACT POSITION)

Other sites in locality? YES Site Types include: OPEN ARTEFACT SCATTERS
 Are sites in NPWS Register? NO - ALTHOUGH MENTIONED IN REPORT "AN ARCHAEOLOGICAL SURVEY OF THE TAMWORTH SEWAGE EFFLUENT IRRIGATION SCHEME"

Have artefacts been removed from site? NO When? _____
 Why? _____ Deposited where? _____

Is site important to local Aborigines? YES
 Give contact(s) name(s) + address(es): _____

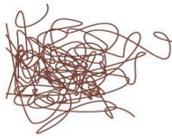
Contacted for this recording? MR ALLAN KELLY - REPRESENTING THE TAMWORTH LOCAL ABORIGINAL LAND COUNCIL 123 MARIUS ST TAMWORTH 2340
(Attach additional information separately) If not, why not?

Verbal/written reference sources (including full title of accompanying reports)
THE ARCHAEOLOGICAL SURVEY OF THE PROPOSED RENDERING SITE ON "OAKBURN" OXLEY HIGHWAY TAMWORTH NSW OCT. 1997
PJ GAYNOR & JM WILSON

Checklist: Condition of site OLD CULTIVATION PADDOCKS NOW GRAZING SOME SHEET EROSION. ARTEFACT WOULD HAVE BEEN MOVED AROUND SINCE 1910.
 surface visibility _____
 damage/disturbance/ threat to site _____

Recommendations for management & protection (attach separate sheet if necessary):
COLLECTION OF ARTEFACT & BE STORED AT TAMWORTH LOCAL ABORIGINAL LAND COUNCIL KEEPING PLACE. ARTEFACT'S SOURCE TO BE INVESTIGATED.

Site recorded by: PJ GAYNOR, JM WILSON, ALLAN KELLY Date: 28/6/97
 Address/institution: 25 UCCA ST TAMWORTH 123 MARIUS ST TAMWORTH 2340



6 Site Recording (a glossary of technical terms has been attached as Appendix 1)

6.1 Site Details "Oakburn 1"

<u>Map Reference:</u> Tamworth 1:25000	9035-I-N Second Edition
<u>Grid Reference:</u> E293800 N6560750	<u>Site Type:</u> single artefact
<u>Artefact type:</u> broken retouched flake	<u>Raw Material(s):</u> quartzite or silcrete
<u>Landform:</u> gentle slope	<u>Resource Zone:</u> Open grassland (old cultivation)
<u>Local Outcrop(s):</u> andesitic greywacke	<u>Visibility:</u> 100%
<u>Present Land Use:</u> grazing	<u>Geomorphic Processes:</u> erosion
<u>Past Land Use:</u> farming and grazing	<u>Nearest permanent water:</u> 625 m Boltons Creek

Comments:

The artefact is the proximal end of a broken retouched flake. The surface of this artefact is quite patinated making identification of the raw material extremely difficult. The raw material is extremely fine grained and creamy white in colour. Under magnification, the raw material appears to be either a fine grained quartzite or a silcrete. Both of these raw materials are very rare in sites in the Tamworth District. Residues were observed on both the ventral and dorsal surfaces of the artefact.

Technical Details :

length - 16mm, width - 16 mm, thickness - 6 mm.

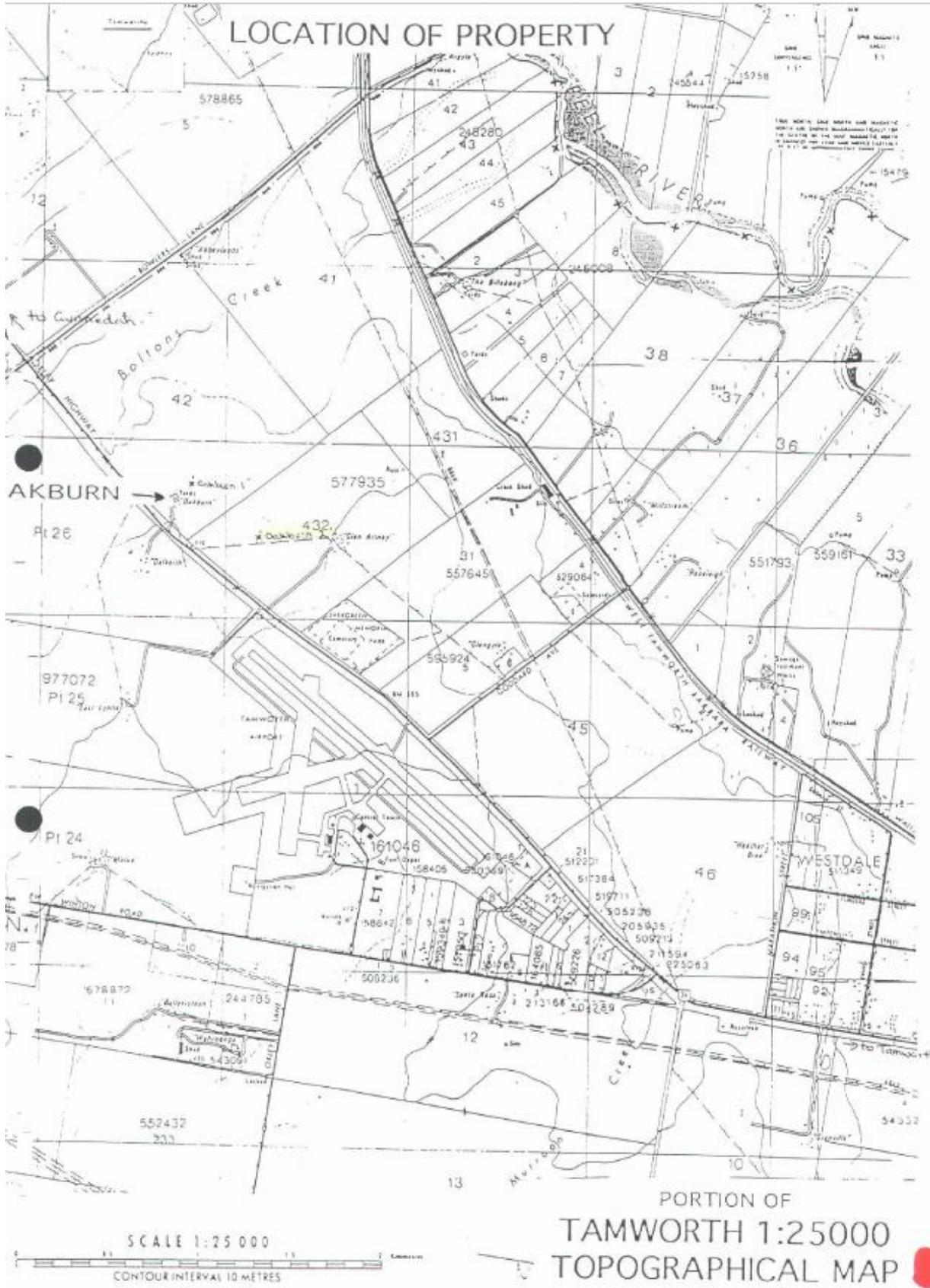
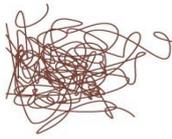
Retouched on the left lateral margin. Retouch initiated from the ventral surface. Possible use-wear on the right lateral margin. Platform has three flake scars on its surface indicating the core from which the flake was removed had been rotated. The flake termination is missing due to a transverse snap. There is no cortex remaining on the artefact.

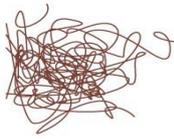
6.2 Site Details "Oakburn 2"

<u>Map Reference:</u> Tamworth 1:25000	9035-I-N Second Edition
<u>Grid Reference:</u> E294200 N6560450	<u>Site Type:</u> isolated artefact
<u>Artefact type(s):</u> axe/axe blank	<u>Raw Material(s):</u> andesitic greywacke
<u>Landform:</u> gentle slope	<u>Local Outcrop(s):</u> andesitic greywacke
<u>Resource Zone:</u> Open grassland	<u>Visibility:</u> 20%
<u>Geomorphic Processes:</u> cultivation	<u>Present Land Use:</u> grazing
<u>Past Land Use:</u> farming and grazing	<u>Nearest permanent water:</u> 1000m Boltons Creek

Comments:

This artefact was highly patinated and extremely weathered with magnesium staining (indicating a lengthy time in contact with the soil). The degree of weathering of the artefact's surface made it impossible to discern if it had ever been used as an axe or if it had been lost or discarded prior to being used. It had never been edge-ground. The axe/blank had been bifacially flaked and was



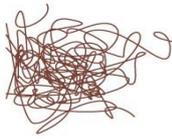


SURVEY AREA

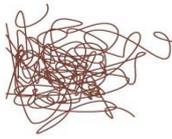


FIGURE 2

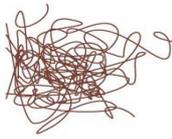
28



Andesitic greywacke axe/blank located in Paddock 4



<p>Site name: Oakburn 2 29-2-0077</p>	<p>Site Location: North-east of Oxley Highway, opposite the western end of the Tamworth Airport, approximately 9.125 kms from the Tamworth Post Office, N.S.W.</p>
<p>Site type: Isolated find</p>	<p>Map reference: Tamworth 1:25,000 9035-1-N AMG reference: 294200E 6560450N</p>
<p>Artefact types: axe/axe blank Artefact No.: 1 Raw materials: andesitic greywacke</p>	<p>County: Parry Parish: Murroon Land status: Freehold Zoning: Rural Portion: 432</p>
<p>Site Description: Site area: N/A Altitude: 380 masl; Slope: <1° Aspect: North-north-east</p>	<p>Geographic context: The site was located on a very gentle northerly facing slope.</p>
<p>Site condition/disturbance factors: The artefact was located in an old cultivation paddock that had been subject to ploughing since 1910. At the time of the artefact's recording the area was used for grazing.</p>	<p>Visibility on site: 20% Visibility off site: Varied 5-100% averaging 25% Site area determined by: artefact visibility--only large artefacts could be seen in the long grass.</p>
<p>Water sources/distance from site: Permanent: Peel River - 2.75 kilometres to the north-east Intermittent: Boltons Creek is 800 metres to the north-west of the site; and 80 metres west of a north flowing tributary of the Peel. Springs, swamps, soaks: There is an old well in Boltons Creek 1000 metres to the north - possibly built on a spring. The area around the spring is now a swamp, however, whether the swamp is the result of European land-use activities or a natural feature is unknown.</p>	<p>How was site located? Site was located during an archaeological salvage of artefacts from the proposed Baiada rendering site on "Oakburn", Oxley Highway, Tamworth, N.S.W. Are there other sites within 500 m: Yes If so, what type of sites?: Isolated finds</p>
<p>Vegetation: Grassland Wiregrass, barbed-wire grass, thistles (saffron, star, variegated), Bathurst burrs, dock, medics, white box, peppercorn trees, white cedars, tall plains grass, soft roly poly and rats tail grass. Probable resource zone prior to European impact: Open woodland</p>	<p>Local Aboriginal resources and their uses: Andesitic greywacke can be used for stone tool manufacture.</p>



<p>Site name: Oakburn 2 (cont.)</p>	<p>Site Location: North-east of Oxley Highway, opposite the western end of the Tamworth Airport, approximately 9.125 kms from the Tamworth Post Office, N.S.W.</p>
<p>Fauna: None sighted but fauna would at least have included kangaroos, emus, goannas, echidnas and snakes in pre-European times.</p>	<p>Soils and geology: During the actual survey of "Oakburn" no rock outcrops were observed, however, loose scree of both andesitic greywacke and argillite were observed. Soils derived from andesitic greywacke and argillite are generally red-brown in colour. The soils observed in this survey fit this description.</p>
<p>Present land use: Cattle pastures Past land use if known: Cultivation</p>	<p>Source(s) for further information: Gaynor, P. J. and Wilson, J.M. 1997. The Archaeological Survey of the Proposed Rendering Site on "Oakburn" Oxley Highway, Tamworth, N.S.W. A Report prepared for EES Pty Ltd Tamworth, N.S.W. on behalf of Baiada Poultry Pty Ltd. Gaynor, P.J. and Wilson, J.M. 1999. Report on the Collection and Analysis of Aboriginal Stone Artefacts from the Proposed Rendering Plant Site on the Property "Oakburn" Tamworth. A Report prepared on behalf of Baiada Poultry Pty Ltd.</p>
<p>Aboriginal significance of site: High Reference: Allen Kelly (representative of the Tamworth Local Aboriginal Land Council)</p>	<p>Archaeological significance of site: The teaching significance and research potential of the artefact is high as thin sectioning of the artefact could provide information related to Aboriginal movement in the area. Reference: Janice Wilson, Allen Kelly and Patrick Gaynor</p>
<p>Recommendations for conservation/preservation: Artefact has been collected for laboratory analysis (Gaynor and Wilson 1999).</p>	<p>Recorded by: Patrick Gaynor & Janice Wilson Affiliation(s): Gaynor & Wilson, Archaeological Consultants Date: 28.6.1997</p>

Additional site information:

Plate 78 (over leaf) presents the axe blank found at the site, and Plate 79 (over leaf) is a photograph of a thin section taken from the artefact for laboratory analysis. For site location see Appendix 1, Map 1.

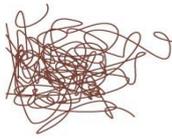


Plate 78 Metamorphosed mudstone (hornfels) axe blank from the Oakburn 2 isolated find site

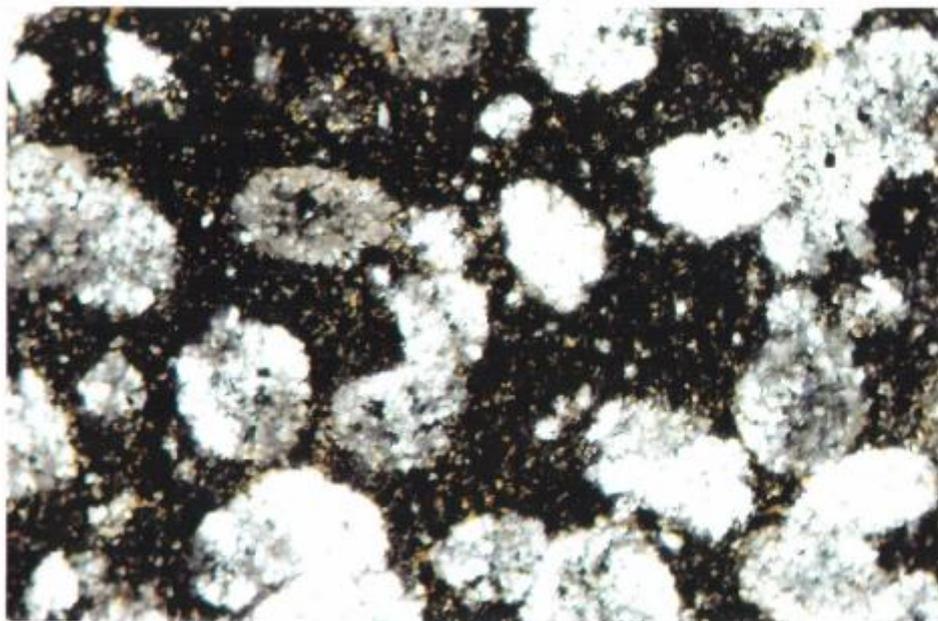
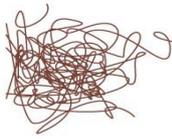


Plate 79 Thin section of the above axe blank using cross polarised light. Magnification is by 10. Area photographed is 10 mm x 6.7 mms.



OAKBURN 2 (#29-2-0076)

[X New recording] [Additional Info]

RECEIVED NPWS
7 - FEB 1998
Cultural Heritage Services Division

National Parks and Wildlife Service
Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444
Standard Site Recording Form Revised 5/88

1:250,000 map sheet: TAMWORTH NPWS Code

AMG Grid reference 293700 mE 6560750 mN
Full reference - please include leading digits
25K 50K 100K 250K
Scale of map used for grid reference [M] 25K, 50K (preferred) [] 100K [] 250K
Please use largest scale available

1:25K, 50K, 100K map name: TAMWORTH 1:25000 9035-1-N 2ND ED.

HEAD OFFICE USE ONLY:
NPWS Site no: 29-2-0076
Site types:
Accessioned by: _____ Date: _____
Data entered by: _____ Date: _____
Owner/Manager: TAMWORTH CITY COUNCIL
Address: P.O. Box 555 TAMWORTH 2340

Site name: OAKBURN 2 (SINGLE ARTIFACT) Locality/property name: OAKBURN
NPWS District: WARRIORS HARBOUR Region: NORTHERN

Reason for investigation: SURVEY OF PROPOSED RENDERING SITE FOR BAIADA POULTRY, PTY LTD OF TAMWORTH. OCT 1997
PJ GAYNOR & JIM WILSON.

Portion no: 42
Parish: MURROON

Photos taken? YES
How many attached? 1

How to get to the site (refer to permanent features, give best approach to site eg from above, below, along cliff. (Draw diagram on separate sheet).
TAKE OXLEY HIGHWAY FROM WEST TAMWORTH. GO PAST GARDEN CEMETERY. NEXT PROPERTY ON RIGHT IS "OAKBURN". THIS IS OPPOSITE THE WESTERN END OF THE TAMWORTH AIRPORT APPROXIMATELY 9.125 KM FROM TAMWORTH P.O.

Other sites in locality? YES Site Types include: OPEN ARTIFACT SCATTERS
Are sites in NPWS Register? NO - ALTHOUGH MENTIONED IN REPORT - AS A RESULT OF AN ARCHAEOLOGICAL SURVEY OF THE TAMWORTH SEWER EFFLUENCE IRRIGATION SCHEME
Have artefacts been removed from site? NO When? _____
by whom? _____ Deposited where? _____

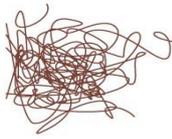
Is site important to local Aborigines? YES
Give contact(s) name(s) + address(es):
Contacted for this recording? MR ALLAN KELLY - REPRESENTING TAMWORTH LOCAL ABORIGINAL LAND COUNCIL. 123 MARIUS ST TAMWORTH 2340
(Attach additional information separately) If not, why not?

Verbal/written reference sources (including full title of accompanying report) NPWS Report Catalogue #
THE ARCHAEOLOGICAL SURVEY OF THE PROPOSED RENDERING SITE ON "OAKBURN" OXLEY HIGHWAY TAMWORTH NSW. OCT. 1997
PJ GAYNOR & JIM WILSON

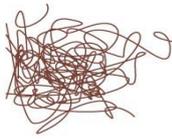
Checklist: Condition of site: OLD CULTIVATION Paddock, NOW (GRAZING) BUT BEEN CULTIVATED SINCE 1910, SO ARTIFACT HAS BEEN MOVED AROUND CONSIDERABLY.
surface visibility, damage/disturbance/ threat to site

Recommendations for management & protection (attach separate sheet if necessary)
COLLECTION OF ARTIFACT AND BE ULTIMATELY STORED AT THE KEEPING PLACE OF THE TAMWORTH LOCAL ABORIGINAL LAND COUNCIL. ARTIFACT TO BE TESTED FOR RESIDUES

Site recorded by: PJ GAYNOR, JIM WILSON, ALLAN KELLY Date: 28/6/97
Address/institution: Pt Jw (SVERAST TAMWORTH 2340) AK (C/O TAMWORTH LOCAL ABORIGINAL LAND COUNCIL 123 MARIUS ST TAMWORTH



SITE POSITION & ENVIRONMENT		OFFICE USE ONLY: NPWS site no:
1. Land form a. beach/hill slope/ridge top, etc: <u>GENTLE SLOPE</u>		b. site aspect: <u>360°</u> c. slope: <u>>1°</u>
d. mark on diagram provided or on your own sketch the position of the site:		e. Describe briefly: <u>SINGLE BROKEN RETOUCHED FLAKE</u>
		
f. Local rock type: <u>GREYWATCKE</u>		g. Land use/effect: <u>GRAZING FORMALLY CULTIVATION</u>
2. Distance from drinking water: <u>625 M</u>		Source: <u>BOLTONS CREEK</u>
3. Resource Zone associated with site (estuarine, riverine, forest etc): <u>OPEN GRASSLAND (OLD CULTIVATION).</u>		
4. Vegetation:		
5. Edible plants noted: <u>NONE NOTED</u>		
6. Faunal resources (include shellfish): <u>NONE NOTED.</u>		
7. Other exploitable resources (river pebbles, ochre, etc) <u>NONE NOTED</u>		
Site type: <u>SINGLE ARTIFACT RETOUCHED FLAKE</u>	DESCRIPTION OF SITE & CONTENTS. Note state of preservation of site & contents. Do NOT dig, disturb, damage site or contents.	
<p>CHECKLIST TO HELP: length, width, depth, height of site, shelter, deposit, structure, element eg. tree scar, grooves in rock.</p> <p>DEPOSIT: colour, texture, estimated depth, stratigraphy, contents-shell, bone, stone, charcoal, density & distribution of these, stone types, artefact types.</p> <p>ART area of surface decorated, motifs, colours, wet, dry pigment, technique of engraving, no. of figures, sizes, patination.</p> <p>BURIALS: number & condition of bone, position, age, sex, associated artefacts.</p> <p>TREES: number, alive, dead, likely age, scar shape, position, size, patterns, axe marks, regrowth.</p> <p>QUARRIES: rock type, debris, recognisable artefacts, percentage quarried.</p> <p>OTHER SITES EG. structures (fish traps, stone arrangements, bore rings, mic mias), mythological sites, rock holes, engraved groove channels, contact sites (missions massacres cemeteries) as appropriate</p>	<p>Attach sketches etc. eg. plan & section of shelter, show relation between site contents, indicate north, show scale.</p> <p>Attach annotated photos (stereo where useful) showing scale, particularly for art sites.</p>	



6 Site Recording (a glossary of technical terms has been attached as Appendix 1)

6.1 Site Details "Oakburn 1"

Map Reference: Tamworth 1:25000

9035-I-N Second Edition

Grid Reference: E293800 N6560750

Site Type: single artefact

Artefact type: broken retouched flake

Raw Material(s): quartzite or silcrete

Landform: gentle slope

Resource Zone: Open grassland (old cultivation)

Local Outcrop(s): andesitic greywacke

Visibility: 100%

Present Land Use: grazing

Geomorphic Processes: erosion

Past Land Use: farming and grazing

Nearest permanent water: 625 m Boltons Creek

Comments:

The artefact is the proximal end of a broken retouched flake. The surface of this artefact is quite patinated making identification of the raw material extremely difficult. The raw material is extremely fine grained and creamy white in colour. Under magnification, the raw material appears to be either a fine grained quartzite or a silcrete. Both of these raw materials are very rare in sites in the Tamworth District. Residues were observed on both the ventral and dorsal surfaces of the artefact.

Technical Details :

length - 16mm, width - 16 mm, thickness - 6 mm.

Retouched on the left lateral margin. Retouch initiated from the ventral surface. Possible use-wear on the right lateral margin. Platform has three flake scars on its surface indicating the core from which the flake was removed had been rotated. The flake termination is missing due to a transverse snap. There is no cortex remaining on the artefact.

6.2 Site Details "Oakburn 2"

Map Reference: Tamworth 1:25000

9035-I-N Second Edition

Grid Reference: E294200 N6560450

Site Type: isolated artefact

Artefact type(s): axe/axe blank

Raw Material(s): andesitic greywacke

Landform: gentle slope

Local Outcrop(s): andesitic greywacke

Resource Zone: Open grassland

Visibility: 20%

Geomorphic Processes: cultivation

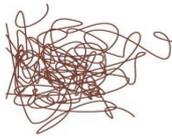
Present Land Use: grazing

Past Land Use: farming and grazing

Nearest permanent water: 1000m Boltons Creek

Comments:

This artefact was highly patinated and extremely weathered with magnesium staining (indicating a lengthy time in contact with the soil). The degree of weathering of the artefact's surface made it impossible to discern if it had ever been used as an axe or if it had been lost or discarded prior to being used. It had never been edge-ground. The axe/blank had been bifacially flaked and was

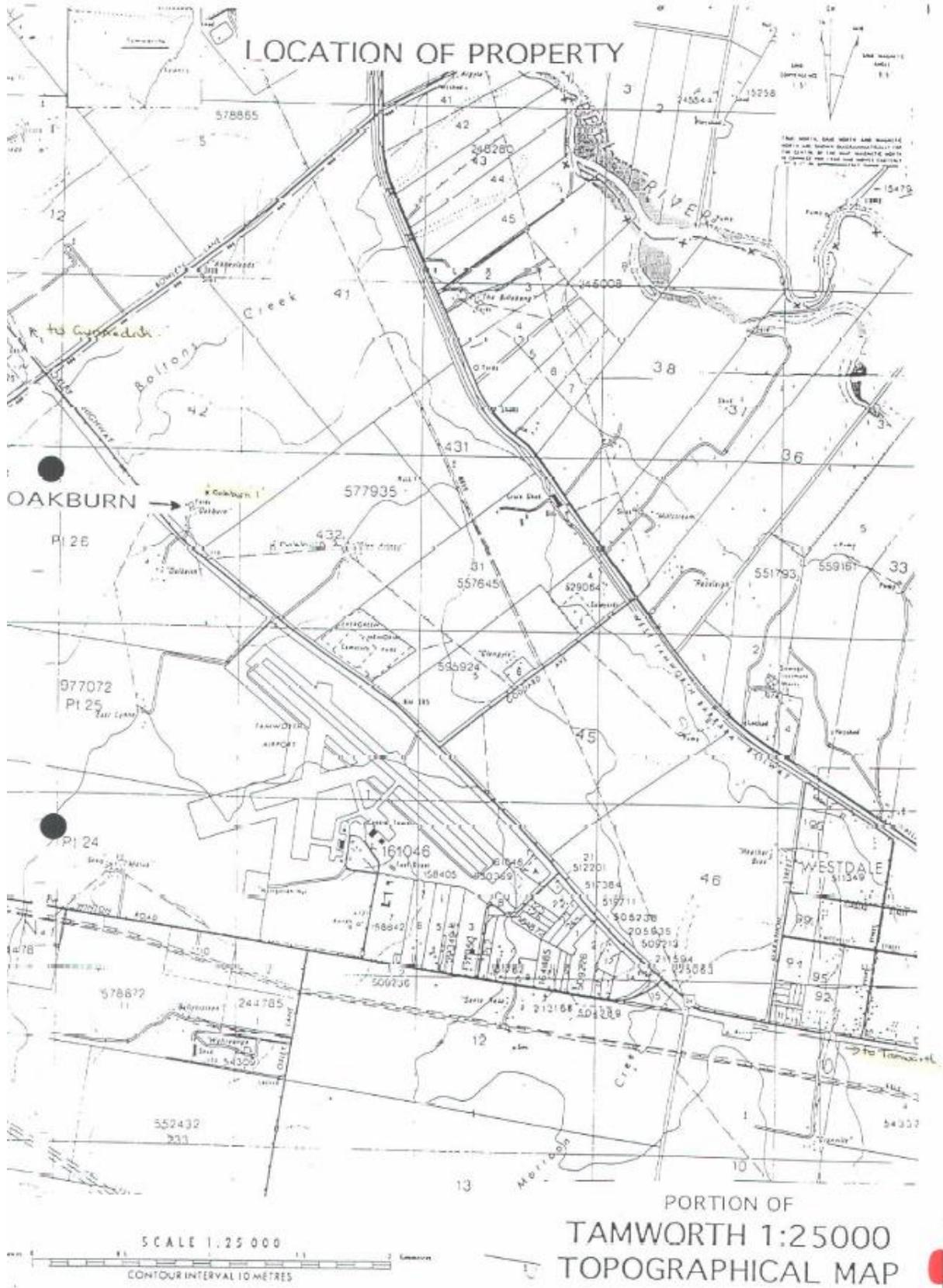
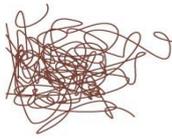


SURVEY AREA



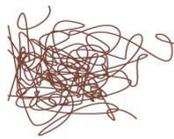
FIGURE 2

28



Broken retouched flake located in Paddock 3





OAKBURN 3 (#29-2-0214)

op. Ireland [] New recording [] Additional info



National Parks and Wildlife Service
Box 1967, Hurstville NSW 2220. Tel: (02) 585 6444
Standard Site Recording Form Revised 5/88



29-2-0214

1:250,000 map sheet: SS

AMG Grid reference 941640 mE 6366150 mN

Scale of map used for grid reference 25K, 50K 100K 250K
Please use largest scale available (preferred)

1:25K, 50K, 100K map name TAMWORTH 9033 - 1-N SW 66

Site name Oakburn 3 Locality/property name OAKBURN

NPWS District COFFS HARBOUR Region NORTHERN

Reason for investigation COLLECTION OF ARTIFACTS FROM PROPOSED RENDERING PLANT SITE NPWS CONSENT PERMIT 993, 16 MARCH 1998.

HEAD OFFICE USE ONLY:

NPWS Site no: 29-2-0214

Site types: _____

Accessioned by: _____ Date: _____

Data entered by: CT Date: 5/10/98

Owner/Manager Baiada Poultry P.L.

Address C/O OUT + BRIDGE ST. TAMWORTH 2340

Portion no: 42
Parish: MURRUM

Photos taken? YES
How many attached? 1

How to get to the site (water to permanent features, give best approach to site eg. from above, below, along cut) (Draw diagram on separate sheet)
THRU GUYE HIGHWAY FROM WEST TAMWORTH GO PAST LAWN CEMETERY, NEXT PROPERTY ON RIGHT IS "OAKBURN" THIS IS OPPOSITE THE WESTERN END OF THE TAMWORTH AIRPORT. PROPERTY IS APPROX. 9.125 KM FROM TAMWORTH P.C.

Other sites in locality? YES Site Types include OPEN ARTIFACT SCATTERS.
Are sites in NPWS Register? RECORDING SHEETS SENT TO NPWS OCTOBER 98

Have artefacts been removed from site? YES When? 16/1/98
By whom? TAMM LSN, BRIAN ALLEN Deposited where? UNE ARMIDALE

Is site important to local Aborigines? YES
Give contact(s) name(s) + address(es):
Contacted for this recording? BRIAN ALLEN - REPRESENTING TAMWORTH LOCAL ABORIGINAL LAND COUNCIL
(Attach additional information separately) If not, why not? 123 MARIUS ST TAMWORTH 2340.

Verbal/written reference sources (including full title of accompanying report) NPWS Report #
REPORT ON THE COLLECTION AND ANALYSIS OF ABORIGINAL STONE ARTIFACTS FROM THE PROPOSED RENDERING PLANT SITE ON THE PROPERTY "OAKBURN" TAMWORTH #A204

Checklist:
Surface visibility: CONDITION PROOK NOW GRAZING, BUT HAS BEEN CULTIVATED SINCE 1910, SO ARTIFACT WOULD HAVE BEEN MOVED AROUND AND DAMAGED
damage/disturbance/ threat to site

Recommendations for management & protection (attach separate sheet if necessary): STORED AT DEPT ARCHAEOLOGY + ANAECORNTHERIDABAY, UNE ARMIDALE UNTIL TLALAC GETS ITS OWN KEEPING PLACE.

Site recorded by M LLOYD, TAMM LSN, BRIAN ALLEN Date: _____
Address/institution: PA - 24 MENY ST. CUN. VERAH 2380 RA - C TLALAC
TW - 25 VERA ST. TAMWORTH 2340 123 MARIUS ST. TAMWORTH 2340

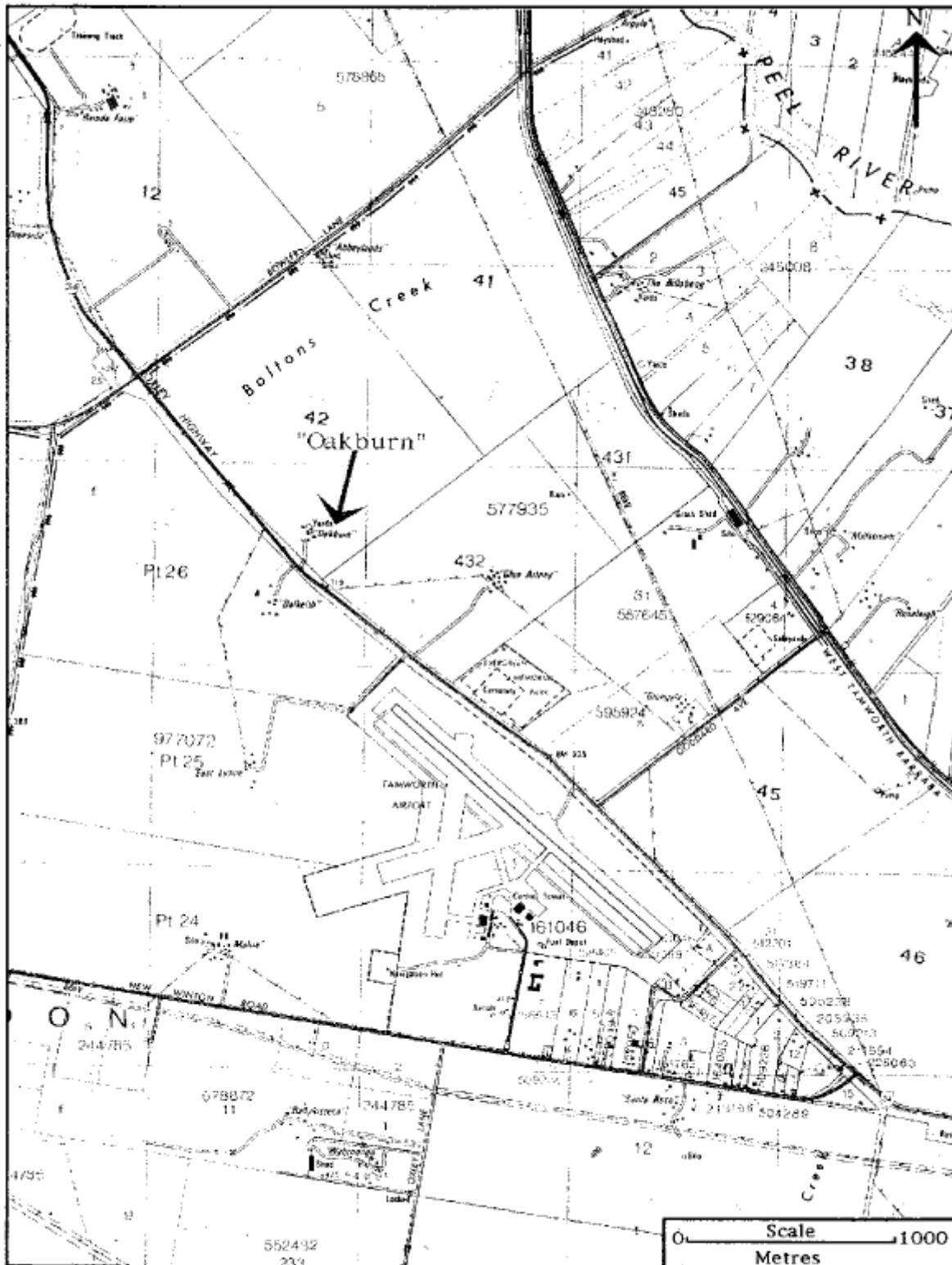
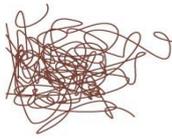


Figure 1 Map indicating the location of the survey area
(adapted from the Tamworth 1:25000 topographic map 9035-1-N Second Edition)

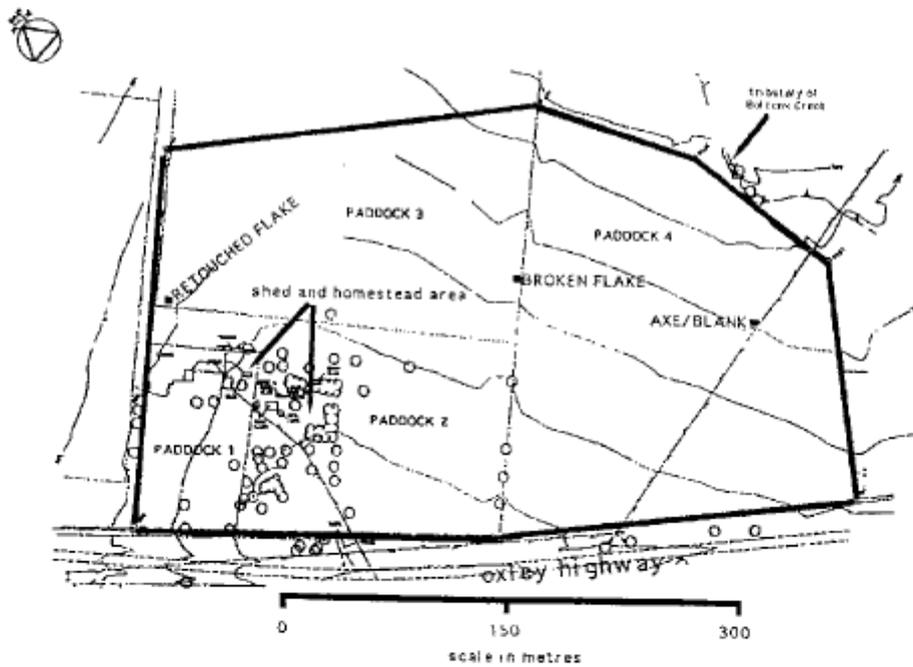


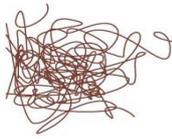
Figure 2 Plan of the Oakburn property indicating the location of artefacts collected (adapted from the map supplied by E.E.S. Pty Ltd.)

10.3 Artefact 3 ("Oakburn 3")

The artefact is a flake which has suffered from a large amount of edge damage, some of which appears quite recent (Plate 7 and 8). The surface of this artefact is highly pitted and extremely weathered making identification of the raw material very difficult. The small areas of more recent edge damage were inspected under a microscope (30x) and it is suggested that it may be a cherty argillite (grey in colour). The large size of the artefact and the lack of retouch suggests that the source of the material was not far away. The cortex present on the dorsal surface of the flake suggests that it was manufactured from a pebble, however, the high degree of weathering makes it impossible to say if it was a river pebble or a scree pebble (a rounded piece of rock found below a rock outcrop). Whatever the case, cherty argillite is available in the area from the Peel River (3 kms to the north-east) or in outcrop in the Moore Creek area (10 kms to the north-east).

Artefact Attributes : length - 44 mm, width - 44 mm, thickness - 12 mm.

The flake retains 25% dorsal cortex. Platform length 41 mm, platform thickness 10 mm. The flake exhibits has four dorsal scars and has not been rotated. The artefact has edge damage on all its margins which would be the result of plough damage and in more recent times damage caused by vehicular traffic. This artefact was not subject to further laboratory analysis as it did not exhibit residues or use-wear.



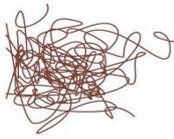
"Oakburn 3"

<u>Map Reference:</u> Tamworth 1:25000	9035-I-N Second Edition
<u>Grid Reference:</u> E:94100 N:60650	<u>Site Type:</u> isolated artefact
<u>Artefact type(s):</u> flake	<u>Raw Material:</u> indeterminate
<u>Landform:</u> gentle slope	<u>Resource Zone:</u> open grassland (old cultivation)
<u>Local Outcrop:</u> andesitic greywacke	<u>Visibility:</u> 100%
<u>Present Land Use:</u> grazing	<u>Geomorphic Processes:</u> erosion
<u>Past Land Use:</u> farming and grazing	<u>Nearest semi-permanent water:</u> 600m Boltons CK



Plate 7 Ventral surface of the large highly patinated and extremely weathered flake





APPENDIX C: HISTORICAL AERIAL PHOTOGRAPHY



Figure 15: 1953 historic aerial photograph