

Aboriginal Cultural Heritage Assessment – Ramp 22 Sedimentation Dam

Bulga Coal Surface Operations & Mount Thorley Operations

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Executive Summary

RPS was commissioned by Coal and Allied Operations Pty Ltd to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed construction by Glencore-Xstrata Bulga Surface Operations (BSO) of a new sedimentation dam to manage surface water runoff from the overburden areas that are the subject of their proposed Western Mining Limit modification DA (DA 41-03-99 MOD7). The sedimentation dam will be constructed predominantly if not wholly on Mount Thorley Operations (MTO) Coal Lease 219 at Mount Thorley Operations (MTO) mining complex and potentially partly on BSO ML1547.

This ACHAR provides supporting documentary evidence relating to the location and status of all extant cultural heritage sites located in the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam Project Area (Project Area) and others within the broader survey assessment area (Survey Area). The archaeological assessment area incorporated the Project Area and the Survey Area which combined form the Assessment Area. This information has been used to formulate management and mitigation measures in order to assist the planning, design and management of the proposed development and construction of the sedimentation dam, the MTO Dam 9S pipeline and powerline access corridor, as well as to identify any sites downstream of the proposed dam which may require further assessment and management relating to potential hydrological impacts such as erosion.

A desktop study revealed that the Project Area (Figure 1) and immediate surrounds has been the subject of extensive previous archaeological survey, assessment and salvage, including, but not limited, to Koettig 1991, AMBS 2002, ERM 2004, Koettig 2004 and Navin Officer 2005. A first order unnamed tributary of Loder Creek (also known as Loders Creek) bisected the Survey Area and a second order unnamed tributary of Loder Creek crossed the Survey Area to the north.

A search of the AHIMS database (Figure 2) revealed that there were six previously recorded sites within the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam Project Area being AHIMS #37-6-0529; #37-6-0530; #37-6-1108; #37-6-1109; #37-6-1114 and #37-6-2716; review of the site cards of these six sites shows that three were artefact scatters, two were isolated find sites and one was a PAD site. A previously recorded PAD site, AHIMS site #37-6-2715, was identified outside the Project Area in the catchment area downstream in the broader Assessment Area. These seven sites were subsequently groundtruthed during the field survey.

Archaeological survey was undertaken within the Project Area and was also conducted downstream in order to identify if there were any sites that could be affected by flooding or impacted by the proposed development. The archaeological field survey was undertaken on the 23 and 24 July 2013 on the MTO Coal Lease 219 and on the 13 September 2013 on the BSO Lease by RPS Archaeologists, Rio Tinto Coal Australia Cultural Heritage Officers and representatives of the Upper Hunter Valley Aboriginal community by way of the Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group (CHWG). Registered Aboriginal Parties (RAPs) were selected from the CHWG roster to participate in the survey. Consultation with CHWG RAPs for the proposed project was undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents, 2010* (NSW Department of Environment, Climate Change and Water, 2010).

AHIMS sites #37-6-0529 and #37-6-0530 had been previously recorded by Koettig (1991). The site coordinates on the AHIMS database were erroneous placing both sites on the western bank of the unnamed first order tributary rather than on the south eastern bank as shown in Koettig's report. A Consent to Destroy Permit #746 was issued in 1995 to BSO and test excavations were undertaken for BSO by Navin Officer (1995) at a number of sites including #37-6-0529 and #37-6-0530. No artefacts were found at the coordinates shown on the AHIMS database for these two sites during the current survey. Following review of the sites data and the resulting survey it was determined that AHIMS site #37-6-0529 was positioned close



to #37-6-1114 which in turn was close to MTW524 and AHIMS site #37-6-0530 was positioned close to MTW527. AHIMS site #37-6-0530, listed as destroyed on AHIMS, is now incorporated into MTW527.

AHIMS sites #37-6-1108 and #37-6-1109 had been salvaged previously by ERM (2004) under Permit #1795 issued in 2004 and no additional artefacts were found at these site locations during the current survey. AHIMS site #37-6-1114 was included under the same permit but was not salvaged at that time. This artefact scatter site, listed as destroyed on AHIMS, is now incorporated into MTW524. Two PAD sites #37-6-2715 and #37-6-2716 were groundtruthed. Of the seven previously recorded AHIMS registered sites two sites had been salvaged and the remaining five were extant.

Thirty two new Aboriginal sites were recorded in the area surveyed during the archaeological investigations and Aboriginal cultural heritage inspections (MTW524 to MTW555).

Of these thirty nine sites in the Project Area and broader Survey area (Figure 5), twelve extant sites are in the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam Disturbance Footprint (Table 12) and two extant sites are in the Construction Access Disturbance Footprint (Table 13). These fourteen sites will be directly impacted by dam construction works or at risk from vehicle movements during the construction of the dam (Figure 8). Of the remaining 25 sites identified (Table 14), two sites have been salvaged and are no longer valid and 23 may require further assessment and management relating to potential hydrological impacts such as erosion in order to make an assessment of potential impacts to these Aboriginal sites. These include fourteen in the Project Area and nine adjacent to the Project Area in the broader Assessment Area.

The following management recommendations have been formulated taking into consideration the significance of Aboriginal heritage as well as potential impacts and have been prepared in accordance with the relevant legislation.

The following management recommendations have been formulated taking into consideration the significance of Aboriginal heritage as well as potential impacts and have been prepared in accordance with the relevant legislation.

Recommendation 1

An AHIP will be required to salvage the twelve sites in the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam disturbance footprint (Table 12) (Area A); including the subsurface salvage of MTW526. The AHIP works must be undertaken prior to construction commencing (Figure 9 & Figure 10).

Recommendation 2

An AHIP will be required to salvage the two sites in the Construction and Maintenance Access disturbance footprint (Table 13) (Area A). The AHIP works must be undertaken prior to construction commencing (Figure 9 & Figure 10).

Recommendation 3

An AHIP with provisions to allow rehabilitation works to remediate surface water and watercourse erosion areas associated with some sites and to mitigate and/or salvage others of the 23 sites in Area B (Table 14) will be required downstream of the dam. In the case of fencing and sediment control measures, these must be in place prior to the commencement of construction works (Figure 9 & Figure 10).

The Aboriginal community consultation initiated as part of this assessment through the ACHCRP (2010) guidelines should be maintained prior to and throughout the construction phase through the auspices of the RTCA Aboriginal Cultural Heritage Working Group process.



Recommendation 5

All staff and contractors associated with the construction of the sedimentation dam will be made aware of their obligations under the *National Parks and Wildlife Act* (1974) and AHIP management requirements through a Project Area specific heritage management induction.

Recommendation 6

In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area must be cordoned off. The proponent must contact the local NSW Police who will make an initial assessment as to whether the remains are part of a crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, OEH must be contacted by ringing the Enviroline 131 555. An OEH officer will determine if the remains are Aboriginal or not; and a management plan must be developed in consultation with the relevant Aboriginal stakeholders before works recommence.

Recommendation 7

If, during the course of development works, suspected historic cultural heritage material is uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment & Heritage (Enviroline 131 555) should be notified and works only recommence when an approved management strategy has been developed.



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Appendix 3	Meeting 7 March 2013 - Presentation and Minutes
Appendix 4	Letter to Aboriginal Community Stakeholders Requesting Comments on Assessment
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Appendix 6	AHIMS Search
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Terms, Definitions & Abbreviations

Abbreviation/ Term	Meaning	
Aboriginal Culturally	"Means a tree that, before or concurrent with (or both) the occupation of the area in which the tree is located by persons of non-Aboriginal extraction, has been scarred, carved or modified by an Aboriginal person by:	
Modified Tree/	(a) the deliberate removal, by traditional methods, of bark or wood from the tree, or	
Scarred Tree	(b) the deliberate modification, by traditional methods, of the wood of the tree" NPW Regulation 80B (3). Culturally Modified trees are sometimes referred to as scarred trees	
Aboriginal Object	"Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises NSW, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction, and includes Aboriginal remains" (DECCW 2010:18).	
Aboriginal Place	"A place declared under s.84 of the NPW Act that, in the opinion of the Minister, is or was of special significance to Aboriginal culture" (DECCW 2010:18). Aboriginal places are gazetted by the minister.	
ACHA	Aboriginal Cultural Heritage Assessment	
ACHCRP	Aboriginal Cultural Heritage Consultation Requirements for Proponents	
Activity	A project, development, or work (this term is used in its ordinary meaning and is not restricted to an activity as defined by Part 5 EP&A Act 1979).	
AHIMS	Aboriginal Heritage Information Management System	
AHIP	Aboriginal Heritage Impact Permit	
Assessment The area that is the subject of archaeological investigation. In this instance this includes the Project Area and the Survey Area.		
BSO	Bulga Surface Operations	
Years before present as determined by radiocarbon dating. Sometimes these dates are (cal. years BP) this indicates a radiocarbon date has been calibrated using the dendrock curves, making the date more accurate than an uncalibrated date.		
CHWG	Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group	
CNA Coal & Allied Industries Pty Ltd		
Coal & Allied Operations Pty Ltd	Coal & Allied Operations	
DECCW	Department of Environment, Climate Change and Water (is now the Office of Environment and Heritage – OEH)	
DA	Development Application	
Development area	"Area proposed to be impacted as part of a specified activity or development proposal" (OEH 2011:ii). This report has used proposed impact area to mean the same as development area.	
Disturbed Land	"Land is disturbed if it has been the subject of a human activity that has changed the land's surface, being changes that remain clear and observable." (DECCW 2010:18).	
DGRs	Director-General's Requirements issued by DoPI	
DoPl	Department of Planning and Infrastructure (from April 2011) previously known as Department of Planning (DoP)	
Due Diligence	"Taking reasonable and practical steps to determine whether a person's actions will harm an Aboriginal object and, if so, what measures can be taken to avoid that harm" (DECCW 2010:18)	
EIS	Environmental Impact Statement	
EP&A Act	NSW Environmental Planning and Assessment Act 1979	
GDA	Geodetic Datum Australia	



Abbreviation/ Term	Meaning
GIS	Geographic Information System
GPS	Global Positioning System
GSE	Ground Surface Exposure
GSV	Ground Surface Visibility
Harm	"Destroy, deface, damage an object, move an object from the land on which it is situated, cause or permit an object to be harmed." (DECCW 2010:18)
LALC	Local Aboriginal Land Council
LGA	Local Government Area
ML	Mining Lease
MTO	Mount Thorley Operations
MTW	Mount Thorley Warkworth mining complex
NPW Act	NSW National Parks and Wildlife Act 1974 (administered by OEH)
NPW Regulation	NSW National Parks and Wildlife Regulation 2009 (administered by OEH)
NPWS	National Parks and Wildlife Service
OEH	Office of Environment and Heritage (formerly DECCW)
PAD	Potential Archaeological Deposit
Project Area	The area nominated by RTCA being the Ramp 22 Sedimentation Dam Project Area
RAP	Registered Aboriginal Party
RTCA	Rio Tinto Coal Australia Pty Ltd
Survey Area	The area surveyed within the Project Area and the additional area that RTCA nominated to be surveyed outside of the Project Area.
ToR	Terms of Reference



1.0 Introduction

RPS has been engaged by Coal & Allied Operations Pty Ltd (Coal & Allied Operations) to prepare an Aboriginal Cultural Heritage Assessment Report (ACHAR) for the proposed construction by Glencore-Xstrata Bulga Surface Operations (BSO) of a new sedimentation dam to manage surface water runoff from the overburden areas that are the subject of their proposed Western Mining Limit modification Development Application (DA 41-03-99 MOD7). The sedimentation dam will be constructed predominantly if not wholly on Mount Thorley Operations (MTO) Coal Lease 219 at Mount Thorley Operations (MTO) mining complex and potentially partly on BSO Mining Lease (ML) 1547, herein referred to as the Project Area.

The Project Area is situated across both the MTO and the BSO boundary and is located in the Singleton Local Government Area (LGA). The Project Area is approximately 7.5 kilometres from the township of Bulga and 12.5 kilometres from the township of Singleton and is approximately 11.07 hectares in size (Figure 1).

Coal & Allied Operations is a wholly owned subsidiary of Coal & Allied Industries Pty Ltd (CNA). CNA is a wholly owned subsidiary of Rio Tinto. Rio Tinto Coal Australia Pty Ltd (RTCA) provides management services to all CNA operations. Consultation between RTCA and interested representatives of the Aboriginal community was conducted by way of the Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group (CHWG), which was established in September 2005. The survey was conducted with participation of representatives of the Aboriginal community of the upper Hunter Valley.

Consultation with CHWG Registered Aboriginal Parties (RAPs) for the proposed project was undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents, 2010* (NSW Department of Environment, Climate Change and Water, 2010).

MTO on behalf of the BSO is providing this ACHAR to support an Aboriginal Heritage Impact Permit (AHIP) application for sites to be impacted as part of the proposed works and provides mitigation measures for sites that can be avoided or only partially impacted by the proposed works. It details the location and status of all extant cultural heritage sites located in the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam Project Area and others within the broader assessment Survey Area. This document has been prepared in accordance with the *Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW* (OEH 2011) and the *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW 2010a).

I.I The Proposed Project

The proposed project is to construct a sedimentation dam on lands owned by MTO at the Warkworth Mine, and will be constructed by the BSO (Figure 1). The aims of this report are: to identify and describe the Aboriginal objects and/or Aboriginal places in the broader Assessment Area; to assess the significance of the Aboriginal heritage present; to assess whether the proposed activity will harm Aboriginal objects and/or places; and to provide heritage management strategies which may include avoidance, mitigation and/or application for an AHIP.

1.2 Authorship and Acknowledgements

This report has been written by suitably qualified heritage professionals in accordance with s1.6 of the Code of Practice for Archaeological Investigation (DECCW 2010a:4,20). This report was prepared by RPS Senior Cultural Heritage Consultant Gillian Goode and Cultural Heritage Consultant Jeremy Hill and was reviewed by Newcastle Cultural Heritage Manager Tessa Boer-Mah.



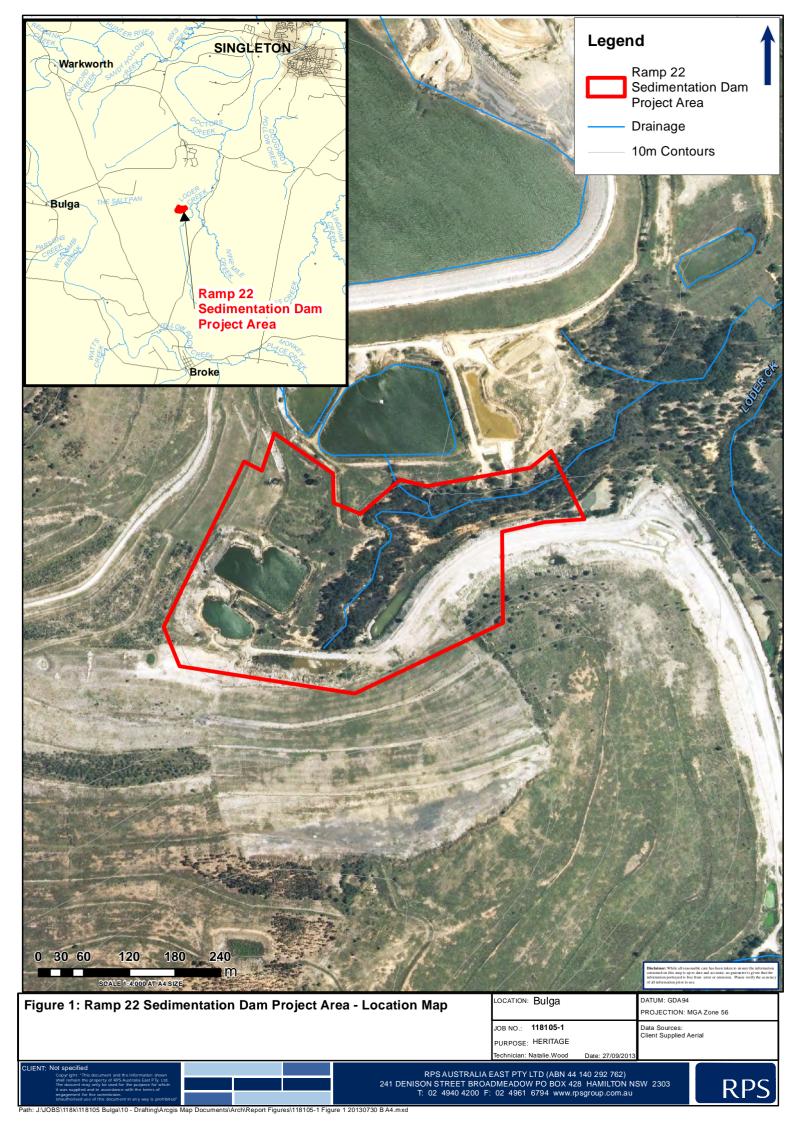
1.3 Scope of Assessment

This assessment has been prepared to meet the heritage assessment requirements for the proposed development. It draws on the environmental and archaeological context of the Project Area and associated Survey Area including known sites to provide an archaeological predictive model, against which survey results are compared. This report assesses the archaeological sensitivity and significance of the Project Area. The proposed impacts of the development are then assessed in consideration to the survey results, sensitivity and assessment of significance. This assessment report includes:

- Liaison and partnership with the Aboriginal community in accordance with the DECCW Aboriginal Cultural Heritage Requirements for Proponents (2010) through the CHWG;
- A review of all relevant documentation and statutory requirements with regard to Aboriginal heritage;
- Review of data from the Aboriginal Heritage Information Management System (AHIMS) to identify known Aboriginal sites;
- A review of environmental information and previous archaeological work to develop a predictive model for Aboriginal archaeological site patterning within the Project Area;
- An assessment of archaeological sensitivity within the Project Area;
- An archaeological survey;
- Recommendations for the management of Aboriginal objects and sites; and
- Recommendations for an area wide AHIP incorporating Area A and Area B. Area A would include salvage excavation of any PADs and surface collection of any extant sites within the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam disturbance footprint including access to the construction site for mine vehicles. Area B would include mitigation of Aboriginal objects at any registered sites within the survey area but outside of the proposed disturbance footprint that may be affected by potential hydrological impacts (e.g. erosion). Mitigation may include protective barriers, fencing, sediment control measures or surface salvage or subsurface salvage as required. The AHIP methodology is detailed in Section 8.

This Aboriginal Cultural Heritage Assessment Report has been prepared accordance with:

- The National Parks and Wildlife Act (1974); and
- The Heritage Act (1977).





2.0 Legislative Context

Although there are a number of Acts and regulations protecting and managing cultural heritage in New South Wales; the primary ones which apply to this report include:

- National Parks and Wildlife Act 1974 (as amended)
- National Parks and Wildlife Regulation 2009
- Environmental Planning and Assessment Act 1979

In brief, the *National Parks and Wildlife Act 1974* (as amended) protects Aboriginal heritage (places, sites and objects) within NSW; the *National Parks and Wildlife Regulation 2009* provides a framework for undertaking activities and exercising due diligence.

2.1 National Parks & Wildlife Act 1974 (as amended)

The *National Parks and Wildlife Act 1974* (as amended) (NPW Act) protects Aboriginal heritage (places, sites and objects) within NSW. Protection of Aboriginal heritage is outlined in s86 of the NPW Act, as follows:

- "A person must not harm or desecrate an object that the person knows is an Aboriginal object" s86(1),
- "A person must not harm an Aboriginal object" s86(2)
- "A person must not harm or desecrate an Aboriginal place" s86(4).

Penalties apply for harming an Aboriginal object or place. The penalty for knowingly harming an Aboriginal object (s86[1]) and/or an Aboriginal place (s86[4]) is up to \$550,000 for an individual and/or imprisonment for 2 years; and in the case of a corporation the penalty is up to \$1.1 million. The penalty for a strict liability offence (s86[2]) is up to \$110,000 for an individual and \$220,000 for a corporation.

Harm under the NPW Act is defined as any act that; destroys defaces or damages the object, moves the object from the land on which it has been situated, causes or permits the object to be harmed. However, it is a defence from prosecution if the proponent can demonstrate 1) that harm was authorised under an Aboriginal Heritage Impact Permit (AHIP) (and the permit was properly followed), or 2) that the proponent exercised due diligence in respect to Aboriginal heritage. The 'due diligence' defence (s87(2)), states that if a person or company has exercised due diligence to ascertain that no Aboriginal object was likely to be harmed as a result of the activities proposed for the Project Area; then liability from prosecution under the NPW Act will be removed or mitigated if it later transpires that an Aboriginal object was harmed. If any Aboriginal objects are identified during the activity, then works should cease in that area and Office of Environment and Heritage (OEH) notified (DECCW 2010b:13). The due diligence defence does not authorise continuing harm.

Notification of Aboriginal Objects

Under section 89A of the NPW Act Aboriginal objects (and sites) must be reported to the Director-General of OEH within a reasonable time (unless it has previously been recorded and submitted to AHIMS). Penalties of \$11,000 for an individual and \$22,000 for a corporation may apply for each object not reported.

2.2 National Parks and Wildlife Regulation 2009

The *National Parks and Wildlife Regulation 2009* (NPW Regulation) provides a framework for undertaking activities and exercising due diligence in respect to Aboriginal heritage. The NPW Regulation outlines the recognised due diligence codes of practice which are relevant to this report, but it also outlines procedures



for Aboriginal Heritage Impact Permit (AHIP) applications and Aboriginal Cultural Heritage Consultation Requirements for Proponents (ACHCRP) (DECCW 2010c); amongst other regulatory processes.

2.3 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act) regulates a system of environmental planning and assessment for New South Wales. Land use planning requires that environmental impacts are considered, including the impact on cultural heritage and specifically Aboriginal heritage. Within the EP&A Act, Parts 3, 4 and 5 relate to Aboriginal heritage.

Part 3 regulates the preparation of planning policies and plans. Part 4 governs the manner in which consent authorities determine development applications and outlines those that require an environmental impact statement. Part 5 regulates government agencies that act as determining authorities for activities conducted by that agency or by authority from the agency. The National Parks & Wildlife Service is a Part 5 authority under the EP&A Act.

Under 4.1 of EP&A Act, a development may be declared a State Significant Development (SSD) or State Significant Infrastructure (SSI) if it meets specific criteria. The consent authority for a state significant development is the Minister, although under Section 23 the minister may delegate consent authority function to the Planning Assessment Commission, the Director-General or to any other public authority. An AHIP under section 90 of the NPW Act is not required for developments which have been declared a SSD in accordance with 89J (1)(d) of the EP&A Act. However, an Environmental Impact Statement (EIS) is still required for an SSD/SSI and Director-General's Requirements (DGRs) typically issued will include provisions for the assessment and management of Aboriginal heritage, as well as Aboriginal consultation.

In brief, the NPW Act provides protection for Aboriginal objects or places, while the EP&A Act ensures that Aboriginal cultural heritage is properly assessed in land use planning and development.

2.4 Aboriginal Land Rights Act 1983

The purpose of this legislation is to provide land rights for Aboriginal people within NSW and to establish Local Aboriginal Land Councils. The land able to be claimed by Aboriginal Land Councils on behalf of Aboriginal people is certain Crown land that (s36):

- (i) Is able to be lawfully sold, leased, reserved or dedicated;
- (ii) Is not lawfully used or occupied;
- (iii) Will not, or not likely, in the opinion of the Crown Lands minister, be needed for residential purposes;
- (iv) Will not, or not likely, be needed for public purposes;
- (v) Does not comprise land under determination by a claim for native title;
- (vi) Is not the subject of an approved determination under native title.

Claims for land are by application to the Office of the Registrar, Aboriginal Land Rights Act 1983.

2.5 Native Title Act 1993

The Commonwealth Government enacted the *Native Title Act 1993* to formally recognise and protect native title rights in Australia following the decision of the High Court of Australia in Mabo & Ors v Queensland (No.2) (1992) 175 CLR 1 ("Mabo").

Although there is a presumption of native title in any area where an Aboriginal community or group can establish a traditional or customary connection with that area, there are a number of ways that native title is



considered to have been extinguished. For example, land that was designated as having freehold title prior to 1 January 1994 extinguishes native title, as does any commercial, agricultural, pastoral or residential lease. Land that has been utilised for the construction or establishment of public works also extinguishes any native title rights and interests for as long as they are used for that purpose. Other land tenure, such as mining leases (MLs) may be subject to native title, depending on when the lease was granted.



3.0 Aboriginal Community Consultation

The OEH acknowledges that Aboriginal people are the primary determinants of the significance of their heritage and that Aboriginal people should be involved in the Aboriginal cultural heritage planning process. They are the primary source of information regarding the value of their heritage and how this may be best protected and conserved, and they must be afforded control in the way cultural information (particularly sensitive information) is used. Aboriginal consultation is regarded as an integral part of the process of investigating and assessing Aboriginal cultural heritage (OEH 2011:2).

MTO in conjunction with BSO are proposing to construct a sedimentation dam predominantly on MTO lands. A current assessment of the Project Area must be undertaken as part of this process. As such, Aboriginal consultation is required to be undertaken in accordance with the ACHCRP (DECCW 2010a; 2010b). The ACHCRP includes a four stage Aboriginal consultation process that stipulates specific timeframes for components of each stage.

Stage 1 requires that Aboriginal people who hold cultural information are identified, notified and invited to register an expression of interest (EoI) in the assessment. This identification process should draw on reasonable sources of information including the:

- Office of the Registrar (Aboriginal Land Rights Act 1983);
- relevant OEH Environment Protection Regulation Group Regional Office;
- Local Aboriginal Land Council(s);
- National Native Title Tribunal;
- Native Title Services Corporation Limited; and
- relevant Catchment Management Authority and the relevant local council(s).

The identification process should also include an advertisement placed in a local newspaper circulating in the general location of the Project Area (Appendix 1). Aboriginal organisations and/or individuals identified should be notified of the Proposed Ramp 22 Sedimentation Dam Project and invited to register an Eol for Aboriginal consultation. Once a list of Aboriginal stakeholders has been compiled from the Eol process, these Registered Aboriginal Parties (RAPs) need to be consulted in accordance with stages 2, 3 and 4 of the ACHCRP.

Stages 2 and 3 require the preparation of information about the Proposed Ramp 22 Sedimentation Dam Project and the gathering of information about cultural significance. These stages include the provision of a proposed assessment methodology to the registered Aboriginal stakeholders for their review.

Stage 4 requires that the ACHAR be provided to the registered RAPs for review and comment. This ACHAR presents information about cultural significance including relevant comments received from the Aboriginal community during consultation, as well as comments received during the fieldwork for the proposed project. Additional culturally significant comments received from the RAPs in response to the draft ACHAR will be included in this report.



Aboriginal Consultation between RTCA and the CHWG

Consultation on Aboriginal cultural heritage matters between RTCA and interested representatives of the Aboriginal community is conducted through the CHWG, which was established in September 2005. Notification of CHWG meetings and agenda items is provided by written notification to interested Aboriginal groups and individuals and by public notices published by RTCA in the Upper Hunter Regional Press. CHWG notices include an invitation for Aboriginal groups and individuals to register their interest as Aboriginal Parties under the provisions of the ACHCRP for Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal objects and or places associated with lands owned and managed by CNA in the Upper Hunter Valley.

3.1 ACHCRP Stage 1 - Notification of project proposal and registration of interest

RTCA placed Public Notices (Appendix 1) during the week commencing 4 February 2013 in local press (Hunter Valley News, Singleton Argus, Muswellbrook Chronicle & Scone Advocate) inviting interested Aboriginal Parties to attend a Coal & Allied Upper Hunter Valley Working Group on Thursday 7 March 2013. It is CNA's policy to only require an Aboriginal Party with an interest in a development area (e.g. the whole of MTO) to register as a RAP once, after which they are maintained on the CNA stakeholder register as a RAP for that area unless they choose to withdraw their interest as a RAP in that area. Confirmation was sought, in June 2010 and again in September 2013, from the Coffs Harbour OEH Environment Protection Regulation Group Regional Office, the Wanaruah Local Aboriginal Land Council (WLALC), the Registrar of Aboriginal Owners, the Native Title Tribunal, Native Title Services Corporation Limited, the Singleton Shire Council and the Hunter-Central Rivers Catchment Management Authority to confirm that C&A's register of Aboriginal parties contained all relevant interested Aboriginal groups known to those entities.

To ensure all those Aboriginal parties with an interest in the Project Area were included:

- Public Notices were placed in the Hunter Valley News, Singleton Argus, Scone Advocate and the Muswellbrook Chronicle.
- Eol letters were sent on the 4 February 2013 to all groups identified in Stage 1.
- Members of the CNA Stakeholder Register were notified.

All recipients of the EoI letters together with those who registered their interest in the project by close of business 6th March 2013 are shown in Table 1 and Appendix 2.

Recipient of Eol Letters Name of Representative Registered Margaret and John Aboriginal Native Title Consultants Yes Matthews Aliera French Trading Aliera French Yes **Bawurra Consultants** Kevin Sampson Yes Bigundi Biame Traditional People Wayne Griffiths Yes Breeza Plains Culture and Heritage Consultants Yes Terry Matthews Buda Mada Koori Women's Aboriginal Corporation Alison Howlett Yes **Bullem Bullem** Yes Lloyd Mathews **Bunda Consultants** Tammy Knox Yes Cacatua Culture Consultants Donna Sampson Yes Carrawonga **Justin Matthews** Yes Crimson Rosie Jeff Mathews Yes

Table 1 Organisation and Representative for Correspondence



Recipient of Eol Letters	Name of Representative	Registered
Culturally Aware	Tracey Skene	Yes
Deslee Talbott Consultants	Deslee Matthews	Yes
Divine Diggers Aboriginal Cultural Consultants	Deidre Perkins	Yes
DRM Cultural Management	Helen Faulkner	Yes
Galamaay Consultant	Karen Matthews	Yes
Gidawaa Walang Cultural Heritage Consultancy	Anne Hickey	Yes
Giwiirr	Rodney Matthews	Yes
Gomery Cultural Consultants	David Horton	Yes
Heilamon Cultural Consultants	Clifford Johnson	Yes
Amanda Hickey	Amanda Hickey	Yes
Hunter Traditional Owner Environmental Management Services	Paulette Ryan	Yes
Hunter Valley Aboriginal Corporation	Rhonda Griffiths	Yes
Hunter Valley Cultural Consultants	Christine Archbold	Yes
Hunter Valley Cultural Surveying	Luke Hickey	Yes
I & E Aboriginal Culture and Heritage	Ivy Jaeger	Yes
Jarban and Mugrebea	Les Atkinson	Yes
JLC Cultural Services	Jenny-Lee Chambers	Yes
Jumbunna Traffic Management Group Pty Ltd	Norm Archibald	Yes
Kawul Cultural Services	Rod Hickey	Yes
Kayaway Eco Cultural & Heritage Services	Mark Hickey	Yes
KL.KG Saunders Trading Services	Krystal Saunders	Yes
L.J Culture Management	Les Field	Yes
Lower Hunter Aboriginal Incorporated	David Ahoy	Yes
Lower Hunter Wonnarua Council Incorporated	Tom Miller	Yes
Lower Wonnarua Tribal Consultancy Pty Ltd	Barry Anderson	Yes
Roger Noel Matthews	Roger Matthews	Yes
Mingga Consultants	Clifford Matthews	Yes
Murrawan Culture Consultants	Robert Smith	Yes
Muswellbrook Cultural Consultants	Brian Horton	Yes
Smith Dhagaans Cultural Group	Timothy Smith	Yes
Barry and Colleen Stair	Barry and Colleen Stair	Yes
Warren Taggart	Warren Taggart	Yes
Tocomwall	Malcolm Franks	Yes
Ungooroo Aboriginal Corporation	Alan Paget	Yes
Ungooroo Cultural & Community Services	Rhonda Ward	Yes
Upper Hunter Heritage Consultants	Darrel Matthews	Yes
Upper Hunter Natural and Cultural Resources Management	David French	Yes
Upper Hunter Wonnarua Council Inc.	Rhoda Perry	Yes
Valley Culture	Larry Van Vliet	Yes
Wallangan Cultural Services	Maree Waugh	Yes
Wanaruah Local Aboriginal Land Council	Noel Downs	Yes



Recipient of Eol Letters	Name of Representative	Registered
Wattaka Wonnarua Cultural Consultancy Service	Des Hickey	Yes
Widescope IndigeNous Group Pty Ltd	Steven Hickey	Yes
Wonn1 Contracting	Arthur Fletcher	Yes
Wonnarua Nation Aboriginal Corporation	Laurie Perry	Yes
Wonnaruah Elders Council	Arthur Fletcher	Yes
Suzie Worth	Suzie Worth	Yes
Yinarr Cultural Services	Kathleen Kinchela	Yes
Wanaruah Aboriginal Custodians Corporation	Maria Stocks	Yes
Waabi Gabinya Cultural Consultancy	Elizabeth Howard	Yes
Plains Clan of the Wonnarua People	Robert Lester & Scott Franks	Yes
HECMO Consultants	Kerren Boyd	Yes

3.2 ACHCRP Stage 2 - Presentation of information about the project

As advertised in the public notices published during the week commencing 4th February 2013 a meeting of the Coal & Allied Aboriginal Cultural Heritage Working Group (CHWG) was convened on 7 March 2013 to discuss the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam Project and proposed ACHAR and AHIP process (Appendix 1 & Appendix 3). Representatives from Coal & Allied presented information (documents and digital presentation) on the project to the RAPs present at the meeting (Appendix 2). The presentation materials focused on the purpose of the sedimentation dam; previous archaeological assessments together with salvage activities contracted in and surrounding the Project Area.

Although a number of AHIMS sites located within and adjacent to the Project Area had been subject to previous AHIP (section 90 consent) salvage activity, Coal & Allied proposed that the watercourse and adjacent banks/terraces be subject to a 100% coverage transect assessment survey to identify the existence, location, attributes and extent of any extant Aboriginal objects or sites located within the project area to inform the development of the ACHAR.

Information regarding the proposed heritage assessment methodology and strategy for collecting information on cultural heritage significance was reviewed at the CHWG meeting (7 March 2013). The RAP participants at the meeting on 7 March 2013 discussed and the proposed Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam Project and proposed ACHAR and AHIP process.

This information was then provided in writing (4 April 2013) to all registered RAPs for their comment (Appendix 4), as per the ACHCRP, with a request for commentary and further input. No RAPs provided written responses to the proposed methodology (Appendix 2).

Given there was no written response and the survey methodology had been discussed and endorsed by the participants at the March meeting, it is considered that the RAPs support the proposed methodology. Minutes of the meeting and presentation are at Appendix 4.

3.3 ACHCRP Stage 3 – Gathering Information about cultural significance

In order to gather information about cultural significance, representatives of the Registered Aboriginal Parties are invited to participate in cultural heritage field surveys & provide comments on the cultural heritage sites & values recorded within the Assessment Area. The results of the cultural heritage assessment were also presented to the Registered Aboriginal Parties at a follow up CHWG meeting to enable those not present at the assessment to provide any comments they may have on the cultural values & sites within the



Assessment Area. Further opportunity will be provided through the provision of this draft ACHAR to all Registered Aboriginal Parties requesting their comments & input. Finally, if requested by any Registered Aboriginal Party, an inspection of the Project Area & the Aboriginal cultural heritage sites recorded therein will be arranged by C&A.

3.3.1 Field Survey

Participation by representatives of the RAPs in the Ramp 22 Sedimentation Dam Assessment Area field survey was managed through the CHWG & the C&A field work roster. Six representatives of the RAPs were invited to provide a CHFO to participate in the original two days of scheduled fieldwork. The Aboriginal cultural heritage field survey was undertaken on 23 and 24 July 2013 on the MTO Coal Lease 219 by RPS Senior Cultural Heritage Consultant Gillian Goode and RPS Cultural Heritage Consultant Jeremy Hill, Rio Tinto Coal Australia Cultural Heritage Manager David Cameron and Cultural Heritage Graduate, Georgia Bennett and six representatives of the CHWG (Appendix 2).

3.3.2 Meeting to discuss outcome of field survey

A CHWG meeting was convened on 22 August 2013 (Public Notices advertisement in week of 29 July 2013). The aim of the meeting was to inform the RAP of the results of the field survey and gain feedback to inform the development of the draft Aboriginal Cultural Heritage Assessment Report and the Aboriginal Heritage Impact Permit methodology (Appendix 5).

The results of the field survey undertaken on the 23 and 24 July 2013 for the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam Project were presented and a review of the development impacts on the Aboriginal cultural heritage in the Assessment Area was provided to all attendees (Appendix 2). Discussions regarding the proposed AHIP for the Assessment Area and a review of the AHIP assessment report application process requirements were conducted. Representatives from Coal & Allied, Bulga Surface Operations and RPS presented information (documents and digital presentation) to the attendees. The presentation focused on: the Aboriginal cultural heritage sites found within the Assessment Area; the condition of the sites and surrounds; which sites would be likely to require an AHIP for salvage due to works relating to the dam construction; and access to the dam works area. Discussions included provisions within the AHIP to mitigate and/or salvage other sites in Assessment Area B to mitigate the effects of erosion. The survey results also indicated a need for an additional survey to investigate a number of sites that extended onto BSO lands.

The requirements for temporary storage of the salvaged artefacts and a suitable Keeping Place were also discussed at the meeting. It was agreed that the artefacts could, under Care and Control Permit #2863, be placed into the existing RTCA Cultural Heritage Storage Facility, at Hunter Valley Services offices, Lemington Road, Liddell.

The Minutes from that meeting, together with the supporting information can be found at Appendix 5.

Further comments on social, historic association and aesthetic values will be included in the report following comments received from the Aboriginal community.

3.3.3 Additional Field Survey

Additional survey was undertaken on the 13 September 2013 on the BSO lease by RPS Senior Cultural Heritage Consultants Gillian Goode and Laraine Nelson, Rio Tinto Coal Specialist Cultural Heritage Joel Deacon and Graduate Cultural Heritage Georgia Bennett with two representatives of the CHWG.



3.4 ACHCRP Stage 4 – Review of Draft Report

In accordance with the ACHCRP, a Draft ACHAR will be sent to the RAPs for review.



4.0 Environmental Context

An understanding of environmental context is important for the predictive modelling and interpretation of Aboriginal sites. The local environment provided natural resources for Aboriginal people, such as stone (for manufacturing stone tools), food and medicines, wood and bark (for implements such as shields, spears, canoes, bowls and shelters), in addition to areas that were used for camping and other activities. The nature of Aboriginal occupation and resource procurement is related to the local environment, and it therefore needs to be considered as part of the assessment process in accordance with the relevant guidelines (DECCW 2010a; OEH 2011).

4.1 Geology

Aboriginal people often made stone tools using siliceous, metamorphic or igneous rocks and therefore understanding the local geology can provide important information regarding resources that may have been available in the Project Area. The nature of stone exploitation by Aboriginal people depends on the characteristics of the source, for example whether it outcrops on the surface (a primary source), or whether it occurs as gravels (a secondary source) (Doelman, Torrence et al. 2008).

The Project Area is located on the Denman and Archerfield Sandstone geological formations and the Mulbring and Saltwater geological formations lie directly to the east of the Project Area. The Archerfield Sandstone formation forms part of the Singleton Supergroup, part of the Wittingham Coal Measures Group and the Vane Subgroup and was formed in the later Permian period which are characterised by siltstone, lithic sandstone, shale conglomerate, well sorted lithic sandstone and coal seams. The Denman formation forms part of the Singleton Supergroup and the Wittingham Coal Measures Group formed in the Permian Period and are characterised by claystone, siltstone, conglomerate, sandstone siltstone laminate and coal seams. The Rutherford and Mulbring Formations lie to the north and are characterised by sandstone, mudstone, siltstone, tuff, coal, conglomerate and limestone (Kovac and Lawrie 1991).

The presence of raw materials in the Project Area is important for Aboriginal occupation as they were commonly used for the production of stone artefacts. Raw materials that were found in the surrounding area were silcrete, indurated mudstone, porcellinite, tuff and volcanic rocks all of which were used in the manufacture of stone tools. The softer shales and claystones are highly susceptible to water erosion processes and are generally unsuitable for the manufacture of stone tools. Overhangs and caves in sandstone cliffs and boulders below the cliff line were sometimes used for shelter. Rock engravings and grinding grooves may be found in areas of exposed sandstone and sandstone outcrops particularly along creek beds.

4.2 Soils

The Project Area is located entirely on the Branxton Soil Landscape. The Jerrys Plains Soil Landscape is situated nearby to the north west; the Wollombi and Warkworth Soil Landscapes are situated to the west of the Project Area; the Rothbury Soil Landscape is situated to the north and the east; and the Saxonvale Soil Landscape is situated to the south west of the Project Area.

The Branxton Soil Landscape is present in this area that cover undulating low hills and along small creek flats. This soil landscape extends from Singleton to Cessnock. There are five dominant soil types in this landscape which are described in Table 2 (Kovac and Lawrie 1991), which summarises the characteristics of the soils in this landscape.



Table 2 Summary of the Branxton Soil Landscape

Soil	Topsoil/ Subsoil	Description	Depth	Landform	
Yellow Podzolic Soils	Topsoil	Brown sandy loam with weak structure and has a definite change to dull yellow orange loamy sand. pH level is moderately acidic	20cm		
	Subsoil	Bright brown light medium clay that has prominent yellow and grey mottles. There is a gradual change to bright reddish brown medium clay that has brown and yellow mottles, slightly acidic	>20cm	Midslopes	
Red Podzolic Soils	Topsoil	Dark Reddish Brown fine sandy loam, which gradually changes to a brown sandy loam. Is moderately acidic	25cm		
	Subsoil	Reddish brown medium clay with a strong structure with smooth-faced peds that gradually changes to yellow brown light medium clay with a strong structure and orange and grey mottles. The pH level is moderately acidic.	>25cm	Crests	
Yellow Soloths	Topsoil	Bright brown or brown loamy sand with weak structure that gradually changes to a bleached bright brown or yellow orange loamy sand	25cm	Lower Slopes and Creeks	
	Subsoil	Bright brown medium clay that may be mottled	>25cm		
Alluvial Sands	Topsoil	Brown loamy sand that overlies dull yellow loamy sand	20cm	Creeks	
Siliceous	Topsoil	Dark brown sandy loam that is situated on a dull yellowish brown fine sandy loam	70cm		
	Subsoil	Brown loamy sand	>70cm		

Source: (Kovac and Lawrie 1991)

If subsurface artefacts are present in these soil types, it is predicted that they would be present in the topsoil layers and not the clay layers (subsoil layers).

Exposed soil profiles in the Loder Creek (also known as Loders Creek) area are typically duplex soils comprising A horizon grey to buff colluvial soils, commonly found across the Hunter Valley area and in the Central Lowlands. This upper soil layer overlies the weathered clayey B horizon soils. Artefacts are often found at the interface of the fine grained A horizon soils and the gravel-rich clays of the B horizon.

4.3 Topography and Hydrology

The topography and hydrology has been described below to assist in understanding why Aboriginal people would have been occupying this landscape in the past. The Project Area is low lying and is characterised by undulating hills and creek lines. The elevation of the Project Area is approximately 55 metres to 65 metres Australian Height Datum (AHD). An unnamed tributary of Loder Creek traverses the Project Area which has a south west to north easterly axis. Nine Mile creek is located approximately 500 metres to the east.

4.4 Climate

Approximately 18,000 years ago, climatic conditions began to alter which affected the movement and behaviour of past populations within their environs. During this time, notably at the start of the Holocene (more than 11,000 years ago), the melting of the ice sheets in the Northern Hemisphere and Antarctica caused the sea levels to rise, with a corresponding increase in rainfall and temperature. The change in climatic conditions reached its peak about 6,000 years ago (Short 2000:19-21). Up until 1,500 years ago, temperatures decreased slightly, stabilising about 1,000 years ago to temperatures similar to those currently experienced. Consequently, the climate in the locality of the Project Area for the past 1,000 years would be much the same as present day, providing a year round habitable environment.



The climate near Singleton is a cool temperate environment, characterised by cold winters and warm summers. The warmest month is January with an average maximum of 30.6°C and the coolest month is July with an average maximum of 18°C. The wettest month is February with an average of 107.6 millimetres of rain, while the driest month is August with an average of 27.6 millimetres of rain (Bureau of Meteorology, 2013).

4.5 Flora and Fauna

The purpose of this section is to provide an indication of the types of flora and fauna resources which were likely to have been available to Aboriginal people in the past. It is based on broad scale vegetation mapping for NSW (Keith 2006) and does not replace more detailed studies undertaken for the Project Area. The Project Area is within the Hunter-Macleay Dry Sclerophyll Forests.

The Hunter-Macleay Dry Sclerophyll Forests have open canopies with trees up to 30 metres tall; common tree species include spotted gums, iron barks, grey gums, boxes and turpentines (Keith 2006:124-125). The understorey of this vegetation community includes shrubs, herbs, ferns and grasses, thus providing habitat for smaller mammal species. The stubby understorey includes silver-stemmed wattle and forest oak which present as tall shrubs or small trees; smaller shrubs include coffee bush, gorse bitter pea, peach heath, large mock-olive, narrow-leaved geebung and mutton wood (Keith 2006:124-125).

This vegetation community provides habitat for a variety of animals and would have also provided potential food and raw material sources for Aboriginal people. Typical animals that may have been used by Aboriginal people include kangaroos, wallabies, sugar gliders, possums, echidnas, a variety of lizards and snakes, birds, as well as rats and mice. The bones of such animals have been recovered from Aboriginal sites in the Sydney region suggesting that they were sources of food (Attenbrow 2003:70-76), although the hides, bones and teeth of some of the larger mammals may have been used for clothing, ornamentation, or other implements.

4.6 Synthesis

A review of the environmental context of the region shows that there are a number of factors that would have influenced Aboriginal occupation of the area. The underlying geology would have provided raw materials suitable for the manufacture and maintenance of stone tools and the proximity to Loder and Nine Mile Creek would have made the area suitable for Aboriginal occupation. An overview of the environmental context indicates that there would have been an abundance of food and raw material sources available and as such the area would have been a favourable area for Aboriginal occupation.



5.0 Aboriginal Heritage Context

The Aboriginal heritage assessment process requires review of previous archaeological and heritage reports. It is also important that Aboriginal sites are contextualised within the local and regional landscape in order to inform the assessment of scientific significance. The Aboriginal heritage context is also needed in order to develop a predictive model of Aboriginal sites in the Project Area. Historical information provides further information for the interpretation of archaeological sites. This overview of the Aboriginal heritage context has been undertaken in accordance with the relevant guidelines (DECCW 2010a; OEH 2011).

5.1 Historic Records of Aboriginal Occupation

It is necessary to acknowledge that early historical documents were produced for a number of reasons and may contain inaccuracies and/or bias in their reporting of events or other aspects of Aboriginal culture (L'Oste-Brown, Godwin et al. 1998). Nonetheless, some historical documents provide important information and insights into local Aboriginal customs and material culture at the time of non-Indigenous settlement and occupation of the region.

In the late nineteenth century a number of writers described the Aboriginal peoples of the Hunter Valley. J W Fawcett (1898:152) described the "Wonnah-ruah [sic]" tribal district as that area drained by the Hunter River and its tributaries which covered some 2,000 square miles. He estimated the population in 1848 to have numbered between 500-600 people and provides details of some of their customs and dialect. This estimate of the population is similar to that reported by Robert Miller (1886:352) who quotes an informant from the Hunter River district as estimating the Wonnarua population in 1841 as being around 500 individuals. Miller also noted that by 1886 the population was almost extinct (1886:353).

According to Moore (1970) the Wonnarua territory was bounded by the Worimi who occupied the estuarine Hunter River and coastal land in the east, the Gamilaroi to the west, the Gewegal to the north-west and the Darkinjung to the south.

5.1.1 Aboriginal Implements

Fawcett (1898:152) provided a detailed description of the Wonnarua weapons and implements including the spear, woomera or throwing stick, shield, boomerang (both returning and non-returning), tomahawk or hatchet, flint knife, chip of flint or shell for skinning animals, club, yam stick for digging, bags of plaited swamp grass, wooden bowls, nets for catching fish and bark canoes.

5.1.2 Food and Useful Plants

Miller (1886:352) recorded that kangaroos, emus and reptiles were used as sources of protein and described how a variety of roots, most importantly that of the water lily, were roasted and eaten. Fawcett (1898:152) stated that wallabies, bandicoots, kangaroo rats, opossums [sic], rats, snakes, lizards, fish, shellfish, caterpillars, grubs, larvae of wasps, other insects and birds were used by the Aboriginal people as food resources.

W.J. Needham (1981) conducted interviews and research which resulted in a comprehensive study of Aboriginal sites in the Cessnock - Wollombi area. He describes *Xanthorrhoea australis* (grass tree), which is found in the Singleton area, as being an important resource (Needham 1981). Various parts of the grass tree were useful to make spear shafts, for sealing cracks in canoes and for securing stone tips in hunting spears (Needham 1981). It was also used to produce fire when two pieces of the dried flower stem were rubbed together (Needham 1981).



5.1.3 Campsites and Shelters

J.W. Fawcett (1898:152) described the preferred campsites of the "Wonnah-ruah [sic]" tribal district in the Hunter River catchment area as being located close to fresh water and food resources. A vantage ground was also favourable as a precaution against attacks on the camp.

The materials used to construct the campsites and shelters were made from organic matter which is highly unlikely to have been preserved in the archaeological record.

Fawcett (1898:153) also provided a description of the huts constructed for shelter. These huts were generally erected using forked sticks planted in the ground with straight sticks laid in the forks and covered over with sheets of bark sourced from local trees.

5.1.4 Clothing

Summer weather and the milder days of autumn and spring required little in the way of protective clothing; winter however, saw the use of animal skins for both clothing and as blankets (Heath n.d.:43). Miller (1886:352) describes Aboriginal people using possum skin cloaks with an ornamental nautilus shell suspended around the neck on a string.

5.1.5 Burials and Post Contact Phase

There are various reports concerning burial practices of Aboriginal people (Threlkeld in Gunson 1974). Burials appeared to be the most common form of internment with a well-documented preference for burials in sandy or loose soils, most likely resulting from the ease of digging a grave (Threlkeld in Gunson 1974).

5.2 Regional Archaeological Heritage Context

Archaeological evidence suggests that Aboriginal occupation of the Hunter Valley region began at least 35,000 years ago (Koettig 1987). Additional chronological evidence was recovered from the Hunter Valley's northeast mountains for which the following dates were assigned: 34,580±650 (Beta-17009), >20,000 (Beta-20056) and 13,020±360 years before present (BP) (Beta-17271) (Koettig 1987, as cited in Attenbrow 2006). Kuskie (2000:215) identified artefacts at Wollombi Brook, located in a clay horizon that has been dated to between 18,000 and 30,000 years BP. At Glennies Creek, approximately 50 kilometres north-west of the project area, Koettig and Hughes (1983) excavated a hearth on an alluvial terrace where the radiocarbondated charcoal and geomorphological evidence provided a date of between 10,000 to 13,000 years BP. These archaeological sites show that the Hunter Valley region was occupied during the Pleistocene, dated up to 11,000 years ago (Short 2000); Pleistocene sites are generally rare and therefore contain significant archaeological/scientific information as well as demonstrating the long occupation of Aboriginal people in the region.

The majority of Aboriginal sites in the region, however, are dated to the more recent Holocene (<11,000 years ago). This may reflect Aboriginal occupation patterns, but may also be influenced by the inaccessibility of potential coastal Pleistocene sites which were inundated when sea levels rose and reached present levels approximately 6000 years ago (Mulvaney and Kamminga 1999:223). Evidence for Holocene Aboriginal occupation has been recovered from Bobadeen (7,760 calibrated years before present [cal. years BP]), as well as Milbrodale (1,420 cal. years BP) and Sandy Hollow (1,310 cal. years BP) (Moore 1970:58).

Ongoing archaeological investigations in the Hunter Valley have provided a basis for the development of predictive models of site distribution within this region. Studies completed by ERM (2004b) and Koettig and Hughes (1983) have demonstrated that open artefact scatters are common throughout the Hunter Valley, with large open sites generally located in proximity to large creeks that provided a more reliable source of



potable water, with smaller open sites distributed through a variety of landforms including large and small creeks, slopes and crests.

Certain typological temporal markers such as backed blades and eloueras are present within the Hunter Valley assemblages. Whilst these provide only a gross indication of time scale, based on the age of the soils and the presence of backed artefacts, the majority of sites in the Hunter Valley are considered to date to the late Holocene period.

The majority of archaeological sites for the Singleton area are dated within the Holocene period (between 11,000 BP and present time). Wheeler (2006:5) believed the large number of sites in the area which date to this period is the result of increased Aboriginal populations and 'intensification' of site usage during the Holocene. Alternately, the high frequency of recorded sites dating to the Holocene in the Singleton LGA may be due to the rise in sea levels around 6,000 BP erasing evidence of older sites located on the coastal margins.

5.2.1 Regional Archaeological Studies

Using colonial records Brayshaw (1986) conducted extensive research of the landscape and the known Aboriginal communities in the broader Hunter Valley area. Although the ethnographic literature refers to ceremonial grounds and carved trees, these represent only a small portion of the sites that would have occurred in the Hunter Valley. Camp sites would have occurred more commonly, but little is recorded regarding the locations of such sites. The literature does indicate that in the Hunter Valley, as elsewhere, the Aboriginal population was quickly and greatly reduced by European diseases.

Brayshaw's research into the ethnographic record also showed the distinction between the material culture and goods manufactured in inland and coastal areas, dependent on the resources available. The exchange of goods between inland and coastal inhabitants was also evident. Organic material including bark, native grasses and vines was commonly utilised for the construction of huts, canoes, cords, nets, drinking vessels, baskets, shields, clubs, boomerangs and spears. Very few such artefacts survive today due to their decomposable nature. Scarred Trees, carved trees, burial sites, ceremonial or Bora Grounds, cave paintings, rock engravings, axe grinding grooves, quarries and wells have all been recorded in the Hunter region. The distribution of these sites would generally have been reliant on environmental and cultural factors such as resource availability.

The colonial records describe the Hunter Valley as having tall cedar trees in the Paterson and Wallis Plains areas, in addition to lagoons, silted flood channels and open swamps. The clearance of the vine forests below Maitland changed the landscape dramatically. The Hunter Valley region was prone to both drought and flooding.

Surveys undertaken in the surrounding Warkworth and Jerry's Plains areas include, but are not limited to, those by Dyall (September 1979), Dyall (November 1979), Brayshaw (1981), Brayshaw and Haglund (1984), Koettig and Hughes (1983) and Australian Museum Business Service (AMBS 2002b).

5.3 Aboriginal Heritage Information Management System

A search of the Aboriginal Heritage Information Management System (AHIMS) database was undertaken on 16 July 2013 for the coordinates GDA Zone 56, Eastings 321100 to 323400 and Northings 6384400 to 6385900 (Appendix 6). This search revealed that there were 40 previously registered sites within those coordinates (Table 3 and Figure 2).



Table 3 Summary of AHIMS Results Ordered by Site Types and Frequency

Site Type	Frequency	Percent
Artefact(s) Unspecified	32	80.00%
Artefact Scatter	3	7.50%
Axe Grinding Groove	1	2.50%
Isolated Find	2	5.00%
PAD	1	2.50%
PAD, Scarred Tree	1	2.50%
Total	40	100%

Source: AHIMS Search results 16 July 2013

The results of the AHIMS search show that artefact sites are generally located in close proximity to creek lines on two levels of terraces. These areas would have been well drained. PADs and scarred trees if present would be found near creeks, but on the upper bank in highly vegetated areas with mature trees.

In the regional area artefact sites make the most common site type identified. PADs and axe grinding grooves have also been recorded in the region. Two PADs (#37-6-2715 and #37-6-2716) that had been previously recorded on the AHIMS database were situated in the broader Assessment Area but not within the Ramp 22 Sedimentation Dam Footprint Area.

Of the 40 sites identified in the AHIMS search, only six were within the Project Area: AHIMS Sites #37-6-0529; #37-6-0530; #37-6-1108; 37-6-1109; #37-6-1114; and #37-6-2716 (Figure 3 and Table 4). Site #37-6-2715 is outside the Project Area, but is within the Survey Area.

A review of the AHIMS and Site Cards indicates there are a number of anomalies between the AHIMS database and the Site Cards (Table 4).

Table 4 AHIMS Site Status in the Project Area & Broader Survey Area

AHIMS Number	Site Type	Salvage Permit	AHIMS Status	Site Card Description
37-6-0529	Artefact Unspecified	Koettig: 1991; Permit #746	Valid	Partially Salvaged
37-6-0530	Artefact Unspecified	Koettig;1991; Permit #746	Destroyed	Partially Salvaged
37-6-1108	Isolated Find	ERM; 2004; Permit #1795	Destroyed	Fully Salvaged
37-6-1109	Artefact Unspecified	ERM; 2004; Permit #1795	Destroyed	Fully Salvaged
37-6-1114	Artefact Scatter	ERM; 2004; Permit #1795	Destroyed	Valid
37-6-2715	PAD		Valid	Valid
37-6-2716	PAD		Valid	Valid

In addition to these anomalies, it was found that some of Koettig's sites had been recorded incorrectly on the AHIMS database by OEH. The sites were ground truthed during the field survey. AHIMS #37-6-2716 was recorded on the AHIMS database as a PAD and Scarred Tree site, but was recorded on the site card as a PAD, with no reference to a modified tree. A report by AMBS (2002), which covered this site in the assessment, also makes no mention of a culturally modified tree at this site. Therefore, it is considered that the recording of a modified tree in the AHIMS #37-6-2716 site card is an error and RPS recommends that the AHIMS database be amended.

A full glossary of Aboriginal site types is available in Appendix 7. Site cards for newly recorded sites are included in Appendix 8.



5.4 Local Archaeological Heritage Context

The local Aboriginal heritage context provides a review of previous archaeological work conducted in the local landscape, identifies whether Aboriginal sites have been previously identified in the Project Area (using the Aboriginal Heritage Information Management System [AHIMS] database), and informs the predictive model of Aboriginal sites for the Project Area. The review of previous archaeological work includes relevant local research publications as well as archaeological consultancy reports. Two types of archaeological investigation are generally undertaken, excavation and survey. Archaeological excavations can provide high resolution data regarding specific sites, such as the dates or chronology of Aboriginal occupation and information on stone tool technology (such as reduction sequences, raw material use, tool production, use wear and retouch).

Archaeological surveys generally cover wider areas than excavations and can provide important information on the spatial distribution of sites. The detection of sites during survey can be influenced by the amount of disturbance or erosion and therefore sensitivity mapping is sometimes also required to interpret survey results. The local Aboriginal heritage context also provides a framework for assessing local significance.

5.4.1 Local Archaeological Studies

A number of archaeological surveys have been undertaken in the Hunter Valley, including some in areas relevant to the Project Area. Those that were available and most pertinent to the current Project Area are summarised below. The information from the previous work will assist with predictive modelling by identifying potential archaeological sites and allowing for planning and management recommendations to be formulated with confidence.

Dyall, 1981, Aboriginal Relics, Saxonvale Coal Mine

Dyall undertook a survey of what was then the proposed Saxonvale Coal Mine. The area examined by Dyall (1981) was approximately 35km² and the survey identified eight stone artefact scatters, three isolated finds and a set of two grinding grooves. Three of the scatters contained more than 100 artefacts and whole or fragmentary ground edge axes were located in four sites. One site also contained a grinding stone.

Dyall (1981:4) noted that at some tributaries of Loders Creek (also known as Loder Creek) no artefacts or cultural material were present and that Wollombi Brook showed more evidence of occupation than the Loders Creek area. Dyall also noted that the water in the creeks that drained the area was saline and even after substantial rainfall the water of Loders Creek was not suitable for drinking (Dyall 1981:5). As such it was considered by Dyall that the area may not have been suitable for Aboriginal occupation due to unsuitable drinking water (Dyall 1981).

Stern, 1981, Salvage Excavation Nile Mile Creek

Stern undertook the subsurface salvage and assessment on a tributary of Nine Mile Creek, north east of the current Project Area. This site had been located by Dyall (1981) and was to be partially impacted by the construction of a rail loop to service the Saxonvale Mine. Two test pits were excavated with the bulk of the archaeological material located in one test pit which comprised predominantly retouched pieces with no diagnostic tool types; with the remainder of the assemblage containing flakes and chipped debris (Stern 1981). The second test pit contained a geometric microlith and a small number of retouched pieces (Stern 1981).

Brayshaw, 1988, Archaeological Survey, Bulga

Brayshaw undertook a reconnaissance survey for the Bulga Coal Project EIS, during which she recorded seven sites. These sites comprised of three artefact scatters along Loders Creek, one artefact scatter on



Nine Mile Creek, one artefact scatter on a tributary of Wollombi Brook and five isolated finds and one scar tree located near Charlton Road (Brayshaw 1988).

Brayshaw, 1991, Additional Survey, Bulga

In 1991, Brayshaw returned for further investigation of the Loders Creek area. During this survey Brayshaw identified a further six artefact scatters associated with Loders Creek and its tributaries (Brayshaw 1991). In contrast with Dyall's (1981) previous assessment, Brayshaw found the heaviest concentration of artefacts along Loders Creek and its tributaries, with Nine Mile Creek containing relatively fewer artefacts. Three sites identified by Brayshaw on Nine Mile Creek all contained less than 50 artefacts (Brayshaw 1991). In contrast, six of the sites located on Loders Creek contained more than 100 artefacts. Brayshaw summarised the results by suggesting that evidence of occupation was particularly dense along Loders Creek and that knapping floors could be identified within site concentrations (Brayshaw 1991:18).

Koettig, 1991, Survey and Test Excavation, Bulga

Koettig undertook additional archaeological work in the area surveyed by Brayshaw (1988, 1991). The survey identified an additional 59 archaeological sites.

The largest of the sites recorded by Koettig (1991:19) contained between 200 and 500 artefacts. Only 11 of the 59 sites identified in Koettig's survey were more than 50 metres from creeks. Of these, only three contained more than ten artefacts, suggesting a rapid decrease in site frequency and site size with increased distance from water. Koettig's (1991) survey reaffirmed Brayshaw's observation that sites were more concentrated on Loders Creek than on Nine Mile Creek. Three sites identified by Koettig during the course of her survey were B53, B54 and B71, which were just beyond the boundaries of the assessment area. Site cards were generated for all the sites found in the area.

Test excavations were then carried out at 11 locations in order to establish if archaeological material extended onto the creek flats and beyond the area where artefacts were exposed on the creek bank (Koettig 1991:26).

From the results of the subsurface testing program, Koettig (1991:27-30) concluded that artefact scatters were concentrated along banks and flats of the major and minor creeks, whilst smaller and more diffuse drainage channels appeared to have little archaeological evidence. It was also reported that when artefacts were identified on slopes or ridge crests, the artefact numbers were low and were generally not found on ridge crests more than 200 metres from a creek line. Koettig also identified that Loders Creek was an area of high archaeological sensitivity (Koettig 1991).

Navin Officer, 1992, Archaeological Survey, South Bulga

Navin Officer completed an archaeological investigation as part of an EIS for expansion of mining operations for the then South Bulga Colliery. The survey identified two artefact scatters and three isolated finds on the upper reaches of Nine Mile Creek. Due to the significant level of erosion, it was considered unlikely that additional artefacts would be present in the sub surface context (Navin Officer 1992).

Koettig, 1994, Salvage Excavation, Bulga

Koettig reported the results of salvage excavation of three sites (B8, B46 and B58) previously identified at the Bulga Complex (Koettig 1991). The sites were situated along the banks of Loders Creek. A total of 98 square metres were excavated. The report presents the final analyses of the material recovered by the test excavations and details of the artefact analysis at B8 and B58 and describes hearths and stone features identified at the sites. Site structure and site patterning were investigated and the artefact analysis focused on the reduction sequences and strategies at the sites, a comparison of the assemblages with those



recovered by Koettig from Camberwell, and an analysis of artefact use. Koettig's results indicated that nearly all artefact scatters contained backed blades and the assemblage included the reduction of cores; some of which showed evidence of usewear (1994). The predominant raw materials present were mudstone and silcrete with some chert. Koettig suggested that occupation evidence was virtually continuous along the flats of the larger creeks and that the frequency of occupation was likely to be related to the availability of resources such as drinkable water, food and raw materials suitable for the manufacture of tools (Koettig 1994).

Navin Officer, 1994, Archaeological Survey, South Bulga

Due to the changes in the location of proposed impact areas from the Navin Officer 1992 assessment, an additional assessment was conducted by Navin Officer (1994). The survey identified an artefact scatter on the banks of Nine Mile Creek, which included seven artefacts (Navin Officer 1994).

Navin Officer, 1995, Test Excavation, Bulga

Navin Officer (1995) undertook 12 grader scrapes perpendicular to Loders Creek in an attempt to define the artefact distribution away from the creek. They found differences in artefact distribution across two broad zones away from the creek bank. The spatial patterning of artefacts was interpreted by Navin Officer (1995:33) as reflecting differential Aboriginal occupation relating to frequency and type of use rather than the result of taphonomic processes (Navin Officer 1995). During the course of the test excavations Navin Officer also groundtruthed previously recorded sites in Loders Creek area. Two of the sites B53 and B54 were found to contain a number of artefacts in the exposed upper soil horizons and some had been redeposited downslope on adjacent deflated areas. Artefacts identified were flakes, cores and flaked pebbles and raw materials included silcrete, indurated mudstone, quartz, chert and volcanic (Navin Officer 1995:33).

Heffernan and Klaver, 1997, Archaeological Comparative Assessment, Bulga

Heffernan and Klaver (1997) were commissioned to provide comparative assessment of the four existing conservation zones along Loders Creek within the Bulga Complex and five potential alternative zones, totalling 136 hectares. The aim of the survey was to demonstrate if the other areas surveyed had similar conservation values to the existing conservation zones; if so determined then it was proposed that some of the existing conservation zones could be replaced and the areas utilised for overburden emplacement. Heffernan and Klaver (1997) argued that they had demonstrated that the heritage values represented in the existing conservation zones could be shown to occur in an alternative arrangement of conservation zones.

The survey identified four new sites in the existing conservation zones and 29 artefact scatters, four isolated finds and three scarred trees in the proposed conservation zones. Heffernan and Klaver (1997) reaffirmed Koettig's earlier observation for Loders Creek that a strong correlation existed between site size and frequency and distance to water (Heffernan and Klaver 1997).

ERM Mitchell McCotter, 1999, Bulga Open Cut Mine Archaeological Assessment

ERM Mitchell McCotter (1999) undertook an archaeological survey of two areas on either side of Broke Road as part of a proposed extension of Bulga Coal Mine operations. ERM identified nine isolated finds and eight artefact scatters. ERM recommended that Consent to Destroy be sought for these sites. This consent has subsequently been issued and the sites destroyed (ERM 1999).

ERM Mitchell McCotter, 2000, South Bulga Colliery South - East Extension. Archaeological Assessment, Bulga

ERM (2000) undertook an archaeological investigation of the proposed South Eastern Extension to South Bulga Coal Mine. Their study area included areas southeast of Broke Road and the "Vere" location within



the Singleton Army Training area. A total of 31 Aboriginal sites were identified including two rock shelters, 14 stone artefacts and 13 isolated stone artefacts. The rock shelters reflect different terrain included in the Vere, an eastern outlier of the rugged Broken Back Range west of Wollombi Brook. The remainder of the ERM study area was composed of gentle slopes and low rolling hills that are typical of the Central Lowlands (ERM 2000).

Umwelt 2001, Archaeological Survey, Bulga

Umwelt (2001) prepared an EIS for the Beltana No.1 Underground Mine which was related to the removal of coal in the Whybrow seam by longwall mining methods. An area of 600 hectares was surveyed. The survey identified 21 sites, which consisted of 13 artefact scatters, seven isolated finds and one grinding groove complex. The most extensive sites occurred along an unnamed tributary of Wollombi Brook. One artefact scatter contained more than 2000 artefacts, which were located in erosion scours along both sides of the unnamed tributary and several knapping floors were identified. Associated with this large artefact scatter was a set of 39 grinding grooves on a sandstone platform within the bed of the drainage line.

Umwelt (2001) also identified the presence of porcellanite which had not previously been reported from assemblages along Loders or Nine Mile Creeks and their tributaries. The porcellanite artefacts recorded were part of a knapping floor, located on an unnamed tributary of Wollombi Brook (Umwelt 2001).

AMBS. 2002, Abbey Green, Mount Thorley Mine, Hunter Valley, Archaeological Assessment

AMBS was engaged by Coal and Allied in 2002 to conduct and archaeological assessment at Abbey Green for the development of a haul road and the expansion of a sediment dump. The assessment identified seven new sites of low to medium artefact densities. Three PADs were identified during this assessment, along a creek bank. It was considered that these PADs were highly likely to have subsurface artefacts in non-eroded areas. The sites identified were AG-OS-1, AG-OS-2, AG-OS-3 (and AG-PAD-1), AG-OS-4 (and AG-PAD-2), AG-OS-5 (and AG-PAD-3), AG-IF-1, AG-IF-2. A Partial Consent to Destroy Permit had been issued for AHIMS Sites #37-6-0529 and #37-6-0530. These two previously recorded and partially salvaged sites were also inspected. These two artefact scatters were noted as being situated on the southern bank of the tributary of Loder Creek and as having been only partially salvaged (AMBS 2002a:21 & 30).

The significance assessment assessed each site as having low to medium archaeological significance. This assessment was based on the condition of the site, the extent and size of the site, and where material for stone tool manufacture had been obtained. The majority of sites were disturbed, several were small in nature and the stone types used for manufacturing tools were considered to have been sourced locally (AMBS 2002a).

Umwelt, 2003, Archaeological Survey, Bulga

As part of an EIS report, Umwelt (2003) undertook an archaeological survey and assessment of proposed continued underground coal mining operations at the Bulga Complex which was commissioned by Bulga Coal Management. A total of 29 Aboriginal sites were identified during the survey, which comprised 19 artefact scatters and 10 isolated finds (Umwelt 2003).

ERM, 2004, Aboriginal Cultural Salvage at Abbey Green, Mount Thorley Mine

As part of a Cultural Salvage, ERM and the registered Aboriginal Community Stakeholders salvaged six previously recorded sites (AHIMS site #37-6-1108; #37-6-1109; #37-6-1110; #37-6-1111; #37-6-1112 and #37-6-1113). Two isolated artefact sites (#37-6-1108 and #37-6-1109) and four artefact scatters (#37-6-1110; #37-6-1111; #37-6-1112 and #37-6-1113) were salvaged as part of these works. The project salvaged 724 artefacts both from surface collection (via transects) and test excavation. During the surface collection



11 retouched flakes were identified, 10 of those were mudstone. The majority of artefacts collected during the surface collection were mudstone (80.45%), with silcrete the next most common (16.06%). Quartz artefacts formed approximately 3.14% of the total assemblage and quartzite and siltstone comprised approximately 0.35% of the total artefact assemblage.

The test excavation identified that mudstone was approximately 77.33% of the total subsurface assemblage, while silcrete made up approximately 17.33%, chert was 2.66%, quartzite and siltstone together represented approximately 1.34% and quartz was also approximately 1.34% of the total assemblage (ERM 2004a).

Umwelt, 2005, Salvage of Aboriginal Sites, Bulga

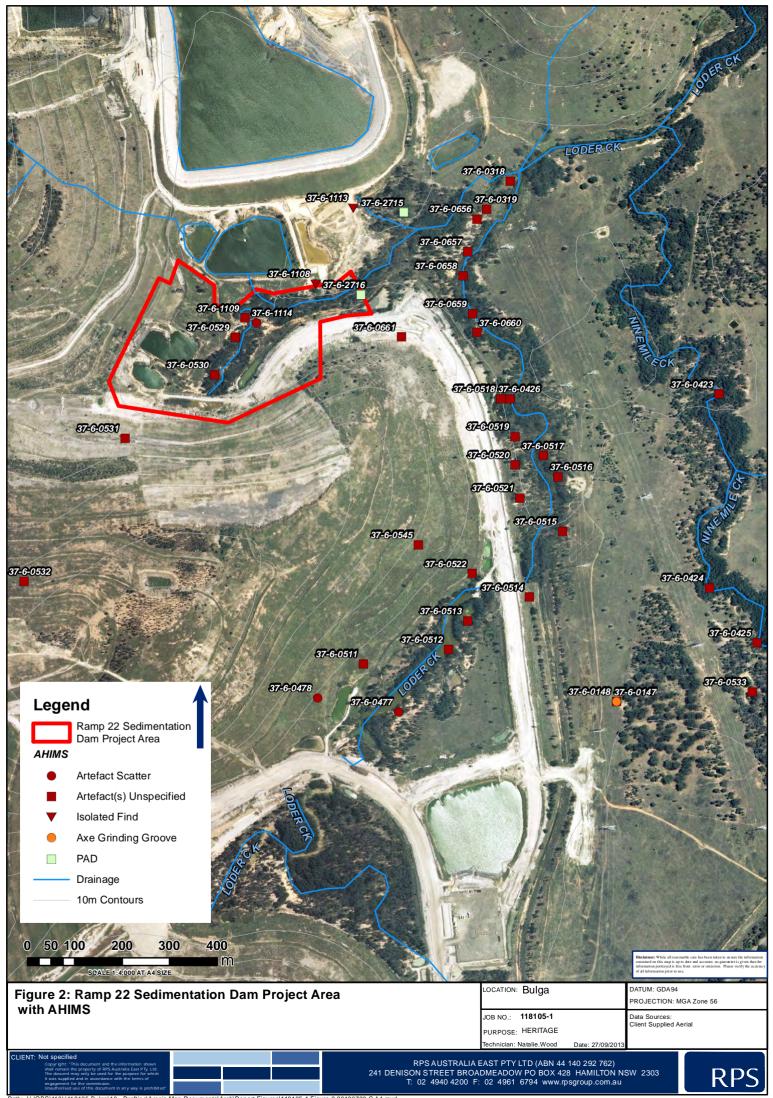
Umwelt (2005) was commissioned by Bulga Coal Management Pty Limited to undertake an archaeological survey at Beltana No. 1 Mine, near Broke. The site surveyed was approximately 600 hectares. The archaeological investigation identified six previously recorded sites that were to be salvaged under NPWS Section 90. The six sites included three isolated finds and three artefact scatters. The sites were salvaged ahead of impact by construction of a pipeline for mine dewatering and drainage works (Umwelt 2005).

Umwelt, 2009, Aboriginal Archaeological Assessment for Bulga CHPP Dam

Umwelt (2009) undertook an Aboriginal archaeological assessment including a site survey for a proposed CHPP Dam. Fifteen sites were identified and the assessment indicated that the likelihood of sub surface artefacts occurring at the site was low due to the highly disturbed nature of the survey area and the depleted soil cover. It was also considered unlikely that any of the archaeological deposits present would retain spatial or stratigraphic integrity. Management recommendations included the salvage of sites which were likely to be harmed by the proposed ground disturbance works (Umwelt 2009a).

Umwelt, 2009, Environmental Assessment Modification of Bulga Coal Surface Operations CHPP Dam

In 2009, Umwelt prepared an Environmental Assessment for the proposed modifications of Bulga coal surface operations at the CHPP Dam at Bulga Coal Complex. Aboriginal Community consultation was undertaken from the inception of the Project. A total of 15 Aboriginal cultural heritage sites were identified in an area that was considered to be highly disturbed and unlikely to hold any large sub-surface archaeological deposits. Any sites that were present were considered unlikely to retain archaeological integrity. The EA (Umwelt 2009) identified potential impacts associated with the proposed CHPP Dam and a range of management and mitigation measures were proposed which included surface collection of artefacts from recorded sites within the archaeological assessment area including any areas containing visible artefacts within the proposed AHIP area (Umwelt 2009b).







5.5 Predictive Model for Archaeology in the Project Area

A predictive model is created to give an indication of Aboriginal sites likely to occur within the Project Area. It draws on the review of the existing information from the regional and local archaeological context and the environmental context. The predictive model is necessary to formulate appropriate field methodologies in addition to providing information for the assessment of archaeological significance.

There are a number of factors that influence Aboriginal occupation of an area. These include essential subsistence resources such as food (flora and fauna) and fresh water. Additionally, floral and faunal resources were used for clothing, medicines, shelter and baskets and shields. Raw stone materials were utilised for the manufacture of tools and weapons. Flat elevated areas would have been favoured as places for occupation. Cultural or spiritual sites, such as corroboree sites, mythological places and initiation sites, may have been associated with certain landforms or specific sites or areas in the landscape.

5.6 Site Predictions

The following site predictions for the Project Area have been made on the basis of the environmental context, available historic observations of Aboriginal people in the region, archaeological studies and analysis of the AHIMS data.

5.6.1 Site Type

The Project Area is located inland in an area which has been extensively farmed and mined. On the basis of the AHIMS data and the information available from previous archaeological investigations, it is considered that artefact sites (scatters and isolated finds) would be the most likely site type to be present in the Project Area. One PAD (AG-PAD-3) AHIMS #37-6-2716 was recorded on the AHIMS database as PAD and scarred tree, but inspection of the site card shows that this site was described as a PAD only and makes no reference to a modified tree. Review of the report by AMBS 2002 associated with the site card also makes no mention of a culturally modified tree at this site. A number of PADs have been recorded in the Project Area and surrounds. As such it is considered likely that PADs may also be present in the Project Area. As this area has been subjected to extensive disturbances including vegetation clearing and rehabilitation it is considered unlikely that any culturally modified trees will be present. As there are a number of previously recorded artefact sites and PADs in the local area it is considered likely that these site types will occur in the Project Area.

5.6.2 Site Locations

The majority of artefact scatters and isolated finds in the vicinity of the Project Area have previously been identified within 100 metres of a watercourse and many within 50 metres of a watercourse. This indicates that the locations in the Project Area with the highest potential to contain artefact sites would be those near watercourses or drainage lines, generally above the floodplain. Considering that a tributary of Loders Creek runs through the Project Area, it is highly likely that artefact sites will be present. Grinding grooves are likely to occur if suitable sandstone outcrop is found along creek lines. PADs are likely to be present in areas that have not been severely eroded and scarred trees are more likely to be present closer to creek lines in areas that have not been cleared of mature trees.

5.6.3 Site Contents

A review of previous archaeological investigations in the local area indicated that artefact scatters, isolated finds and artefacts associated with PADs generally comprised flaked stone artefacts manufactured predominantly from silcrete and mudstone/silicified tuff, with minor representations of tuff, quartz and quartzite and occasionally basalt, rhyolite, porcellinite, chert, chalcedony and petrified wood. It was therefore



predicted that sites with artefacts within the Project Area would be characterised by flaked stone tools, cores and flakes largely manufactured from mudstone and silcrete.

5.6.4 Summary

Review of previous archaeological investigations in the regional area, Aboriginal site predictive modelling for the Project Area and analysis of this data were used to interpret the archaeological record which indicated that artefact scatters and isolated finds were the most likely site types to be present in the Project Area followed by PADs.

Research conducted for the Singleton area prior to the field survey found that the area was rich in stone artefact sites, with previous archaeological information indicating that the dominant raw materials were mudstone and silcrete with minor occurrences of quartz, quartzite, chert, tuff, porcellinite, sandstone and basalt. This research also found that stone artefact sites were most likely to occur on level to very gently inclined lower slopes, in valley flats and within 50 to 100 metres of streams.

Consideration of the existing land modifications in the overall Assessment Area and the results of the previous field surveys illustrated that the predicted connection between an artefact and its environment had been compromised in the highly disturbed parts of the Project Area such as dams, infrastructure and formed dirt tracks.



6.0 Aboriginal Archaeological Field Survey

6.1 Survey Methodology

This heritage assessment has been undertaken in accordance with OEH guidelines for survey reporting in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW* (DECCW 2010a).

6.1.1 Survey Aims

The integrated archaeological survey and Aboriginal Cultural Heritage Assessment was undertaken in order to identify Aboriginal archaeological sites in the Project Area (Figure 1) including groundtruthing any previously recorded sites and recording new sites. This included determining the visible extent of artefact scatter sites. The survey methodology was formulated with these aims in mind and focused on landforms associated with previously recorded Aboriginal cultural heritage sites (Figure 2), exposed ground surfaces and surveying the various landforms and inspecting vegetated areas within the Assessment Area. Previously approved dam construction and associated infrastructure works including installation of a water pumping station, lined drainage channel and access road has been undertaken in the Project Area (Figure 4). The survey also afforded the CHWG representatives the opportunity to assess the area for Aboriginal cultural heritage features and significance.

6.1.2 Field Methods

The survey was conducted on foot (pedestrian) with one team walking in transects over the Survey Area (Figure 4) and another team recording the sites as they were identified (Figure 5). The area surveyed was divided into survey units with each survey unit mapped and recorded in accordance with landforms, impact area boundaries, changes in survey conditions (such as visibility or ground surface exposure) and other relevant considerations.

The mapping of survey units was undertaken on the basis of global positioning system (GPS) recorded data and with reference to aerial and topographic information. The recording of survey units was undertaken using representative digital photographs and field notes which included observations of soils, ground surface exposure and visibility, vegetation cover, rock outcrops, levels of ground surface disturbance and the effects of erosion. Artefact sites were recorded using a GPS.

The field notes provide a basis for the reporting of survey coverage and calculating survey effectiveness as presented in the survey results section. It is required that any new Aboriginal sites identified are recorded and submitted for registration on the AHIMS database. Such recording involves the documentation of the material traces of past Aboriginal land use, including the spatial extent of sites and any other obvious physical boundaries.

Aboriginal cultural sites identified by CHWG representatives may not always involve material traces and boundaries of such sites are mapped on the basis of information provided by the RAPs.

6.1.3 Review of AHIMS Information

Analysis of the data previously recorded on the AHIMS database was undertaken to verify the location of the sites and to identify which sites had been previously salvaged, and whether they had been subject to partial salvage or had been completely salvaged (Figure 3 and Figure 5). These sites were groundtruthed during the field survey (Table 5 & Table 6).



Table 5 Review of AHIMS Site Status in the Project Area

AHIMS Number	Site Type	AHIMS Site Status	Review of Results by RPS
37-6-0529	Artefact Unspecified	Valid	Partially Salvaged - Extant
37-6-0530	Artefact Unspecified	Destroyed	Partially Salvaged - Extant
37-6-1108	Isolated Find	Destroyed	Fully Salvaged - Destroyed
37-6-1109	Artefact Unspecified	Destroyed	Fully Salvaged - Destroyed
37-6-1114	Artefact Scatter	Destroyed	Extant
37-6-2716	PAD	Valid	Extant

Table 6 AHIMS Site in Survey Area but outside Project Area

AHIMS Number	Site Type	AHIMS Site Status	Review of Results by RPS
37-6-2715	PAD	Valid	Extant

Table 7 GSV Rating

GSV Rating	Description
0 – 9%	Heavy vegetation with scrub foliage, debris cover and/or dense tree cover. Ground surface not clearly visible.
10 – 29%	Moderate level of vegetation, scrub or tree cover. Small patches of soil surface visible resulting from animal tracks, erosion or blowouts. Patches of ground surface visible.
30 – 49%	Moderate levels of vegetation, scrub and/or tree cover. Moderate sized patches of soil surface visible possibly associated with animal tracks, walking tracks and erosion surfaces. Moderate to small patches across a larger section of the Project Area.
50 – 59%	Moderate to low level of vegetation, tree and/or scrub. Greater amounts of areas of ground surface visible in the form of erosion scalds, recent ploughing, grading or clearing.
60 – 79%	Low levels of vegetation and scrub cover. High incidence of ground surface visible due to recent or past land–use practices such as ploughing, grading and mining. Moderate level of GSV due to sheet wash erosion, erosion scalds and erosion scours.
80 – 100%	Very low to nonexistent levels of vegetation and scrub cover. High incidence of ground surface visible due to past or recent land use practices, such as ploughing, grading and mining. Extensive erosion such as rill erosion, gilgai, sheet wash, erosion scours and scalds.

Table 8 Survey Coverage Data

Survey unit Number	Landform	Survey Unit Area (m2)	Visibility (%) GSV Rating	Exposure (%)	Effective Coverage Area (m2)
1	Upper Slope North Bank	11592.9	80	60	9274
2	Mid Slope North Bank	8927.8	60	60	6696
3	Lower Bank and Creek Bed	6053.2	50	50	1816
4	Mid Slope South Bank	9162.7	80	80	7788
5	Upper Slope South Bank	16959.7	60	50	10176
6	Simple Slope	15679.5	80	75	11760



Survey Units

The archaeological and Aboriginal cultural heritage field survey was conducted by Senior Cultural Heritage Consultant Gillian Goode and Cultural Heritage Consultant Jeremy Hill, both of RPS, together with Dr David Cameron (Manager Cultural Heritage) and Graduate Cultural Heritage Georgia Bennett of RTCA. The survey was undertaken with the participation of six representatives from the CHWG. The Registered Aboriginal Parties (RAPs) that participated in the field survey were Cacatua Culture Consultants, Hunter Valley Aboriginal Corporation, Tocumwall, Ungooroo Aboriginal Corporation, Upper Hunter Wonnarua Council Inc, Wanaruah Local Aboriginal Land Council and Wonnarua Nation Aboriginal Corporation. The surveys were undertaken on Tuesday 23 July and Wednesday 24 July 2013, with additional survey undertaken on Friday 13 September 2013 on the BSO lease.

Survey units were described for each survey area. In particular, exposure and ground surface visibility were reported to ensure comparability of survey results between different areas of the local landscape and to contextualise survey results. Areas with high visibility and exposure were found to have extensive land surface disturbance, generating higher quantities of exposed archaeological material that was not *in situ*. Conversely, areas with low visibility and exposure, particularly due to undisturbed native vegetation coverage, are generally more intact landscapes and thus more likely to contain *in situ* archaeological deposits. Such sites can be difficult to identify due to the low visibility (Plate 1 to Plate 18).

The Project Area was divided into seven areas with six survey units according to landform and an area that had been previously approved for development works associated with Consent to Destroy Permit 1795 for the installation of dams and associated infrastructure (Figure 4). The survey results are shown in Figure 5 and the proposed disturbance footprint in Figure 7.

Ground surface exposure (GSE) and ground surface visibility (GSV) were recorded and analysed for each survey unit. GSV was recorded as a percentage range (Table 7) and sample fractions of the survey coverage data are shown in Table 8.

6.2.1 Survey Unit I – Upper North West Bank

This survey unit focused on the upper north western bank of an unnamed perennial first order tributary of Loder Creek (Figure 4). The survey unit was located between the previous disturbance and dam construction areas to the north and a break in slope, which served as a division between this survey unit and the mid north western bank directly to the south. The upper bank was gently sloping. Disturbances in this survey unit included previous land clearing, erosion processes (rill and sheet wash), and animal tracks. Vegetation primarily consisted of grasses, reeds and Casuarina trees. Exposures in the survey unit were the result of erosion and the clayey B horizon was exposed. GSE and GSV in this survey unit were high in the exposed and eroded areas and moderate in the vegetated areas.

There was potential for artefacts to be present due to its close proximity to the creek and artefacts were identified on the surface of the exposed B horizon which had been affected by sheet wash. Isolated artefacts were scattered across the slope.

A number of artefact scatters and isolated find sites were identified across the survey unit (Figure 5).

6.2.2 Survey Unit 2 – Mid North West Bank

This survey unit focused on the mid north western bank of an unnamed first order tributary of Loder Creek (Figure 4). This survey unit is located between the upper bank and the lower bank and creek bed areas on the north western side of the creek. This terraced area had been eroded and showed evidence of previous inundation events. Immature Casuarina trees and some grasses and reeds were present in the area.



Disturbances in the area included previous clearing, erosion processes (rill and sheet wash), animal tracks and inundation from the creek. The GSV and GSE for this survey unit were moderate to high. It was considered that this survey unit had potential for artefact sites to be present due to its proximity to the unnamed tributary of Loder Creek.

A number of artefact scatters and isolated find sites were identified across the survey unit (Figure 5).

6.2.3 Survey Unit 3 – Lower Bank and Creek Bed

This survey unit focused on the lower bank and creek bed of the first order unnamed tributary that crossed the Project Area (Figure 4). No sites were identified in this survey unit. The creek bed and the lower slope were populated with grasses, Casuarinas and reeds. The areas where reeds grew thickly in the creek reduced the GSV and thus made it difficult to identify whether any Aboriginal objects were present. Leaf litter on the lower slope of the creek line also reduced GSV. However, areas where there was no vegetation and no running water were inspected and no artefacts were found in the creek bed or creek bank. There were no mature Casuarina trees present and there was evidence of previous land clearing activities. The disturbances in this survey unit included animal tracks, tree felling, erosion processes, creek inundation and loose fragments of coal fallen from the nearby haul road. The erosion in the area consisted of rill erosion and sheet wash. The creek has a south west to north east trending axis.

There was no evidence of any Aboriginal objects in the lower creek bank and creek bed.

6.2.4 Survey Unit 4 – Mid South East Bank

This survey unit encompassed the entire mid south bank area (Figure 4). The area was populated with Casuarinas and was grassed close to the boundary between MTO and BSO. Other parts of this survey unit were relatively flat lying terraces which had extensive areas of PAD associated with large artefact scatters. The GSV in the area was moderate to low and the GSE was high. This survey unit was situated between the break in slope of the lower bank and the upper bank. The disturbances in this survey unit included animal tracks, erosion (rill and sheet wash), creek inundation, previous clearing and shale and coal fragments which had fallen from the nearby haul road and washed downslope. This survey unit had high potential for artefacts to be present due to the flat lying terraced areas and their close proximity to a first order unnamed tributary. The land dropped sharply at the edge of the terraced areas with steep sided banks to the creek where access was hindered by slippery slopes and steep descents.

A number of artefact scatters and isolated find sites were identified across the survey unit (Figure 5).

6.2.5 Survey Unit 5 – Upper South East Bank

This survey unit focused on the upper south eastern bank of the first order tributary (Figure 4). The parameters of this survey unit were defined by the vertical drop off into the tributary and by the contour bank to the south. The survey unit was heavily populated with juvenile Casuarina trees. The GSV in this survey unit was moderate due to the high amount of leaf litter and GSE was also moderate. Disturbances consisted of some erosion (sheet wash), animal tracks, fence constructions and previous clearing activities. A nearby haul road was located to the south and spoil had washed from the road into this survey unit.

A number of artefact scatters and isolated find sites were identified across the survey unit (Figure 5).

6.2.6 Survey Unit 6 - Simple North West Slope

This survey unit (Figure 4) has been subject to extensive disturbance including dam bund wall construction works, water pumping station construction, powerline, vehicle tracks, fencing, sedimentation dam works, vehicle movements, vegetation clearing and previous archaeological salvage works. This area was



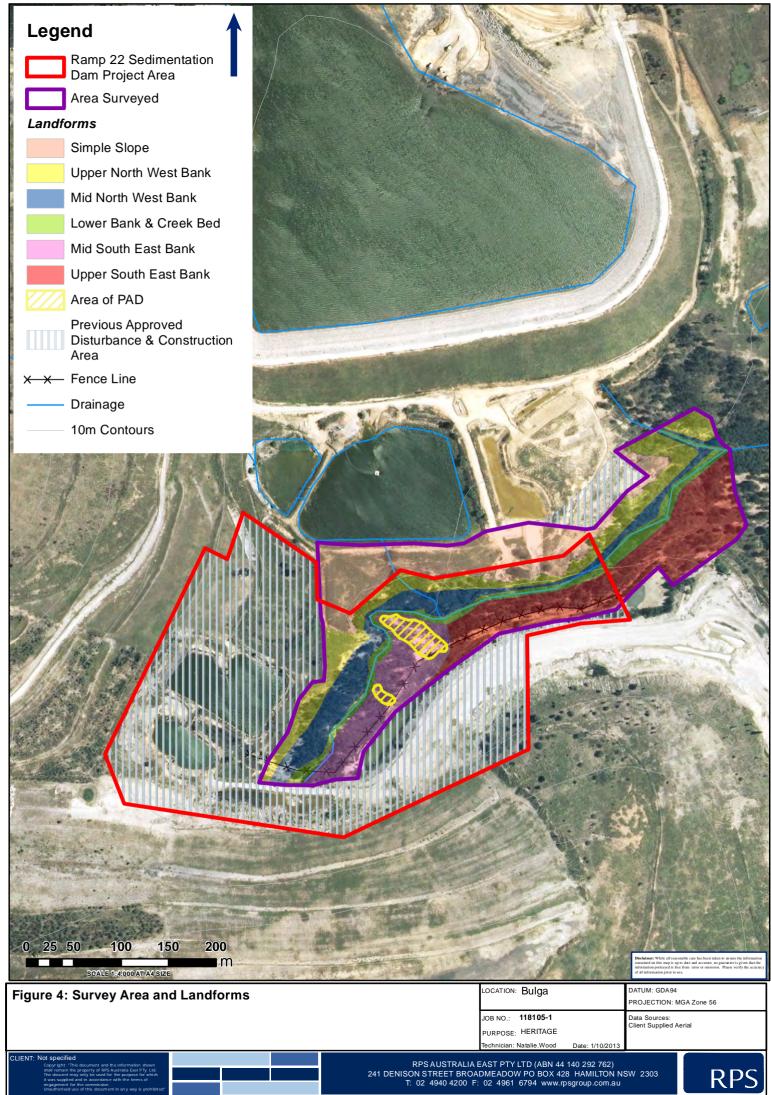
inspected because it was likely that it would be used as an access for construction vehicles during the proposed construction of the sedimentation dam.

In 2004 ERM salvaged a flaked stone artefact site in this survey unit, AHIMS site #37-6-1108. The site location was groundtruthed but no additional artefacts were identified and as such this site is considered fully salvaged.

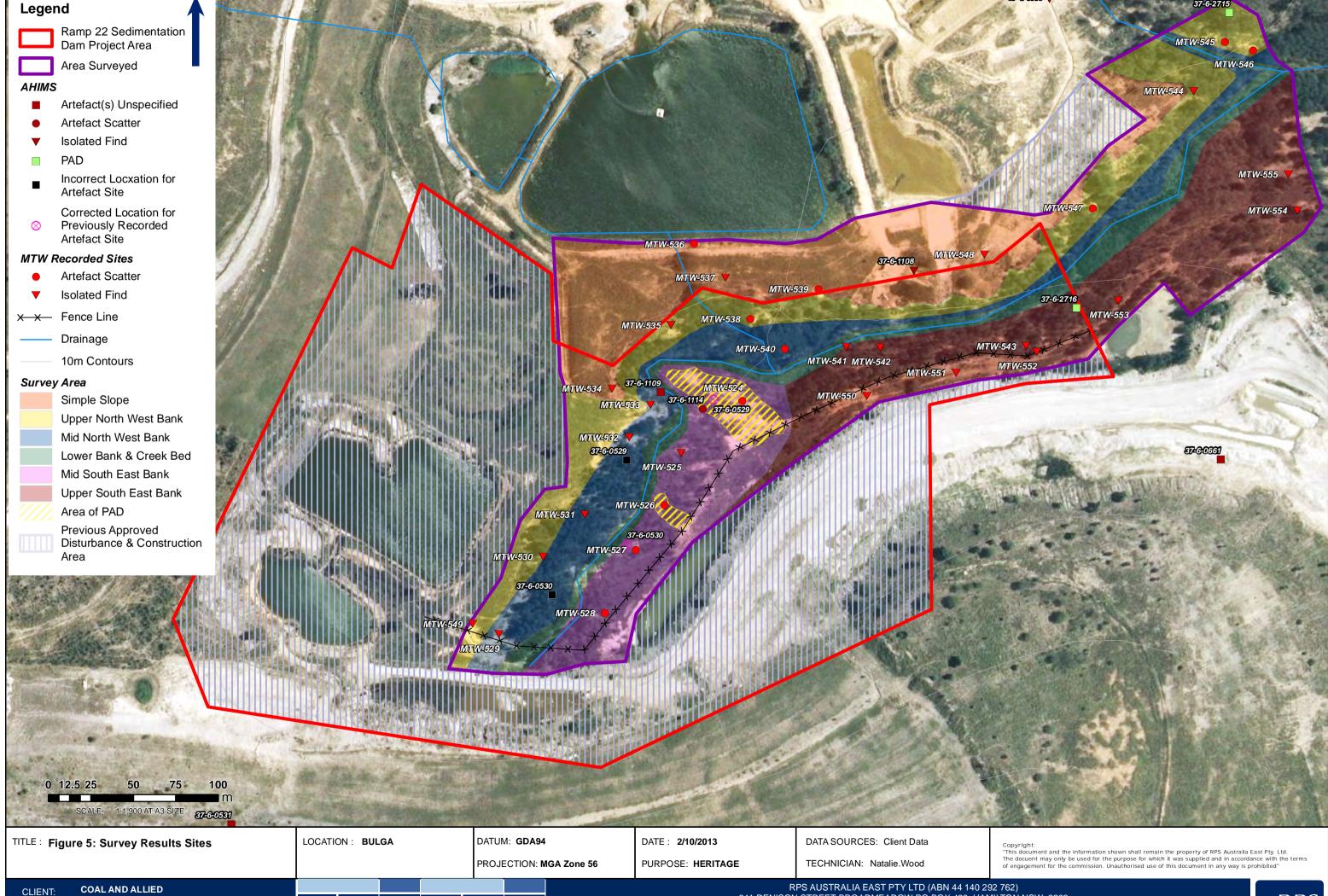
A number of artefact scatters and isolated find sites were identified across the survey unit (Figure 5).

6.2.7 Previous Approved Disturbance & Construction Area

The area surveyed has been subjected to a considerable amount of disturbance including dam, drainage channels, bund wall and water pumping station construction, powerline, vehicle tracks, fencing, sedimentation traps, vehicle movements, erosion, vegetation clearing and previous archaeological salvage works. In addition this area had been previously salvaged by ERM in 2004. Parts of this area could be used as an access area for construction vehicles and infrastructure associated with the construction of the sedimentation dam. A number of artefacts were identified on the formed dirt access track and on the sloped area below the track unit (Figure 5).



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6.3 Survey Results

During the course of the field survey, new sites were identified and the locations of AHIMS sites inspected (Figure 5). The majority of Aboriginal cultural heritage sites in the area were on the surface of the B horizon or at the interface of the A and B horizons and have been affected by sheet wash erosion, animal tracks and the passage of vehicles. Previous vegetation clearing carried out in the area had also caused widespread disturbance. Most sites were found in close proximity to freshwater resources.

Thirty two new sites were identified and recorded during the survey. Seven previously recorded sites were groundtruthed, two of which were found to have been salvaged (#37-6-1108 and #37-6-1108), with the other five remaining extant. The coordinates provided for two of the five extant sites (#37-6-0529 and #37-6-0530) were found to be erroneous and the correct site coordinates were recorded (Table 9). These sites were originally recorded by Koettig (1991) and were on the south eastern side of the unnamed tributary.

Artefact scatters and isolated finds were the most common site type, with several PADs also identified in the area, some of which were associated with nearby artefact scatters.

The Project Area and additional Survey Area were characterised by the landforms relating to an unnamed first order tributary of Loder Creek including both the southern and the northern banks of the creekline, in addition to the banks of a second minor tributary to the north.

In general, disturbances were predominantly vegetation clearing on the lower, mid and upper slopes of the creek bank; fencing; slashing; dam construction works; erosion control works; and vehicle tracks. In the surrounding area large tracts of this landform have been modified as a result of mine works.

For the purposes of assessing management requirements but not comparative significance, sites were classified and recorded as artefact scatters where the maximum density of artefacts per square metre was five or more artefacts. Sites were generally classified and recorded as isolated artefact sites where the maximum density of artefacts per square metre was less than five. This classification metric is used to assist in understanding the relative density and distribution of artefacts and sites and the mitigation and management requirements including determining whether salvage mitigation is required in disturbed sites. Artefact sites in all survey units were most commonly situated on level to gently sloping lower slopes associated with the creek line.

Site cards for previously recorded sites had been provided with the methodology and are provided in Appendix 8. Details of the newly recorded sites and previously recorded sites are shown in Table 9.

6.3.1 Description of Aboriginal Sites Identified

The new MTW sites are described below (Plate 19 to Plate 82) with additional observations of existing AHIMS sites (Figure 5). Site extents were also recorded (0). During the course of the field survey and review of the site cards it was found that AHIMS site #37-6-0530 and #37-6-0529 were not located at the original coordinates provided. Site #37-6-0530 was situated within the boundary extent of MTW527 and that AHIMS #37-6-1114 and #37-6-0529 were adjacent to each other and to the south west of MTW524.

MTW524

MTW524 was a large artefact scatter and PAD that extended approximately 70 metres on a north to south axis and was 12 metres wide. This large flat lying terraced area of PAD extended at right angles to the creek line. This site consisted of 129 artefacts manufactured from eight different raw material types. The maximum site density was 20 artefacts per square metre. The raw materials included silcrete, mudstone, porcellinite, quartz quartzite, tuff, dolerite and chert. The site comprised two silcrete cores and 36 flakes of



silcrete; three mudstone cores and 67 flakes of mudstone; one core and nine flakes of porcellanite; one quartzite flake; one quartz core and three flakes of quartz; one tuff core and two flakes of tuff; one dolerite flake and one dolerite hammerstone and one chert core. Several flakes and cores were identified as conjoining and the artefact scatter and PAD are considered to be a knapping floor.

The area to the south of the artefact scatter was largely affected by rill erosion and sheet wash, which have caused the exposure of Aboriginal objects. Animal tracks caused further exposure of the ground surface and as a result of these combined effects GSE and GSV were high. Fence lines were situated to the south, fencing off the site from the stock pile and haul road area to the south at BSO. The soils in the terraced area close to the creek line were predominantly intact. MTW524 is close to the corrected location for #37-6-0529 and #37-6-1114. Advice was sought from AHIMS with regard amending this site from Destroyed to Valid status (Email from G. Mateni 31.10.2013). RPS was advised once a site is recorded as Destroyed the site card cannot be amended; it should be recorded as a new site. Site #37-6-1114 is now incorporated into MTW524.

MTW525

MTW525 was an isolated artefact site on a gentle north west facing slope which showed evidence of sheet wash. The site consisted of one mudstone flake. The GSE was high but GSV was low due to the leaf litter and vegetation, which included Casuarinas and grasses.

MTW526

MTW526 was located along an eroded bank. This north west facing terraced area showed evidence of inundation close to the lower creek bank with a large flat lying area of PAD extending at right angles to the creek line. This site consisted of 59 Aboriginal objects. The raw materials included mudstone, silcrete, quartz and dolerite. The site consisted of a large number of flakes manufactured predominantly from mudstone and silcrete but also from quartz, dolerite and trachyte. Two silcrete cores and one mafic volcanic core were also present. Many of the artefacts were eroding out of the bank (some parts had already collapsed). A number of conjoining artefacts were identified. In addition, some artefacts were eroding out of the bank around the Casuarinas' root systems. MTW526 extended 25 metres on a north west to south east axis and was five metres wide.

The PAD area was defined by flat lying intact A horizon soils in a terraced area. The PAD was located to the north and east of the exposed eroded creek bank and artefacts were observed eroding out of the soils on the southern edge of the terrace. The GSV and GSE at MTW526 were moderate due to vegetation and some leaf litter hindering visibility at this site. Vegetation included juvenile casuarinas, with evidence of previous clearing present.

MTW527 (37-6-0530)

Initially recorded as MTW527 a further assessment of the location and description indicated that it is an extent of the site recorded as AHIMS#37-6-0530. On the AHIMS search, #37-6-0530 was listed as "Destroyed" however a permit for that site allowed for partial salvage and a review of the report (Koettig 1991) confirmed that only partial salvage had taken place. Advice was sought from AHIMS with regard amending this site from Destroyed to Valid status (Email from G. Mateni 31.10.2013). RPS was advised that as the site is recorded as Destroyed it should be now recorded as a new site. That site is now MTW527.

MTW527, recorded in July 2013, comprised an artefact scatter with PAD located along an eroded bank. Eighty three artefacts (65 mudstone and 18 silcrete) with a maximum density of 10 artefacts per square metre were recorded. The site is located in a runoff area and knoll approximately five metres west of the first order tributary. This terraced area showed evidence of inundation close to the lower creek bank. In



addition, some artefacts were eroding out of the bank around the Casuarinas' root system. There were two clusters associated with this site. One cluster of artefacts was located in an area that showed evidence of continuous water runoff. This cluster consisted primarily of mudstone artefacts. The second cluster was located on a knoll that was located approximately five metres to the west of the first cluster and consisted primarily of silcrete artefacts. The artefacts identified in the second cluster were largely eroding out of the eastern edge of the knoll, close to a tree root system. The GSE was high and GSV was moderate

MTW528

MTW528 was a moderate sized artefact scatter of 14 artefacts located on the surface of an eroded creek bank on a north facing slope. This artefact scatter consisted of 12 silcrete artefacts and two quartz artefacts. There were no mudstone artefacts recorded at MTW528. Maximum site density was five artefacts per square metre. This artefact scatter extended 25 metres on a north south axis and was approximately five metres wide. Gravel was noted in and near this artefact scatter and the site was in a highly disturbed context with moderate GSV and GSE.

MTW529

MTW529, an isolated artefact site with one artefact, was in a highly eroded area that showed evidence of extensive sheet wash and rill erosion. The site was located on the boundary of the Bulga and MTO mines. The area had been revegetated with grasses and Casuarina trees to the east. This site had a south east facing aspect and was located on an upper bank of an unnamed first order tributary of Loder Creek. Both GSE and GSV were high in this area.

MTW530

MTW530, comprising four artefacts with a maximum density of one artefact per square metre, was located in an area that had been revegetated by juvenile Casuarina trees with a grassed area to the west. The site was at the base of a gentle slope. This site included three mudstone artefacts (two flakes and one core) and one silcrete flake. This scatter encompasses an area of approximately 25 metres by 12 metres close to a grove of Casuarina trees. This site had a south east facing aspect with moderate GSE and the high GSV.

MTW531

MTW531, an isolated find site, was located at the base of a gentle slope. It had a south west aspect and consisted of one mudstone flake. The area in which this flake was found was regenerating Casuarina woodland. Leaf litter and grasses reduced GSV and GSE to moderate in this area.

MTW532

MTW532 consisted of one mudstone and one silcrete flake with a maximum density of one artefact per square metre. The site extended two metres along a north east to south west axis and had a south east facing aspect. MTW532 was located in an exposed area that was eroding downslope and into the creek bed. The artefacts were situated at the base of two trees that had their root systems undercut by erosion. Pebble laterite was noted on the surface of the exposed area. Animal tracks were observed near MTW532. The area in which these flakes were found had been populated with regrown Casuarina trees and as such leaf litter and grasses reduced GSV and GSE to moderate in this area.

MTW533

MTW533 consisted of two silcrete flakes and two mudstone flakes with a maximum density of three artefacts per square metre. This site was located in a highly eroded area close to the creek bank and the artefacts were on the surface of the clayey B horizon. Pebble laterite was noted in this exposure. Three of the



artefacts were identified close to the stump of a felled tree. MTW533 was situated opposite a modified drainage channel. MTW533 extended approximately 2.5 metres over a small mound. GSV and GSE were high at this site.

MTW534

MTW534 was located on the upper bank of a highly modified drainage line in an exposed area with pebble laterite. One silcrete core, one mudstone blade and two flakes were identified at this site. MTW534 had an easterly aspect and its site extent was approximately 12 metres. A modified drainage channel was located to the west and the silcrete core was situated on the edge of this channel. The other artefacts were spread across the slope. GSV and GSE were high in this area.

MTW535

MTW535, comprising four artefacts with a maximum density of one artefact per square metre, was located on the upper bank in an eroded area. MTW535 had a south east facing aspect, but the artefacts were situated on a north east to south west axis. The extent of this site was approximately 25 metres along its axis and approximately two metres wide. The GSV in at this site was moderate to high due to the erosion in the area and GSE was high. Revegetated Casuarina trees surrounded the site except in the north west which was grassed. MTW535 consisted of three silcrete flakes and one mudstone flake. GSV and GSE were moderate at this site.

MTW536

MTW536 was located along a vehicle access track for a powerline constructed on the raised bank of a dam that extended 300 metres on an east to west axis. MTW536 was approximately five metres in width and the site had a south west facing aspect. Artefacts on the eastern end of this track were eroding downslope into a grassed area. This site contained 41 artefacts spread along the dirt access track. Three mudstone cores, 24 mudstone flakes and 14 silcrete flakes were identified. Effects of erosion were noted along the western edge of the track. A dam was located approximately two metres to the north of this site. GSV and GSE were high in this area.

MTW537

MTW537 was identified along an animal track and had a south facing aspect. This site was located at the base of a gentle slope directly below and to the south of MTW536. MTW537 consisted of one silcrete and three mudstone flakes. The grass that populated the area had been slashed and some juvenile Casuarinas were observed to the south. MTW537 was located close to a drainage channel that flowed into the first order tributary. The other artefacts were spread across the slope. GSV and GSE were low in this area.

MTW538

MTW538, an artefact scatter comprising 29 artefacts with a maximum density of six artefacts per square metre, was identified at the edge of the break in slope in a severely eroded area. The artefacts were on the surface of the B horizon. The area was vegetated by Casuarina trees to the east, west and south, with a grassed area to the north. This site extended approximately 20 metres in length and five metres in width. It had a south facing aspect. The main concentrations of artefacts were located in the southern part of MTW538. This site included 18 mudstone flakes, 10 silcrete flakes and 1 porcellinite flake. A mature felled tree was located approximately five metres to the east of this site. It was inspected for cultural scarring, but no scars were identified. GSV and GSE were moderate in this area.



MTW539

MTW539 was located on a small exposed mound at the break in slope between the upper northern bank and the mid slope area. The site extended approximately three metres on a north to south axis and three metres in an east west direction. It comprised six mudstone flakes, four silcrete flakes and one quartz flake. The area to the south was populated with juvenile Casuarina trees. The exposed mound on which this site was found was surrounded by slashed grass. GSV and GSE were moderate in this area.

MTW540

MTW540, an artefact scatter comprising nine artefacts, was located on an eroded bank at the break in slope. This scatter consisted of three mudstone flakes and six silcrete flakes. The artefacts were on the surface of the B horizon. MTW540 extended approximately 10 metres along a north south axis and was approximately three metres wide. Pebble laterite was noted in the exposed areas. The GSV and GSE were high in this area.

MTW541

MTW541 was an isolated mudstone flake, located at the base of a gentle slope from the upper south bank. Casuarinas populated the area and leaf litter that covered the slope limited the GSV. GSE was moderate. Further to the north a vertical drop off to the creek was noted. There was evidence of sheet wash close to this site and some animal tracks were located to the south.

MTW542

MTW542 was an isolated find that consisted of a mudstone flake. This site was located further upslope on the upper south bank. Casuarinas populated the area and an exposed area to the east was identified that was highly eroded, with evidence of recent water flow. The area was inspected for artefacts but none were identified, most likely due to this water flow, which could have washed artefacts down slope. The GSV and GSE were moderate in this area.

MTW543

MTW543 was an isolated flake of mudstone. This site was situated on an upper part of the south bank of the tributary. MTW543 has a north facing aspect and a haul road windrow was located to the south. The GSV and GSE were moderate due to the heavy leaf litter in this area. The area was populated with juvenile Casuarina trees.

MTW544

MTW544 comprised four isolated artefacts with a maximum density of one per square metre. The site was in an area that had been disturbed by erosion and the artefacts were not *in situ* being only on the surface of the disturbed soils. The GSV and GSE were moderate in this area.

MTW545

MTW545 was located on an upper bank of a first order tributary. The artefacts were eroding out from a small exposed area that had been subject to sheet wash and rill erosion by runoff into the creek bed. A fence line to the east separated MTW545 and MTW546. This site consisted of 10 mudstone flakes and one silcrete flake and extended along an east to west axis. The site dimensions were approximately 12 metres in length and six metres wide. Disturbances were fencing and erosion. The area was vegetated with Casuarinas, grasses and reeds to the south. Artefacts from this site may have been associated originally with #37-6-2715, a previously recorded PAD. The GSV and GSE were moderate in this area.



MTW546

MTW546 was located to the west of a fence that separated it from MTW545. The site extended along a north to south axis and was 12 metres long by five metres wide. MTW546 consisted of nine mudstone flakes, four silcrete flakes and one dolerite hammer stone. Few disturbances had affected the area, limited mainly to fencing and erosion. Juvenile Casuarina trees, grasses and reeds populated the area. The artefacts were eroding out of soils affected by sheet wash and rill erosion. Artefacts from this site may have been associated originally with #37-6-2715, which was a previously recorded PAD. The GSV and GSE were moderate in this area.

MTW547

MTW547 was located on the upper part of the north bank at the break in slope in an area that was severely eroded. The site consisted of three mudstone and one silcrete flake and had an easterly facing aspect. The site extended 12 metres downslope, along an east to west axis and was 3 metres wide. Rill erosion and sheet wash were noted in the area. Juvenile Casuarina trees, grasses and reeds populated the area. Disturbance from dam construction was identified to the north, but had not had an impact on this site. The GSV and GSE were high in this area.

MTW548

MTW548 was located on an exposed area that had been previously disturbed area by the construction of a dam. MTW548 was situated at the edge of the upper north bank of an unnamed first order tributary of Loder Creek. This site consisted of three mudstone flakes and had a north facing aspect. It was considered improbable that the artefacts at this site were in their original context, as construction works had caused extensive disturbance to the ground surface. This site extended approximately 15 metres along a north south axis and was 10 metres wide. Pebble laterite was also noted in this area. The GSV and GSE were high in this area.

MTW549

MTW549 was located adjacent a heavily eroded area of a lower slope. The area is affected by run-off toward unnamed first order tributary of Loder Creek. The site comprised an isolated artefact, a tuff flake. Given the high disturbance is it unlikely the artefact is in its original context. The GSV and GSE were high in this area.

MTW 550

MTW 550 was located on a southern terrace of an unnamed tributary of Loder Creek. The area was highly disturbed with the immediate area where the artefact located appearing to have been modified to a form a low bank. The site comprised an isolated artefact, a mudstone flake that had been heat treated and modified with usewear on the left lateral. The GSV and GSE were high in this area.

MTW551

MTW551 was located on a southern terrace of an unnamed tributary of Loder Creek. Like MTW550 the artefacts were found on a low artificial bank. The disturbance to the area was evident in a large number of pebbles and heavy clay soil. The site comprised an artefact scatter, two mudstone flakes (one heat treated) and a silcrete core. The GSV and GSE were high in this area.



MTW552

MTW552 was found on the same southern terrace and disturbed area as MTW550 and MTW551. The artefact was a silcrete blade flake that had been fashioned from a blade core. The GSV and GSE were high in this area.

MTW553

MTW553 was located in an area to the south of an unnamed tributary of Loder Creek. The area while disturbed did not exhibit the same ground disturbance as at MTW550 - MTW552. The area was vegetated with small re-growth trees and grasses with a number of animal tracks evident. There were nine artefacts comprising mudstone (6) and silcrete (3) over an area of around 100 metres. Two of the mudstone artefacts were blades and two silcrete were scrapers. The GSV and GSE were moderate in this area.

MTW554

MTW554 was located in an area to the south of an unnamed tributary of Loder Creek. The area was disturbed with evidence of sheet wash and animal tracks. The area was vegetated with small re-growth trees and grasses. Animal tracks were present. The site comprised a yellow mudstone core and a red mudstone flake. The GSV and GSE were high in this area.

MTW555

MTW554 was located in an area to the south of an unnamed tributary of Loder Creek. The area like MTW554 was disturbed with evidence of sheet wash and animal tracks. The area was vegetated with small re-growth trees and grasses. Animal tracks were present. The site comprised two artefacts: a yellow mudstone flake and a red mudstone flake. The GSV and GSE were high in this area.

AHIMS Site #37-6-0529

The original location for AHIMS site #37-6-0529 was inspected. A permit had been issued that allowed for partial salvage of the site. A subsequent review of the site card and associated report showed that this was not the location for this site and that it was located on the southern side of the creek. This site was groundtruthed at the correct location during the inspection of the mid south bank area. The site was found to be close to MTW524, an artefact scatter with PAD. The associated permit allowed for partial salvage and review of the salvage report by Koettig 1991 showed that this site had only been partially salvaged. Groundtruthing of the correct location showed that there were a number of artefacts at the corrected position for #37-6-0529. On the AHIMS search the site status of AHIMS #37-6-0529 is "Valid". Four artefacts were found to the west of the original position recorded on the database for this site and recorded as a new site MTW532. The GSV and GSE were high in this area.

AHIMS Site #37-6-0530

As described in MTW527, this site has been recorded as "Destroyed" on the AHIMS database when in effect it was only partially salvaged (Koettig 1991). Following advice from AHIMS (Email from G.Mateni 30.10.2103) the artefacts at the location have now been recorded as MTW527.

AHIMS Site #37-6-1108

AHIMS #37-6-1108 had been fully salvaged by ERM in 2004 and the site area was groundtruthed. The site had been located at the end of a track that led to a nearby water pumping station. It was situated in a highly disturbed context. As no artefacts were identified during the survey this site is considered fully salvaged.



The area was populated with grasses and was devoid of trees. The GSV in the exposed and eroded areas was very high and was low in the grassed. GSE was high.

AHIMS Site #37-6-1109

An additional site AHIMS #37-6-1109 which had been salvaged by ERM in 2004 was groundtruthed and no additional artefacts were found at this site area. The area was populated with grasses GSV and GSE were moderate.

AHIMS Site #37-6-1114

AHIMS site #37-6-1114 was groundtruthed during this survey and a number of artefacts were found at the site. The site was not salvaged by ERM in 2004 although the site status on the AHIMS database lists it as "Destroyed". RPS was advised once a site is recorded as Destroyed the site card cannot be amended; it should be recorded as a new site. Site #37-6-1114 is now incorporated into MTW524.

AHIMS Site #37-6-2715

AHIMS site #37-6-2715 was revisited during this survey and is located on a bank north of a Loder Creek tributary. The area was vegetated with Casuarinas, grasses and reeds to the south. The PAD was upslope and to the north west of an eroded gully and as such would not be affected by downstream flooding. No artefacts were identified at this site. The GSV and GSE were high in this area.

AHIMS Site #37-6-2716

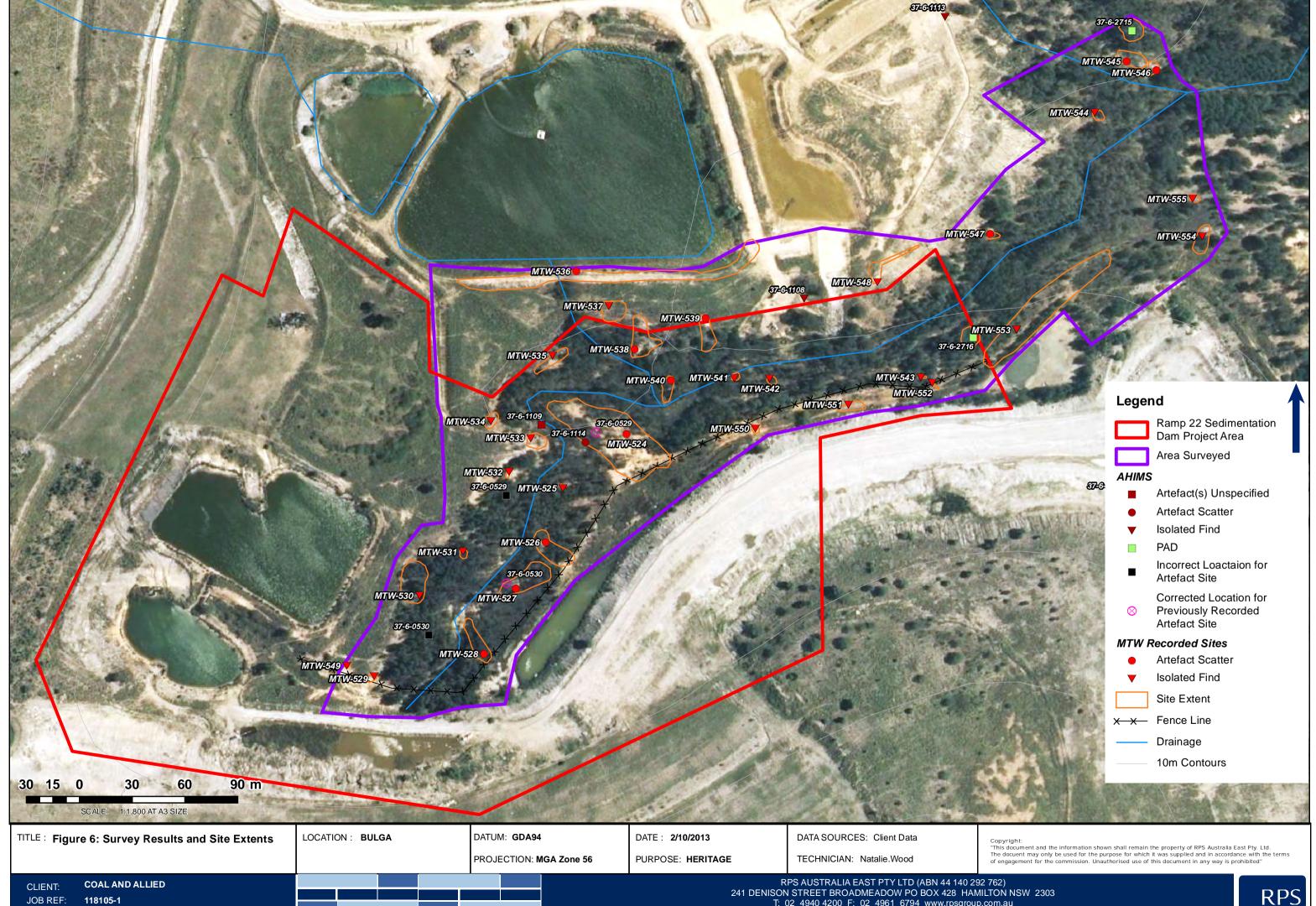
AHIMS site #37-6-2716 was revisited during this survey. This site was a flat, gently sloping area on the upper south eastern bank of an unnamed tributary of Loder Creek. All mature trees in the area old enough to be considered as having cultural scars were inspected but there were no culturally modified trees identified. The area had been previously cleared and as a result a large number of juvenile Casuarina trees populated the area. GSV was reduced due to the leaf litter in the area. GSE was moderate. There were no surface artefacts identified in the area. Although the AHIMS database noted the site as PAD with Scarred Tree, a review of the site card showed that no scarred tree had been recorded or noted on the site card and therefore the error was likely a data processing error by OEH whilst updating the AHIMS database. No artefacts were identified at this site.

Table 9 Summary of Aboriginal Sites Surveyed (GDA94/MGA, Zone 56)

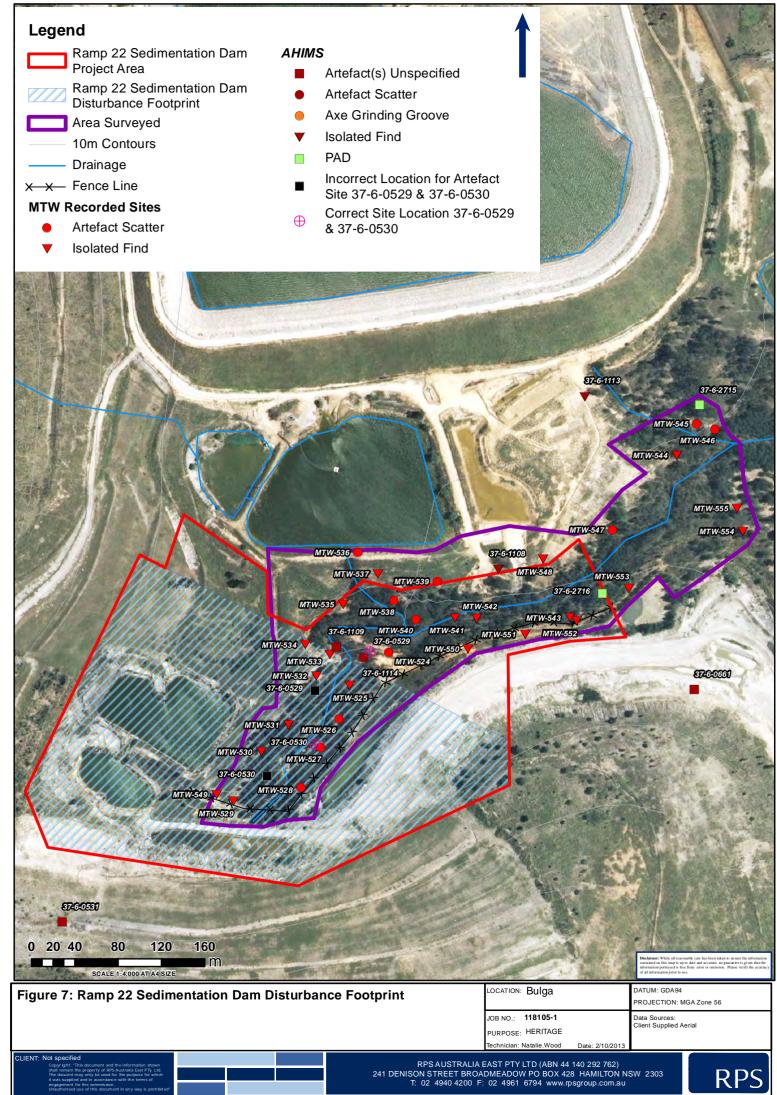
AHIMS Site ID	Site Name	Eastings	Northings	Site Type	Survey Unit
N/A	MTW524	321873	6385324	Artefact Scatter & PAD	4
N/A	MTW525	321837	6385294	Isolated Finds	4
N/A	MTW526	321827	6385263	Artefact Scatter & PAD	4
N/A	MTW527	321810	6385237	Artefact Scatter	4
N/A	MTW528	321792	6385200	Artefact Scatter	4
N/A	MTW529	321730	6385187	Isolated Finds	2
N/A	MTW530	321756	6385232	Isolated Finds	1
N/A	MTW531	321780	6385257	Isolated Finds	2
N/A	MTW532	321806	6385303	Isolated Finds	2
N/A	MTW533	321819	6385322	Isolated Finds	2



AHIMS Site ID	Site Name	Eastings	Northings	Site Type	Survey Unit
N/A	MTW534	321796	6385331	Isolated Finds	6
N/A	MTW535	321831	6385369	Isolated Finds	1
N/A	MTW536	321845	6385417	Artefact Scatter	6
N/A	MTW537	321863	6385397	Isolated Finds	6
N/A	MTW538	321878	6385372	Artefact Scatter	1
N/A	MTW539	321918	6385390	Artefact Scatter	1
N/A	MTW540	321898	6385355	Artefact Scatter	2
N/A	MTW541	321934	6385356	Isolated Finds	5
N/A	MTW542	321954	6385356	Isolated Finds	5
N/A	MTW543	322040	6385356	Isolated Finds	5
N/A	MTW544	322139	6385507	Isolated Finds	1
N/A	MTW545	322157	6385536	Artefact Scatter	1
N/A	MTW546	322174	6385531	Artefact Scatter	1
N/A	MTW547	322080	6385438	Artefact Scatter	1
N/A	MTW548	322016	6385410	Isolated Finds	6
N/A	MTW549	321714	6385193	Isolated Finds	1
N/A	MTW550	321946	6385327	Isolated Finds	5
N/A	MTW551	321999	6385341	Artefact scatter	5
N/A	MTW552	322057	6385353	Isolated Finds	5
N/A	MTW553	322095	6385383	Artefact scatter	5
N/A	MTW554	322200	6385436	Artefact scatter	5
N/A	MTW555	322195	6385458	Artefact scatter	5
37-6-0529	B53-Bulga (additional information from MTW524)	321856	6385325	Artefact Scatter	4
37-6-0530 Now recorded as MTW527	B54-Bulga(additional information from MTW527)	321805	6385240	Artefact Scatter	4
37-6-1108	AG-IF-1	321974.9	6385400	Previously Salvaged	6
37-6-1109	AG-IF-2	321824.9	6385330	Previously Salvaged	2
37-6-1114 Now recorded as MTW524	AG-OS-5	321849.9	6385320	Artefact Scatter	4
37-6-2715	AG-PAD-2	322160	6385553	PAD	1
37-6-2716	AG-PAD-3	322070	6385379	PAD	5



RPS





6.4 Discussion of Survey Results

Review of previous archaeological investigations in the region of the Project Area and Aboriginal site predictive modelling were used to interpret the regional archaeological record. The analysis of this data indicated that artefact scatters and isolated finds were the most likely site types to be present in the Project Area.

Research conducted for the Singleton area prior to the field survey found that the area was rich in stone artefact sites, with previous archaeological information indicating that the dominant raw materials were mudstone and silcrete with minor occurrences of quartz, quartzite, chert, tuff, sandstone and various volcanics. This research also found that stone artefact sites were most likely to occur on level to very gently inclined lower slopes, in valley flats and within 100 metres of high order streams.

Consideration of the existing land modifications in the Project Area and the results of the previous field surveys illustrated that the predicted connection between an artefact and its environment had been compromised in the highly disturbed parts of the Project Area such as dams, infrastructure and formed dirt tracks.

The predictive model identified that artefact sites (scatters and isolated finds) would be the most common site type. This prediction has been verified by the survey results. PADs were the next most common site type identified. The sites were identified near watercourses, which was consistent with the predictive model. Sites contained raw materials that were expected for this part of the Hunter Valley.

The likelihood of locating modified trees was greatly reduced by the extensive vegetation clearing carried out in the past; however, all mature trees within the current Project Area and broader Survey Area were inspected although no cultural scars were identified. All creek beds and banks were inspected for evidence of grinding grooves but no new sites were identified during the course of the survey. No culturally modified trees, grinding groove or rock shelters were identified in any of the survey units.

Sites MTW524 and MTW526 contained a high density of surface artefacts and a number of artefacts could be seen eroding from the subsurface soils. However much of this terraced area was intact and it was considered likely that there would be artefacts *in situ* in the flat lying areas that had not been affected by water runoff and inundation events.



7.0 Aboriginal Heritage Significance Assessment

In order to develop appropriate heritage management outcomes, it is necessary for the significance of Aboriginal sites or areas of archaeological sensitivity to be assessed. Aboriginal heritage can be significant for cultural and/or scientific reasons. Aboriginal people are the best placed to assess cultural significance and are therefore consulted in the Aboriginal heritage management process. Scientific significance is assessed according to scientific criteria outlined in the OEH heritage guidelines.

7.1 Cultural Significance Criteria and Assessment

An assessment of cultural significance incorporates a range of values that may vary for different individual groups and may relate to both the natural and cultural characteristics of places or sites. Cultural significance and Aboriginal cultural views can only be determined by Aboriginal people using their own knowledge of the sites and their own value system.

As cultural significance is a criterion that only Aboriginal people can assess, a detailed appraisal of cultural significance for the Assessment Area has not been included as part of this study.

Response and comment on the Assessment Area was discussed with Aboriginal representatives during the site survey. The RAPs indicated that they were satisfied with the extent of the survey, the groundtruthing of the previously identified sites and the methodology used to record newly identified sites. In addition they expressed their wishes that any Aboriginal objects such as artefact scatters or isolated finds that might be at risk of harm from vehicles be protected with temporary barriers. It was also agreed that all Aboriginal objects in the Assessment Area that might be harmed by the proposed development would require salvage prior to the commencement of the proposed works. In addition to surface salvage works, subsurface investigation may be required in areas determined to have potential for *in situ* deposit. Two sites, MTW524 and MTW526, had the potential to contain subsurface artefacts (Figure 5).

A meeting was held on the 22 August 2013 at 1916 Putty Road, Bulga with the RAPs. Management and mitigation measures were discussed in relation to the requirement for an AHIP prior to salvaging identified Aboriginal objects.

The requirements for temporary storage of the salvaged artefacts and a suitable Keeping Place were also discussed at the meeting. It was agreed that the artefacts could, under Care and Control Permit #2863, be placed into the existing RTCA Cultural Heritage Storage Facility, at Hunter Valley Services offices, Lemington Road, Liddell.

Further comments on social, historic association and aesthetic values will be included in the report following comments received from the Aboriginal community.

The minutes of this meeting are included in Appendix 5.

7.2 Archaeological Significance Criteria

Archaeological significance, also referred to as scientific significance, is determined by assessing an Aboriginal heritage site or area according to archaeological criteria. The assessment of archaeological significance is used to develop appropriate heritage management and impact mitigation strategies. Criteria for archaeological significance have been stipulated in the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (2011). Scientific significance criteria include the consideration of research potential, rarity, representativeness, and education potential (Table 10).



Criteria	Description
Research Potential	This criterion is used to identify whether a site has the potential to contribute new information which can contribute to the interpretation of Aboriginal occupation in the area.
Rarity	This criterion examines the frequency of the identified site types with others previously recorded in the local or regional landscape
Representativeness	All sites are representative of a site type, however, some sites may be in better condition, or demonstrate more clearly a particular site type. Representativeness is based on the understanding of extant sites in the local or regional landscape and the purpose of this criterion is to ensure a representative sample of sites are conserved for future generations
Education Potential	This criterion is used to identify whether a site has the potential for interpretation which can be used for education purposes.

The archaeological significance criteria are usually assessed on two scales: local and regional; in exceptional circumstances; however, state significance may also be identified. Significance is assessed in three levels to which scores are assigned: low (score=1), moderate (score=2) and high (score=3). These scores are used to provide an overall assessment of significance:

- Low significance score 4-6
- Moderate significance 7-9
- High significance 10-12

7.3 Assessment of Archaeological Significance

The archaeological significance of the identified Aboriginal sites shown in Figure 5 has been assessed and the results summarised in Table 11.

Table 11 Assessed Levels of Scientific Significance for Identified Aboriginal Sites

AHIMS Site ID	Site Name	Site Type	Significance scale	Research Potential	Rarity	Representativeness	Education Potential	Overall Score	Overall Significance
37-6-0529	B53; Bulga	Artefact	Local	1	1	1	1	4	Low
	,g	Scatter	Regional	1	1	1	1	4	Low
37-6-1108	Destroyed		Local	1	1	1	1	4	Low
07 0 1100	Destroyed		Regional	1	1	1	1	4	Low
37-6-1109	Destroyed		Local	1	1	1	1	4	Low
37-0-1109	Destroyed		Regional	1	1	1	1	4	Low
37-6-2716		PAD	Local	1	1	1	1	4	Low
37-0-27 10		FAD	Regional	1	1	1	1	4	Low
	MTW524	Artefact	Local	3	2	3	3	11	High
	Incorporating 37-6-1114	Scatter with PAD	Regional	2	1	2	2	7	Moderate
	MTW525	la alata d Ein II	Local	1	1	1	1	4	Low
	IVI I VV DZD	Isolated Finds	Regional	1	1	1	1	4	Low
		Artefact	Local	3	2	3	3	11	High
	MTW526	Scatter with PAD	Regional	2	1	2	2	7	Moderate



AHIMS Site ID	Site Name	Site Type	Significance scale	Research Potential	Rarity	Representativeness	Education Potential	Overall Score	Overall Significance
	MTW527	Artefact	Local	2	1	2	2	7	Moderate
	incorporating 37-6-0530	Scatter	Regional	1	1	1	1	4	Low
	MTW528	Artefact	Local	1	1	1	1	4	Low
	1011 00 020	Scatter	Regional	1	1	1	1	4	Low
	MTW529	Isolated Finds	Local	1	1	1	1	4	Low
	111111020	lociated i mas	Regional	1	1	1	1	4	Low
	MTW530	Isolated Finds	Local	1	1	1	1	4	Low
	Witwood	lociated i mas	Regional	1	1	1	1	4	Low
	MTW531	Isolated Finds	Local	1	1	1	1	4	Low
		icolated i mac	Regional	1	1	1	1	4	Low
	MTW532	Isolated Finds	Local	1	1	1	1	4	Low
			Regional	1	1	1	1	4	Low
	MTW533	Isolated Finds	Local	1	1	1	1	4	Low
		icolated i mac	Regional	1	1	1	1	4	Low
	MTW534	Isolated Finds	Local	1	1	1	1	4	Low
			Regional	1	1	1	1	4	Low
	MTW535	Isolated Finds	Local	1	1	1	1	4	Low
			Regional	1	1	1	1	4	Low
	MTW536	Artefact	Local	1	1	1	1	4	Low
		Scatter	Regional	1	1	1	1	4	Low
	MTW537	Isolated Finds	Local	1	1	1	1	4	Low
			Regional	1	1	1	1	4	Low
	MTW538	Artefact	Local	1	1	1	1	4	Low
		Scatter	Regional	1	1	1	1	4	Low
	MTW539	Artefact	Local	1	1	1	1	4	Low
		Scatter	Regional	1	1	1	1	4	Low
	MTW540	Artefact	Local	1	1	1	1	4	Low
		Scatter	Regional	1	1	1	1	4	Low
	MTW541	Isolated Finds	Local	1	1	1	1	4	Low
	-		Regional	1	1	1	1	4	Low
	MTW542	Isolated Finds	Local	1	1	1	1	4	Low
	-		Regional	1	1	1	1	4	Low
	MTW543	Isolated Finds	Local	1	1	1	1	4	Low
			Regional	1	1	1	1	4	Low
	MTW544	Isolated Finds	Local	1	1	1	1	4	Low
			Regional	1	1	1	1	4	Low
	MTW545	Isolated Finds	Local	1	1	1	1	4	Low
			Regional	1	1	1	1	4	Low
	MTW546	Isolated Finds	Local	1	1	1	1	4	Low



AHIMS Site ID	Site Name	Site Type	Significance scale	Research Potential	Rarity	Representativeness	Education Potential	Overall Score	Overall Significance
			Regional	1	1	1	1	4	Low
	MTW547	Isolated Finds	Local	1	1	1	1	4	Low
	1011 00 347	isolated Fillus	Regional	1	1	1	1	4	Low
	MTW548	Isolated Finds	Local	1	1	1	1	4	Low
	WI I W 540	isolated Fillus	Regional	1	1	1	1	4	Low
	NATINE 40	la alata d Einda	Local	1	1	1	1	4	Low
	MTW549	Isolated Finds	Regional	1	1	1	1	4	Low
	NATIMEEO	la alata d Cia da	Local	1	1	1	1	4	Low
	MTW550	Isolated Finds	Regional	1	1	1	1	4	Low
	NATIONE SA	la alata d Einda	Local	1	1	1	1	4	Low
	MTW551	Isolated Finds	Regional	1	1	1	1	4	Low
	NATINIEEO	la alata d Einda	Local	1	1	1	1	4	Low
	MTW552	Isolated Finds	Regional	1	1	1	1	4	Low
	NATIMEEO	le clated Fig.1-	Local	1	1	1	1	4	Low
	MTW553	Isolated Finds	Regional	1	1	1	1	4	Low
	NATIONEE A	1	Local	1	1	1	1	4	Low
	MTW554	Isolated Finds	Regional	1	1	1	1	4	Low
	NATIMEEE	le clated Fig.1-	Local	1	1	1	1	4	Low
	MTW555	Isolated Finds	Regional	1	1	1	1	4	Low

Thirty two new sites recorded as MTW524 through to MTW555 were identified in the Survey Area.

Two sites were considered to have high local significance and moderate regional significance (MTW524 and MTW526). These sites were both artefact scatters with PAD and had high research and educational potential, as well as having high representativeness. Both these sites showed evidence of conjoining artefacts (knapping event), single platform and multi platform cores, formal tools including hammerstones, evidence of heat treatment and a variety of raw material types including basalt, trachyte, rhyolite and porcellinite. Porcellinite is relatively uncommon in the Upper Hunter Valley area, but had been previously found at other sites near Loder Creek. In addition, it was considered that there was a high potential for *in situ* subsurface artefacts in the terrace close to the creek line. It is recommended that subsurface testing be undertaken along this creek bank to determine whether there is any subsurface deposit at MTW524 and MTW526.

The remainder of the artefact scatter sites and the isolated find sites were rated as low at both a local and a regional level due to the relatively low number of artefacts and high levels of disturbances at the sites.

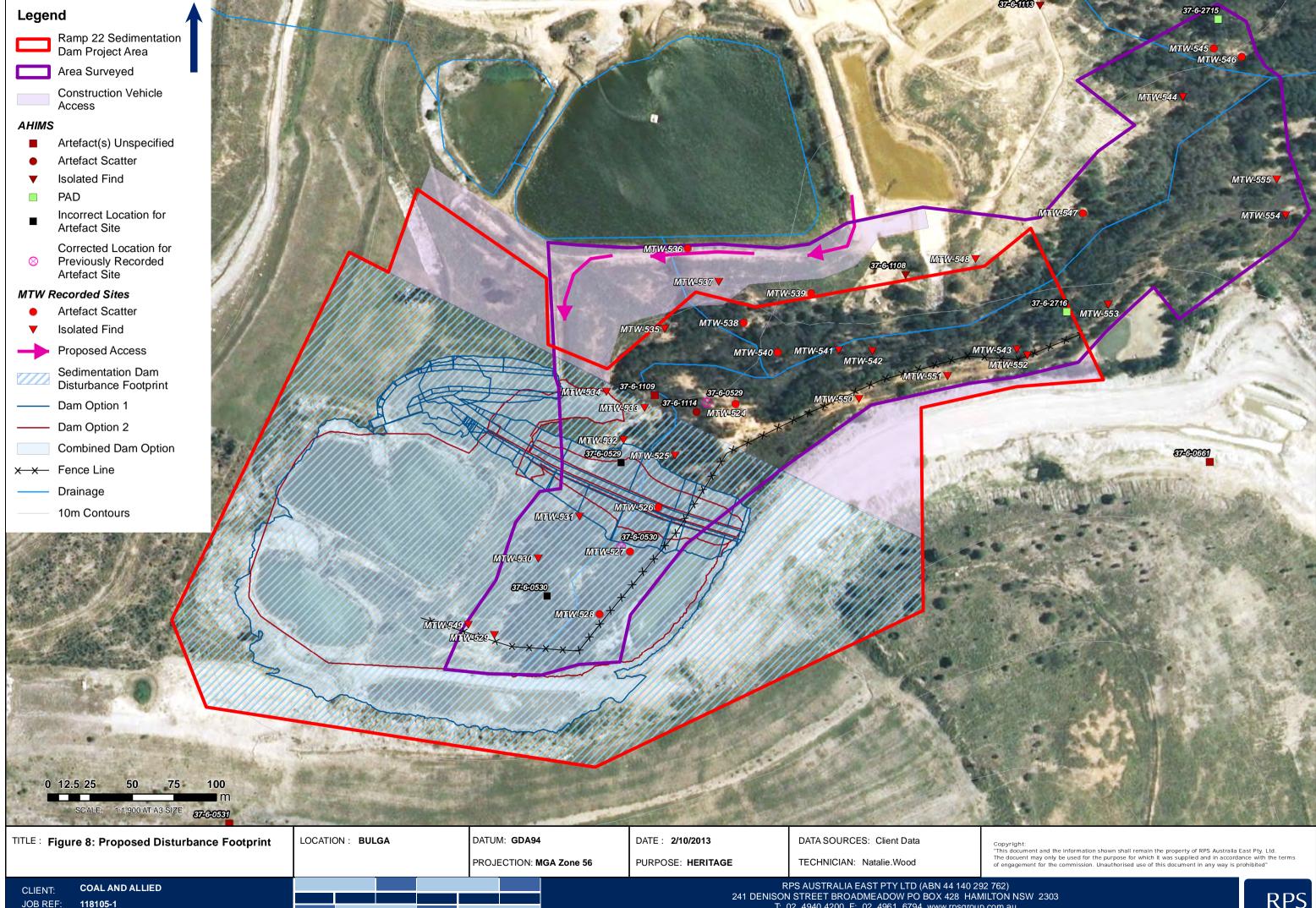
Previously recorded and salvaged sites in the Project Area that were listed on the AHIMS register as "Destroyed" were groundtruthed to determine whether there were any artefacts at these site locations. Due to discrepancies on the AHIMS database with sites recorded with GDA coordinates where the site cards and reports recorded the sites with AMG coordinates, it was difficult to ascertain whether any artefacts did indeed remain at these sites. As such Aboriginal objects identified during the survey were allocated new site names



and were registered with the OEH for inclusion as new sites on the AHIMS database (MTW524 to MTW555) (Appendix 8).

Much of the Survey Area had been disturbed by previous mine works and by the effects of erosion. Pieces of coal were found in the creek bed that probably originated from the nearby mine overburden stockpile. A number of artefacts were found along a vehicle track along the northern boundary of the Project Area (MTW536). Several artefacts were scattered across the slope adjacent to the box cut pits, pit dumps, access roads, sedimentation and mine water dams. The artefacts at these sites were not *in situ* and as such it was considered that subsurface test excavation would not be required at these sites.

None of the identified sites were assessed as being of State Significance.



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8.0 Impact Assessment and Mitigation

This section evaluates whether the proposed works will have an impact on Aboriginal sites (Figure 8). There will be varying impacts from the proposed works with the level and type of impact identified as Area A and Area B:

- Area A Direct impacts to Aboriginal objects will be a result of the Ramp 22 Sedimentation Dam construction and associated vehicle movements (Area A).
- Area B It is anticipated that indirect impacts to Aboriginal objects may be caused by increased flow and inundation as a result the installation of Ramp 22 Sedimentation Dam (Area B).

8.1 Area A - Direct Impact to Aboriginal Objects from Sedimentation Dam

Direct impacts will include the dam construction identified as the impact area for the Ramp 22 Sedimentation Dam (Figure 9 and Figure 10) and will affect all 12 sites in the disturbance footprint (Table 12). The mitigation strategy recommended for these sites is salvage under an AHIP before construction works commence in the area identified as AHIP Area A (Figure 9).

Access for vehicles and equipment associated with the construction of the dam and for ongoing maintenance of the existing dam, pipeline and power line will also impact directly on two sites that are located outside of the Ramp 22 Sedimentation Dam footprint (Table 13). These sites within the Construction and Maintenance Access Footprint will also require salvage under an AHIP before construction works commence and are included as part of AHIP Area A (Figure 9).

Table 12 Aboriginal Sites within the Ramp 22 Sedimentation Dam Disturbance Footprint and therefore require an AHIP – AHIP Area A

AHIMS Site ID	Site Name	Potential Impact to Site	Mitigation
N/A	MTW525	Construction	Salvage under AHIP A
N/A	MTW526	Construction	Salvage under AHIP A
N/A	MTW527	Construction	Salvage under AHIP A
N/A	MTW528	Construction	Salvage under AHIP A
N/A	MTW529	Construction	Salvage under AHIP A
N/A	MTW530	Construction	Salvage under AHIP A
N/A	MTW531	Construction	Salvage under AHIP A
N/A	MTW532	Construction	Salvage under AHIP A
N/A	MTW533	Construction	Salvage under AHIP A
N/A	MTW534	Construction	Salvage under AHIP A
N/A	MTW549	Construction	Salvage under AHIP A

Table 13 Aboriginal Sites within the Construction and Maintenance Access Footprint and therefore require an AHIP – AHIP Area A

AHIMS Site ID	Site Name	Potential Impact to Site	Mitigation
N/A	MTW536	Construction & maintenance access Salvage under AHIP A	
N/A	MTW537	Construction & maintenance access	Salvage under AHIP A



8.2 Area B Indirect Impact to Aboriginal Objects from Rehabilitation Works to Remediate Surface Water and Watercourse Erosion

Other impacts may include inundation and erosion from surface water runoff and associated rehabilitation works. Those impacts have the potential to impact on Aboriginal sites in the surrounding area (Figure 8 and Table 14). These sites should be cordoned off during construction works; if it is likely that the Aboriginal objects at these sites will require either salvage and/or remediation then the rehabilitation works associated with these sites will be conducted under an AHIP in the area designated as AHIP Area B (Figure 9 and Figure).

Table 14 Aboriginal Sites within the broader Survey Area to be cordoned off during construction to avoid inadvertent impact; remediation of erosion from water runoff may be required – AHIP Area B

illauvertent impact, remediation of erosion from water runon may be required - Arile Area B				
AHIMS Site ID	Site Name	Action		
N/A	MTW524	For all sites:		
N/A	MTW535	Cordon off site during construction - Protection and remediation of erosion		
N/A	MTW538	0.000.11		
N/A	MTW539			
N/A	MTW540			
N/A	MTW541			
N/A	MTW542			
N/A	MTW543			
N/A	MTW544			
N/A	MTW545			
N/A	MTW546			
N/A	MTW547			
N/A	MTW548			
N/A	MTW550			
N/A	MTW551			
N/A	MTW552			
N/A	MTW553			
N/A	MTW554			
N/A	MTW555			
37-6-1108	AG-IF-1			
37-6-1109	AG-IF-2			
MTW524	AG-OS-5			
37-6-2715	AG-PAD-2			
37-6-2716	AG-PAD-3			
37-6-0529 adjacent to MTW524	Corrected coordinates			

8.3 Principles of Ecologically Sustainable Development and Cumulative Impacts

Inter-generational equity is part of those principles that allow future generations to access the cultural and environmental diversity of the present generation. Inter-generational equity has been considered as part of



the assessment of significance. State significant Aboriginal sites should be considered for blanket protection for future generations, as these sites have been assessed as having highest significance within NSW.

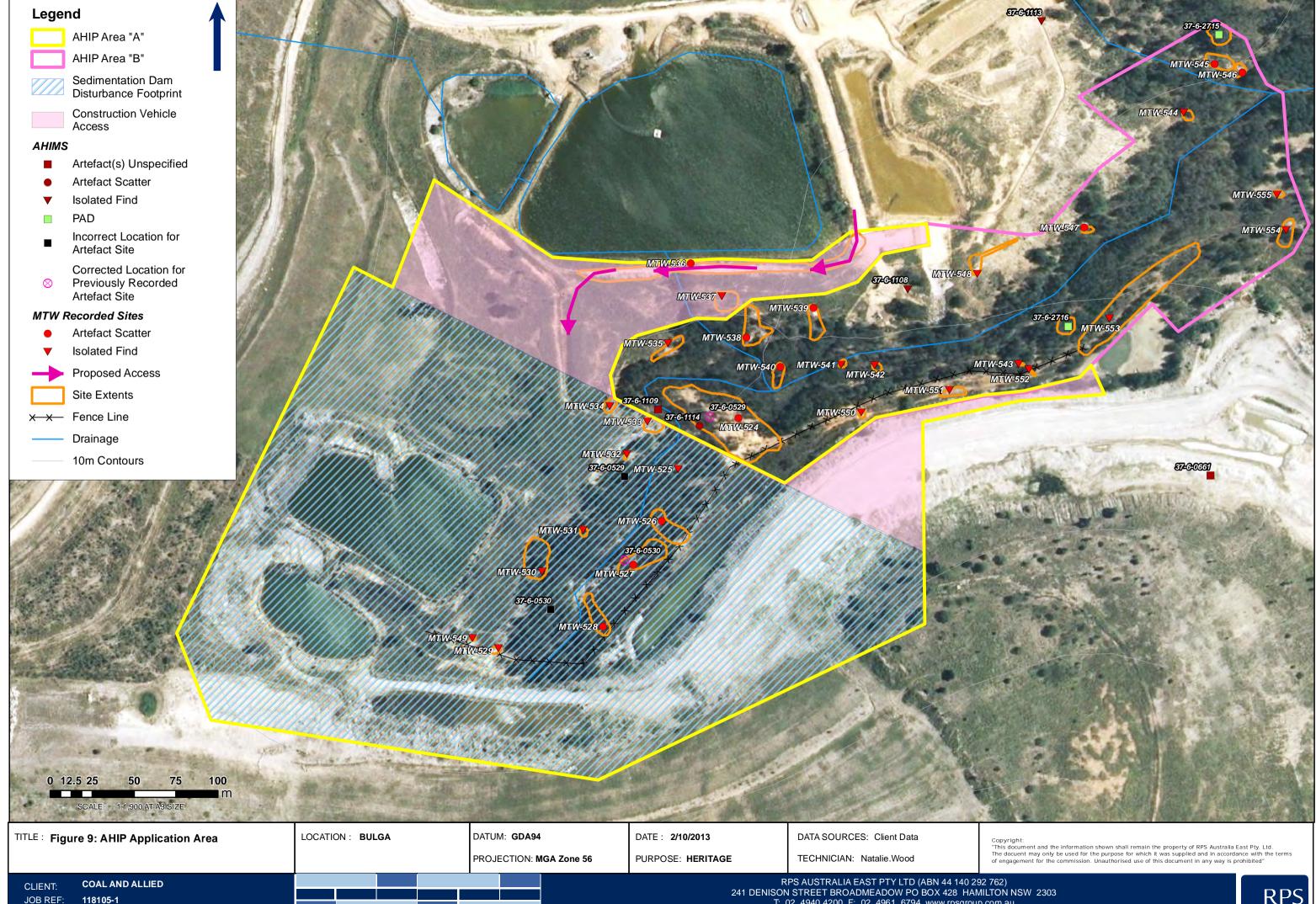
No Aboriginal sites of State Significance were identified in this assessment.

Cumulative impacts result from the combined impact of past and present actions. These actions may over time, and over a broad geographic area, have an additive effect and therefore must be considered. There are a number of coal mines in the area. The Hunter River, a high order stream, flows through this area and is fed by a number of major tributaries which would have provided a suitable environment for flora and fauna resources and drinking water in the regional area. Some of these areas remain relatively intact and as such there may be substantial numbers of Aboriginal sites in this region that are comparatively undisturbed.

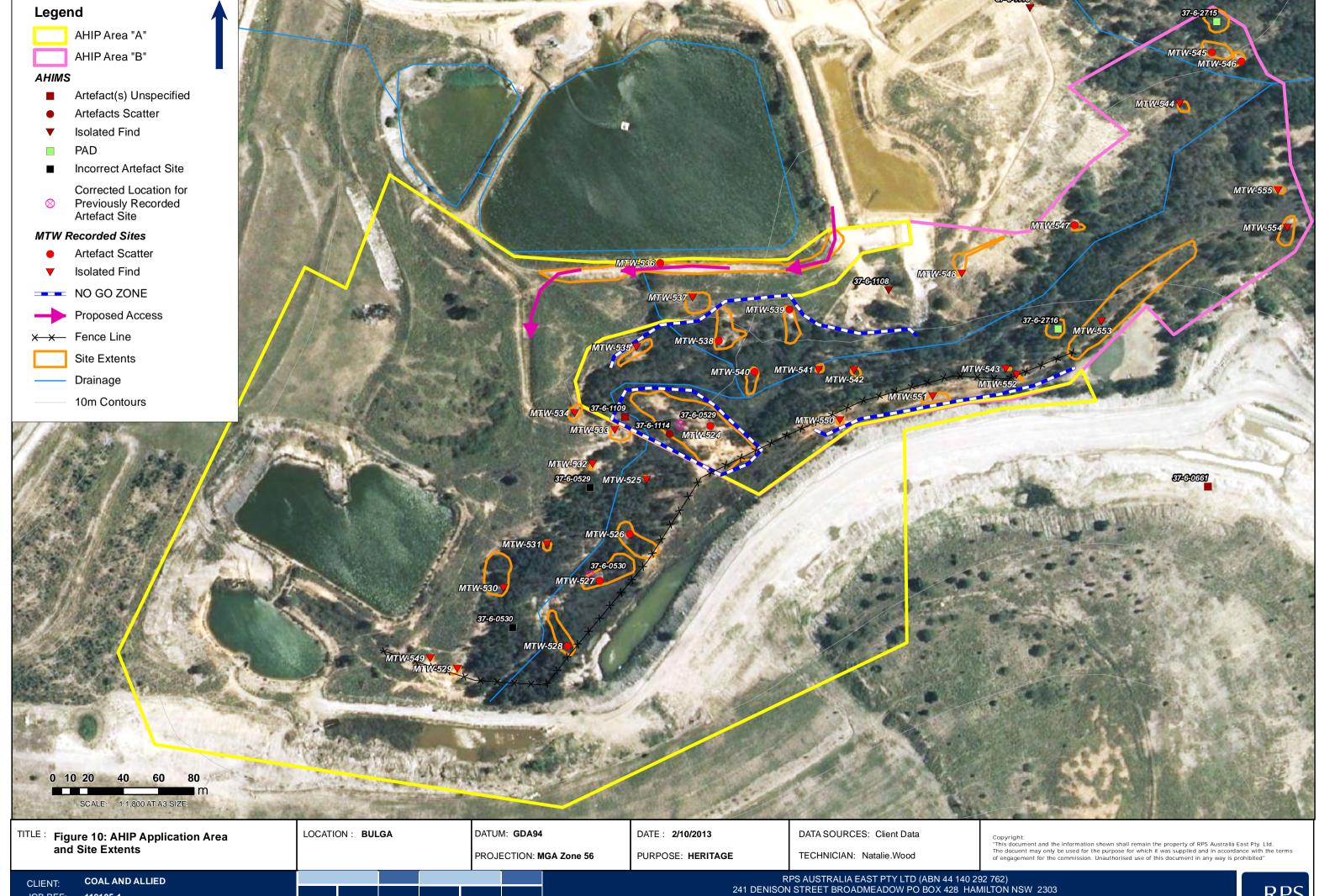
It is considered that the proposed project would not substantially increase cumulative impacts to Aboriginal heritage in the region in view of several factors. These are the scale of historic and ongoing land disturbance processes in the region, predominantly due to mining; the nature and extent of identified Aboriginal sites in the Project Area; and the nature and scale of impacts associated with the Project Area that has already been highly disturbed from previous land use.

8.4 Mitigation

It is proposed that the impacts for this project in Areas A and B be mitigated under an Aboriginal Heritage Impact Permit (AHIP). Fourteen Aboriginal sites require mitigation in Area A and up to 23 sites require mitigation in Area B (depending on the nature of hydrological impacts). The full details of mitigation, salvage of surface and subsurface artefacts are detailed in Section 9.0.



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JOB REF:



9.0 Methodology for Mitigation under an Aboriginal Heritage Impact Permit

The impact assessment has identified the need for an Aboriginal Heritage Impact Permit (AHIP) for Areas A and B. This AHIP methodology has been prepared in accordance with Part 6 *National Parks and Wildlife Act* 1974 (Office of Environment and Heritage 2011) and will include the following components detailed in the following sections:

- Harm to Aboriginal Objects
 - » Salvage Excavations (Section 9.1)
 - » Movement of Only Certain Aboriginal Objects (Section 9.2)
 - » Harm to Certain Aboriginal Objects through the proposed works (Section 9.3)

This methodology has also included provisions should skeletal remains be uncovered (Section 9.4).

As identified in the impact assessment fourteen sites within Area A will definitely be impacted by the Ramp 22 Sedimentation Dam as well as associated vehicle movement and stockpiling. All sites in Area A will be salvaged. There are a number of indirect impacts associated with surface water and possible watercourse flows from the dam that may affect 23 sites in Area B. While protection measures will be put in place such as the installation of siltation fencing, bunding, drainage, rehabilitation of eroded exposures and similar, if extensive erosion later poses a risk of harm then surface and subsurface artefacts will be either remediated by replacement of top soil and revegetated or if this is not possible to do so then salvaged accordingly. It is intended that any salvage whether undertaken in area A or B will be done so consistently across the area and in accordance with the methodology outlined below.

9.1 Methodology for Salvage Excavations

The salvage excavation will be undertaken at the PAD/s as appropriate to the impact area.

9.1.1 Aims

The aims of the excavation will be to 1) identify the presence/ absence of Aboriginal archaeological / cultural material, 2) identify the spatial patterning of the artefact sites and associated archaeological material within the PAD, 3) determine the integrity of archaeological material/ deposits and 4) target areas of high interpretative value in order to obtain a representative sample of subsurface artefacts.

9.1.2 Research Questions

The salvage excavation will seek to address the following research questions.

- 1. How does the assemblage inform our understanding of Aboriginal occupation of the site and the immediate locality? and
- 2. How does the assemblage compare to other excavated assemblages in the region?

9.1.3 Sampling Strategy

In order to determine the subsurface characteristics of the site, a number of excavation pits will be strategically positioned which will assist in determining the extent and content of the site. Five initial pits will be positioned across the site; four cardinal positions with one pit in the centre. Ideally pits will be positioned as follows (refer to layout below), but will be adapted to site conditions:

(a) North pit



- (b) East pit
- (c) South pit
- (d) West pit
- (e) Centre pit

	North Pit	
West Pit	Centre Pit	East Pit
	South Pit	

Pits will be spaced at approximately 10-20 metre intervals down the main axis of the site; however, intervals will be adjusted or offset where appropriate to avoid outcropping rock/dense vegetation, disturbed areas, eroded areas and placement may also be adjusted to target portions which appear to have deeper archaeological deposit and/or higher interpretative value. This sampling strategy will determine whether there are areas of high interpretative value. Adjacent or contiguous pits may be placed in areas identified to have high interpretive value.

Areas of high interpretative potential are defined as those pits that have evidence for intact knapping areas (ie. conjoining artefacts in a reduction sequence) or possess high frequencies of complete artefacts with interpretative value (>25 and larger than 2 centimetres in length). But may also refer to pits with evidence for specific types of tool manufacturing sequences, or a high frequency of specific tool types relating to an activity area.

Salvage will cease when a sufficient sample of artefacts has been recovered for interpretative purposes (in high concentration areas) or where there is a greater than 50% reduction in interpretative potential.



9.1.4 Excavation Methods

The following excavation methods will be employed:

- Excavation will be undertaken with hand tools only.
- Pits will be generally dug as 1 metre x 1 metre squares (but will be sized at the discretion of the
 archaeologist should pits need to be expanded for interpretation, or reduced to avoid obstacles, uneven
 topography or disturbance).
- Pits will generally be excavated in 10 centimetre spits, or if stratigraphy is observed then by stratigraphic unit.
- All material will be sieved using a 5 millimetre aperture sieve.
- Deposit will be sieved using dry or wet sieving methods as appropriate to the soil type, access to study area and environmental context.
- Excavation units will be excavated to at least to the base of identified Aboriginal object bearing units and/or will cease at clay or bedrock.
- Pits will be photographed and sections drawn, where relevant.
- A site plan will be drawn showing pertinent environmental, geomorphological and land use features; it will
 also include GPS locations of pits to assist in interpretation of the site.

Some variation of these methods may be required at the discretion of the archaeologist in order to recover archaeological material appropriate to the research questions, or to avoid areas of low interpretative value such as obstacles, uneven topography or disturbance.

9.1.5 Post Excavation Methodology

The post excavation methodology outlines the storage arrangements for artefact, artefact recording and analysis procedures, as well as the project team.

Storage of Artefacts

Artefacts will be stored at a suitable temporary location to allow for their recording and documentation. Long term storage of salvaged artefacts will be subject to a Care Agreement and with all materials salvaged to be stored at the RTCA Cultural Heritage Storage Facility at the Hunter Valley Services offices..

Artefact Recording and Analysis

Artefacts will be recorded in an appropriate manner according to artefact type, at a minimum, database record identification, pit location, spit, artefact count, raw material type, weight and dimensions will be recorded. Additional attributes will be recorded as relevant to the artefact type, but may also be added if patterning of a consistent attribute is identified (Table 15). For instance, very small <5 millimetre flakes, rounded to square in shape were identified at a site recently which were interpreted as flakes derived from the final stages of backed artefact manufacture; in this instance an addition attribute category was added.

Core rotation



Table 15 Sample Categories for Stone Artefact Recording

Attributes for all artefacts		
Record identification (ID)		
Pit identification/location		
Artefact Count		
Raw Material Type		
Weight		
Sample Categories by Art	efact Type	
Tools	Flakes	Cores
Completeness	Completeness	Completeness
Length (nearest mm)	Length (size class, nearest 5mm)	Length (nearest mm)
Width (nearest mm)	Width (size class, nearest 5mm)	Width (nearest mm)
Thickness (nearest mm)	Thickness (size class, nearest 5mm)	Thickness (nearest mm)

Analysis of artefact records will examine characteristics of the assemblage as relevant for the interpretation of the site. This is likely to include, but not limited to, tabulation of artefacts by study area, pit location, by spit depth, raw material distribution (vertical and/or horizontal), artefact types and tool types. Additional analysis such as conjoining may be undertaken if there is indication that this will add important interpretative information.

9.1.6 Photography

Termination (if applicable)

Diagnostic artefacts from the excavation will be photographed with appropriate graded metric scales.

Termination

9.1.7 Reporting

The excavation fieldwork, artefact recording, analysis and interpretation will be undertaken and documented in an excavation report, which will be prepared by the archaeologist, with reference to relevant OEH guidelines..

9.2 Movement of Aboriginal Objects (Controlled Surface Collection)

The movement of Aboriginal objects will be undertaken as a controlled surface collection, where such objects are not designated isolated artefact sites or low density artefact scatters, which will retrieve a sample of visible surface artefacts; however, the AHIP will also cover artefacts that may not be detected during surface collections.

As a general principle high density stone artefact scatters will be subject to a controlled collection methodology. A controlled collection methodology may include any of the following measures but which are to be specifically defined for each artefact scatter to suit the collection requirements of each site. For example, the overall dimensions of the collection area and dimensions of the grid collection cells will vary from site to site:

- a. the extent and boundary of the artefact scatter to be the subject of controlled collection will be delineated by marker pegs and string lines;
- if the scatter area is to be sub-divided into grid cells for collection then an alpha numeric grid numbering system will be adopted;



- c. the scatter extent collection boundary and grid cell dimensions will be those determined by agreement between RTCA and the Technical Advisor engaged to assist with the controlled collection; and
- d. materials collected will be placed in appropriately labelled bags along with their provenance details. Photographic recording, field notes and any other information will also be documented; and/or
- e. materials will be stored in conformance with the conditions of a valid consent as may be required and approved from time to time by OEH. Additionally, any Aboriginal objects (to the extent that they are stone artefacts) will be managed in accordance with Requirement 26 'Stone Artefact Deposition and Storage' in the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (24 September 2010).

9.3 Harm to Certain Aboriginal Objects

The overall aim of the salvage excavation and surface collection is to recover a representative sample of the material, which will assist in the archaeological interpretation of the area. It is intended that the salvage excavation will cease, once a representative sample has been recovered and that the surface collection will cease once all recorded locations have been inspected. It is intended that this AHIP will authorise harm to Aboriginal objects that are not recovered as part of the salvage excavation and surface collection works. It is also intended that the AHIP cover incidental damage to Aboriginal objects arising from the installation of silt fencing and other measures in order to prevent erosion in the area arising from increased water flows associated with the Ramp 22 Sedimentation Dam.

9.4 Protocol for Discovery of Skeletal Remains

The discovery of skeletal remains during works, archaeological and/or construction will need to follow protocols for the discovery of skeletal remains (Figure 11).

Heritage contingency protocols for the discovery of skeletal remains during construction are outlined below. Should any unexpected Aboriginal objects/features be encountered, work must stop immediately and the area must be cordoned off with a high visibility barrier. The land manager is to be notified of the situation as soon as possible.

The land manager is to contact the local NSW Police, who will then assess whether the remains are part of a crime scene, or possible Aboriginal remains. If determined by police to be Aboriginal remains, the Police will contact OEH and an OEH officer will confirm the determination in writing. If determined to be a Police matter, Police instructions are to be followed. Clearance to recommence construction works should be sought directly from the Police.

If OEH confirms that the remains are Indigenous, OEH (in consultation with registered Aboriginal parties and the heritage consultant) will develop a human remains management strategy. The land manager is to ensure that this strategy is implemented, and must document its implementation.

Provided that these heritage contingency protocols have been followed, construction/maintenance works within the Project Area may proceed.



Discovery of Skeletal Remains STOP work, cordon off area and notify land manager **CONTACT:** Land manager to contact local NSW Police ASSESS: Police will make an initial assessment to determine if the remains are part of a crime scene or possible Aboriginal remains. If thought to be Aboriginal remains, local police will contact the Office of Environment and Heritage (OEH) and an OEH officer will confirm in writing if remains are Aboriginal. POLICE MATTER: If determined to OEH CONFIRMATION OF ABORIGINAL be a Police matter, follow REMAINS: If remains are determined to instructions of Police and seek be Indigenous, OEH in consultation with clearance from them before registered parties and heritage consultant continuing construction works will develop a human remains management strategy. IMPLEMENT Land manager to ensure human remains management strategy is implemented **DOCUMENT** Land manager to ensure the implementation of the human remains management strategy is documented. PROCEED with construction/maintenance works

Figure 11 Heritage Contingency Protocol for Discovery of Skeletal Remains



10.0 Conclusions and Recommendations

This report has considered the environmental, archaeological and scientific context of the Project Area, developed a predictive model and reported on the results of an archaeological and cultural heritage survey of the Assessment Area. The management recommendations have been formulated in consideration of the significance of the Aboriginal cultural heritage and Aboriginal objects, as well as potential impacts to these sites. The measures presented below are considered best practice in the mining industry. Their effectiveness and reliability is demonstrated by their continued use and inclusion in management plans and strategies developed in consultation with the Aboriginal community and to the satisfaction of government departments.

AHIMS sites #37-6-1108 and #37-6-1109 had been salvaged previously by ERM (2004) under Permit #1795 issued in 2004 and no additional artefacts were found at these site locations during the current survey. AHIMS site #37-6-1114 was included under the same permit but was not salvaged at that time. This artefact scatter site was positioned adjacent and to the south west of MTW524. No artefacts were found at either of the two previously recorded PAD sites #37-6-2715 and #37-6-2716. Following review of the sites data and groundtruthing of the artefact scatter sites #37-6-0529 and #37-6-0530 during the survey it was determined that AHIMS site #37-6-0529 was positioned close to #37-6-1114 which in turn was close to MTW524 and AHIMS site #37-6-0530 was positioned close to MTW527. Of the seven previously registered AHIMS sites two sites had been salvaged and the remaining five were extant.

Thirty two new Aboriginal sites were recorded in the area surveyed during the archaeological investigations and Aboriginal cultural heritage inspections (MTW524 to MTW555).

Of these thirty nine sites in the Project Area and broader Survey area (Figure 5), twelve extant sites are in the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam Disturbance Footprint (Table 12) and two extant sites are in the Construction Access Disturbance Footprint (Table 13). These fourteen sites will be directly impacted by dam construction works or at risk from vehicle movements during the construction of the dam (Figure 8). Of the remaining 25 sites identified (Table 13), two sites have been salvaged and are no longer valid. There are a number of indirect impacts associated with surface water and possible watercourse flows from the dam that may affect 23 sites in Area B. While protection measures will be put in place such as the installation of siltation fencing, bunding, drainage, rehabilitation of eroded exposures and similar, if extensive erosion later poses a risk of harm then surface and subsurface artefacts will be either remediated by replacement of top soil and revegetated or if this is not possible to do so then salvaged accordingly (Figure 7). These include fourteen in the Project Area and nine adjacent to the Project Area in the broader Assessment Area.

RECOMMENDATIONS

The following management recommendations have been formulated taking into consideration the significance of Aboriginal heritage as well as potential impacts and have been prepared in accordance with the relevant legislation.

Recommendation 1

An AHIP will be required to salvage the twelve sites in the Mount Thorley/Bulga Mine Ramp 22 Sedimentation Dam disturbance footprint (Table 12) (Area A); including the subsurface salvage of MTW526. The AHIP works must be undertaken prior to construction commencing (Figure 9 & Figure 10).



Recommendation 2

An AHIP will be required to salvage the two sites in the Construction and Maintenance Access disturbance footprint (Table 13) (Area A). The AHIP works must be undertaken prior to construction commencing (Figure 9 & Figure 10).

Recommendation 3

An AHIP with provisions to allow rehabilitation works to remediate surface water and watercourse erosion areas associated with some sites and to mitigate and/or salvage others of the 23 sites in Area B (Table 14) will be required downstream of the dam. In the case of fencing and sediment control measures, these must be in place prior to the commencement of construction works (Figure 9& Figure 10).

The Aboriginal community consultation initiated as part of this assessment through the ACHCRP (2010) guidelines should be maintained prior to and throughout the construction phase through the auspices of the RTCA Aboriginal Cultural Heritage Working Group process.

Recommendation 5

All staff and contractors associated with the construction of the sedimentation dam will be made aware of their obligations under the *National Parks and Wildlife Act* (1974) and AHIP management requirements through a Project Area specific heritage management induction.

Recommendation 6

In the unlikely event that skeletal remains are identified, work must cease immediately in the vicinity of the remains and the area must be cordoned off. The proponent must contact the local NSW Police who will make an initial assessment as to whether the remains are part of a crime scene or possible Aboriginal remains. If the remains are thought to be Aboriginal, OEH must be contacted by ringing the Enviroline 131 555. An OEH officer will determine if the remains are Aboriginal or not; and a management plan must be developed in consultation with the relevant Aboriginal stakeholders before works recommence.

Recommendation 7

If, during the course of development works, suspected historic cultural heritage material is uncovered, work should cease in that area immediately. The Heritage Branch, Office of Environment & Heritage (Enviroline 131 555) should be notified and works only recommence when an approved management strategy has been developed.



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12.0 Plates



Plate 1 View to south showing access track and a pumping station and extent of previous disturbed area



Plate 2 View of pumping station from south bank, view to the north showing ground disturbances



Plate 3 View of access track towards pumping station, view to the east showing extent of disturbances



Plate 4 View to west of possible construction vehicle access area and extent of disturbances



Plate 5 View to north showing dam construction. Evidence of existing disturbed area



Plate 6 View to north showing dam construction in the background and extent of disturbance





Plate 7 View to south showing modified drainage line and extensive ground disturbance



Plate 8 Erosion at the modified drainage line, view to the north east. Example of disturbance



Plate 9 Example of extensive erosion at MTW544, view to the north east



Plate 10 Windrow associated with a haul road, view to the north. Example of disturbance.



Plate 11 Windrow associated with a haul road, view to the south. Example of disturbance.



Plate 12 View of formed drainage channel and reeds (in background) with salt crust after period of no rain. View to the south east





Plate 13 Photo showing creek after rain with sandstone outcropping. View to the north



Plate 14 Photo showing creek after a period of no rain with the same sandstone outcropping



Plate 15 Coal shale identified in creek bed, view to the north east



Plate 16 Silt fencing to the south of the dam construction. View to the north



Plate 17 Photo of silt trap at the southern outlet of a dam. View to the north west



Plate 18 Vegetation & erosion on the south bank of the creek at site MTW553, view to the east





Plate 19 Site location photo of MTW524, showing artefacts eroding out of a scour. View to the south east



Plate 20 Site location photo of MTW524, showing artefact eroding our form rill erosion. View to the south east



Plate 21 Artefacts eroding out of an erosion scour at the northern end of MTW524 site extent. View to the east

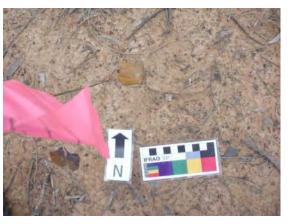


Plate 22 Mudstone artefact at site MTW524



Plate 23 Conjoining silcrete artefacts at site MTW524



Plate 24 Site location of MTW525, view to the north





Plate 25 Mudstone artefact at site MTW525



Plate 26 Site location photo of site MTW526, view to the south showing the erosion scour that this site is eroding from



Plate 27 Site location for MTW527 view to the east



Plate 28 Site location photo of MTW528, view to the east



Plate 29 Silcrete artefacts identified at MTW528



Plate 30 Site location of MTW529, view to the east. Note the large amounts of rill erosion





Plate 31 Artefact identified at MTW529



Plate 32 Site location of MTW530, view to the north



Plate 33 Site location of MTW530, view to the



Plate 34 Artefact identified at MTW530



Plate 35 Artefact identified at site MTW530



Plate 36 Site location of MTW531





Plate 37 Site location of site MTW532 view to the east



Plate 38 Site location photo of site MTW533, view to the north



Plate 39 Example artefact identified at MTW533



Plate 40 Site location photo of MTW534, view to the south



Plate 41 Blade identified at MTW534



Plate 42 Site location photo of MTW535, view to the east. This is shows the western cluster





Plate 43 Site location photo fo MTW535, view to the south west. This shows the western most cluster



Plate 44 Example artefact identified ate MTW535



Plate 45 Site location photo of site MTW536, view to the east



Plate 46 Site location photo of MTW536, view of western extent



Plate 47 Site location photo of MTW537, view to the west



Plate 48 Example artefact identified at MTW537





Plate 49 Site location photo of MTW538, view to the north



Plate 50 Example artefact identified at MTW538



Plate 51 Site location of MTW539, view to the south



Plate 52 Example of quartz artefact identified at MTW539



Plate 53 Site location photo looking towards MTW540, view to the south



Plate 54 Site location photo of MTW540, view to the north





Plate 55 Site location photo of MTW541, view to the north



Plate 56 Site location photo of MTW542, view to the north



Plate 57 Site location of MTW543, view to the north



Plate 58 Artefact located at MTW543



Plate 59 Site location photo of MTW544, view to the north



Plate 60 Example artefact located at MTW544





Plate 61 Site location photo of MTW545, view to the north



Plate 62 Example artefacts located at MTW545



Plate 63 Site location photo of MTW546, view to the east



Plate 64 Example of artefacts located at MTW546



Plate 65 Site location photo of MTW547, view to the north



Plate 66 Example artefact located at MTW547





Plate 67 Site location photo of MTW548 view to the north.



Plate 68 Example artefact located at MTW548



Plate 69 Site location photo of MTW549, view to the west



Plate 70 Artefact identified at MTW549



Plate 71 Site location photo of MTW550, view to the east



Plate 72 Artefact identifed at MTW550





Plate 73 Site location photo of MTW551, view to the east



Plate 74 Example artefact identified at MTW551



Plate 75 Site location photo of MTW552, view to the west



Plate 76 Mudstone blade flake identified at MTW552



Plate 77 Site location photo of MTW553, view to the east



Plate 78 Artefact Identified at MTW553





Plate 79 Site location photo of MTW554, view to the east



Plate 80 Example artefact located at MTW554



Plate 81 Site location photo of MTW555, view to the east



Plate 82 Mudstone flake located at MTW555



Appendix I

Public Notice & Notification of Meeting Invitation

ADVERTISING PROOF

Ref no: 362184221 Printed: 04/02/2013

14:58:28

Attention: JOEL DEACON

Company: RIO TINTO COAL NSW

BOOKING DETAILS

Name: RIO TINTO COAL NSW
Address: LOCKED BAG 5051
City: PARRAMATTA

State: NSW Postcode: 2124

Authorised by: JOEL DEACON
PO Number: 3100933379
Cost: \$1109.66
Size: 23 x 3
Class / section: Notices (628)

APPEARANCE DETAILS

07/02/2013	Z6 Scone Advocate	\$221.63 inc GST
08/02/2013	Z6 Muswellbrook Chronicle	\$221.63 inc GST
08/02/2013	Z6 Singleton Argus	\$666.40 inc GST

AUTHORISATION

I have checked all details contained in the advertisement (including phone numbers and spelling) and authorise you to proceed as per the booking details above.

Name:

Signature:

Date:

Comments

Hi Joel, proof of notice for the Hunter Valley News Wed 6/2, Scone Advocate Thur 7/2 and Singleton Argus & Muswellbrook Chronicle Fri 8/2. Cost \$2,181.37 - please confirm if ok. Many thanks, Julie Corrigan

Once authorised, please reply with 'authorised' in the subject field to classifieds.singletonargus@ruralpress.com

or fax back to (02) 6572 2795

Should you have any further enquiries please do not hesitate to contact me.

Regards,

Julie



COAL ALLIED

Managed by Rio Tinto Coal Australia

PUBLIC NOTICE

Invitation for Aboriginal parties in the Upper Hunter Valley to register their interest to participate in cultural heritage consultation with Coal & Allied

Aboriginal people who hold cultural knowledge relevant to determining the significance of Aboriginal object(s) and/or place(s) in the Local Government Areas of Singleton, Muswellbrook and Upper Hunter, or within the Wanaruah Local Aboriginal Land Council boundary, are invited to participate in consultation with Coal & Allied regarding the assessment and management of Aboriginal Cultural Heritage associated with its development activities that may require assessment and/or Aboriginal Heritage Impact Permit (AHIP) approvals under Part 6 of the National Parks and Wildlife Act 1974 (NPW Act).

If you wish to register your interest as an Aboriginal party your registration must be in writing (letter, fax or email), and include your name/organisation, current contact details (postal address, email, phone number/s) and be received by Joel Deacon (see contact details at end of this letter) by close of business on Wednesday 6 March 2013. Details of people registering as Aboriginal Parties will be forwarded to Office of Environment and Heritage (OEH), and also the Wanaruah Local Aboriginal Land Council unless you specify otherwise.

Aboriginal parties who register are invited to attend a Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group (CHWG) meeting, with the following details:

Date: Thursday 7 March 2013

Time: 9.00am to 2,00pm

Venue: Wollombi Brook Conservation Area, 1916 Putty Road, Bulga.

(Morning tea and lunch will be provided)

The following development proposal requiring assessment and/or potential AHIP approvals under Part 6 of the NPW Act is to be discussed at the CHWG meeting:

 Proposed Mount Thorley (DA 34/95) Ramp 22 Sediment Dam (located between the Mount Thorley & Bulga Mines Overburden Emplacement Areas)

CHWG discussions pertaining to development activities requiring assessment and potential AHIP approvals under Part 6 of the NPW Act are held in accordance with the OEH Aboriginal cultural heritage consultation requirements for proponents 2010.

The CHWG meeting will discuss projects and development activities that are associated with major projects and infrastructure approvals assessed under Part 4 and the former Part 3A, s75B (now Part 4, Division 4.1) of the Environmental Planning and Assessment Act 1979 (EP&A Act), in particular:

- Warkworth Mine Extension Environmental Approval (PA_09_0202)
- Hunter Valley Operations South Aboriginal Cultural Heritage Management Plan.
- Mt Thorley Development Consent Modification (DA 34/95)

CHWG discussions pertaining to approvals under Part 3A, s75B of the EP&A Act are held in accordance with the OEH Draft Guidelines for Aboriginal cultural heritage impact assessment & community consultation guidelines (July 2005).

If you are unable to attend the meeting you may lodge comments, queries or feedback on these or other topics associated with Coal & Allied's cultural heritage management program via letter, fax, email or phone prior to the scheduled date of the CHWG meeting.

Joel Deacon
Specialist Cultural Heritage
Rio Tinto Coal Australia Pty Ltd
Hunter Valley Services
PO Box 315, Singleton NSW 2330
joel.deacon@riotinto.com

Fax: 02 6570 0350 ~ Ph: 02 6570 0462



SAMPLE INVITATION LETTER FOR 7 MARCH CHWG MEETING

Private and confidential

4th February 2013

Dear Sir/Madam

Coal & Allied Cultural Heritage Working Group Meeting - 7 March 2013

Coal & Allied will conduct its consultation process with registered Aboriginal parties regarding the assessment and management of Aboriginal cultural heritage associated with development activities at its operations, projects and lands requiring assessment and/or Aboriginal Heritage Impact Permit (AHIP) approvals under Part 6 of the NPW Act, and other projects and development activities that are associated with major projects and infrastructure approvals assessed under Part 4 and the former Part 3A, s75B (now Part 4, Division 4.1) of the Environmental Planning and Assessment Act 1979 (EP&A Act), through the auspices of the Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group (CHWG).

Details of the next CHWG meeting are as follows:

Date: Thursday 7th March 2013

Time: 9.00am to 2.00pm

Venue: Wollombi Brook Conservation Area, 1916 Putty Road, Bulga (see location map).

Morning tea and lunch will be provided

Please advise me of your intention to attend the CHWG meeting at your earliest convenience (or by close of business 6th March 2013) or if you have any queries about the community consultation meeting. <u>If you have already registered your expression of interest for consultation with Coal & Allied regarding Aboriginal cultural heritage, there is no need to re-register your written expression of interest.</u>

The following development proposal requiring assessment and/or potential AHIP approvals under Part 6 of the NPW Act is to be discussed at the CHWG meeting:

 Proposed Mount Thorley (DA 34/95) Ramp 22 Sediment Dam (located between the Mount Thorley & Bulga Mines Overburden Emplacement Areas)

CHWG discussions pertaining to development activities requiring assessment and potential AHIP approvals under Part 6 of the NPW Act are held in accordance with the OEH *Aboriginal cultural heritage consultation requirements for proponents 2010*.

The CHWG meeting will also discuss other projects and development activities that are associated with major projects and infrastructure approvals assessed under Part 4 and the former Part 3A, s75B of the Environmental Planning and Assessment Act 1979 (EP&A Act), in particular:

- Warkworth Coal Mine Extension Environmental Approval (PA 09 0202)
- Hunter Valley Operations North (DA 450-10-2003)
- Mt Thorley Development Consent (DA 34/95) Modification

CHWG discussions pertaining to approvals under Part 3A, s75B of the EP&A Act are held in accordance with the OEH *Draft Guidelines for Aboriginal cultural heritage impact assessment and community consultation guidelines (July 2005)*.

It is also important to note that a major discussion topic will be the Warkworth Coal Mine Extension Approval (PA09_0202) and Mount Thorley Development Consent (DA 34/95) draft Heritage Management Plan (HMP). Please find attached for your review a copy of this draft HMP, which will be discussed in detail at the 7 March CHWG meeting.

If you are unable to attend the meeting you may lodge comments, queries or feedback on these or other



topics associated with CNA's cultural heritage management program via letter, fax, email or phone prior to the scheduled date of the CHWG meeting. Please see the attached CHWG confidential feedback form which you may choose to complete for this purpose.

I look forward to seeing you at the meeting, and please also find enclosed directions to the venue if you have yet to visit the facility. If you have any queries prior to this date, please feel free to contact me on the numbers below.

Yours sincerely

Joel Deacon

Specialist Cultural Heritage, NSW - External Relations, Coal Australia

Hunter Valley Services, Lemington Road, LEMINGTON PO Box 315 SINGLETON, NSW, 2330 Australia

M: +61 (0)488 721 985 joel.deacon@riotinto.com

Please see enclosed the following documents

- Minutes of CHWG meeting 6th December 2012
- Presentation from the 6th December 2012 CHWG meeting
- Confidential feedback form
- Agenda for CHWG meeting 7th March 2013
- Map & directions to the venue
- Draft Mount Thorley Warkworth Operations HMP



Appendix 2

RAP Log

Organisation	Representative for Correspondence	Meeting attendees 7 March 2013	Recipient of project information	Field Work	Recipients of Draft Report	Respondents to Draft Report	Recipients of Final Report
Aboriginal Native Title Consultants	Margaret and John Matthews	No	Yes		Yes		
Aliera French Trading	Aliera French	No	Yes		Yes		
Bawurra Consultants	Kevin Sampson	No	Yes		Yes		
Bigundi Biame Traditional People	Wayne Griffiths	No	Yes		Yes		
Breeza Plains Culture and Heritage Consultants	Terry Matthews	No	Yes		Yes		
Buda Mada Koori Women's Aboriginal Corporation	Alison Howlett	No	Yes		Yes		
Bullem Bullem	Lloyd Mathews	No	Yes		Yes		
Bunda Consultants	Tammy Knox	No	Yes		Yes		
Cacatua Culture Consultants	Donna Sampson	No	Yes	July 2013	Yes		
Carrawonga	Justin Matthews	No	Yes		Yes		
Crimson Rosie	Jeff Mathews	No	Yes		Yes		
Culturally Aware	Tracey Skene	No	Yes		Yes		

Organisation	Representative for Correspondence	Meeting attendees 7 March 2013	Recipient of project information	Field Work	Recipients of Draft Report	Respondents to Draft Report	Recipients of Final Report
Deslee Talbott Consultants	Deslee Matthews	No	Yes		Yes		
Divine Diggers Aboriginal Cultural Consultants	Deidre Perkins	No	Yes		Yes		
DRM Cultural Management	Helen Faulkner	No	Yes		Yes		
Galamaay Consultant	Karen Matthews	No	Yes		Yes		
Gidawaa Walang Cultural Heritage Consultancy	Anne Hickey	No	Yes		Yes		
Giwiirr	Rodney Matthews	No	Yes		Yes		
Gomery Cultural Consultants	David Horton	No	Yes		Yes		
Heilamon Cultural Consultants	Clifford Johnson	No	Yes		Yes		
Amanda Hickey	Amanda Hickey	No	Yes		Yes		
Hunter Traditional Owner Environmental Management Services	Paulette Ryan	No	Yes		Yes		
Hunter Valley Aboriginal Corporation	Rhonda Griffiths	Yes	Yes	July 2013/ September 2013	Yes		
Hunter Valley Cultural Consultants	Christine Archbold	No	Yes		Yes		
Hunter Valley Cultural Surveying	Luke Hickey	No	Yes		Yes		

Organisation	Representative for Correspondence	Meeting attendees 7 March 2013	Recipient of project information	Field Work	Recipients of Draft Report	Respondents to Draft Report	Recipients of Final Report
I & E Aboriginal Culture and Heritage	Ivy Jaeger	No	Yes		Yes		
Jarban and Mugrebea	Les Atkinson	Yes	Yes		Yes		
JLC Cultural Services	Jenny-Lee Chambers	Yes	Yes		Yes		
Jumbunna Traffic Management Group Pty Ltd	Norm Archibald	No	Yes		Yes		
Kawul Cultural Services	Rod Hickey	Yes	Yes		Yes		
Kayaway Eco Cultural & Heritage Services	Mark Hickey	No	Yes		Yes		
KL.KG Saunders Trading Services	Krystal Saunders	No	Yes		Yes		
L.J Culture Management	Les Field	No	Yes		Yes		
Lower Hunter Aboriginal Incorporated	David Ahoy	No	Yes		Yes		
Lower Hunter Wonnarua Council Incorporated	Tom Miller	No	Yes		Yes		
Lower Wonnarua Tribal Consultancy Pty Ltd	Barry Anderson	No	Yes		Yes		
Roger Noel Matthews	Roger Matthews	No	Yes		Yes		
Mingga Consultants	Clifford Matthews	No	Yes		Yes		

Organisation	Representative for Correspondence	Meeting attendees 7 March 2013	Recipient of project information	Field Work	Recipients of Draft Report	Respondents to Draft Report	Recipients of Final Report
Murrawan Culture Consultants	Robert Smith	No	Yes		Yes		
Muswellbrook Cultural Consultants	Brian Horton	No	Yes		Yes		
Smith Dhagaans Cultural Group	Timothy Smith	No	Yes		Yes		
Barry and Colleen Stair	Barry and Colleen Stair	No	Yes		Yes		
Warren Taggart	Warren Taggart	No	Yes		Yes		
Tocomwall	Malcolm Franks	No	Yes	September 2013	Yes		
Ungooroo Aboriginal Corporation	Alan Paget	Yes	Yes	July 2013	Yes		
Ungooroo Cultural & Community Services	Rhonda Ward	No	Yes		Yes		
Upper Hunter Heritage Consultants	Darrel Matthews	No	Yes		Yes		
Upper Hunter Natural and Cultural Resources Management	David French	No	Yes		Yes		
Upper Hunter Wonnarua Council Inc.	Rhoda Perry	Yes	Yes	July 2013	Yes		
Valley Culture	Larry Van Vliet	No	Yes		Yes		
Wallangan Cultural Services	Maree Waugh	Yes	Yes		Yes		

Organisation	Representative for Correspondence	Meeting attendees 7 March 2013	Recipient of project information	Field Work	Recipients of Draft Report	Respondents to Draft Report	Recipients of Final Report
Wanaruah Local Aboriginal Land Council	Noel Downs	Yes	Yes	July 2013	Yes		
Wattaka Wonnarua Cultural Consultancy Service	Des Hickey	No	Yes		Yes		
Widescope IndigeNous Group Pty Ltd	Steven Hickey	Yes	Yes		Yes		
Wonn1 Contracting	Arthur Fletcher	No	Yes		Yes		
Wonnarua Nation Aboriginal Corporation	Laurie Perry	Yes	Yes	July 2013	Yes		
Wonnaruah Elders Council	Arthur Fletcher	No	Yes		Yes		
Suzie Worth	Suzie Worth	Yes	Yes		Yes		
Yinarr Cultural Services	Kathleen Kinchela	No	Yes		Yes		
Wanaruah Aboriginal Custodians Corporation	Maria Stocks	No	Yes		Yes		
Waabi Gabinya Cultural Consultancy	Elizabeth Howard	No	Yes		Yes		
Plains Clan of the Wonnarua People	Robert Lester & Scott Franks	No	Yes		Yes		
HECMO Consultants	Kerren Boyd	No	Yes		Yes		



Appendix 3

Meeting 7 March 2013 - Presentation and Minutes



Appendix 4

Letter to Aboriginal Community Stakeholders Requesting Comments on Assessment



SAMPLE

Private and confidential

4th April 2013

Dear Sir/Madam

Coal and Allied Cultural Heritage Working Group Meeting – 7 March 2013 Copy of Minutes and Presentation

Please find attached a copy of the presentation and minutes arising from the recent Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group (CHWG) meeting held on 7th March 2013. In order to save paper when providing these large documents to you, they are included as electronic files on the attached DVD. This will be our preferred method for sending large documents going forward. If you are unable to view these files, or would like printed copies of these or any future documents, please contact me and I can arrange for these to be sent to you.

These minutes and presentation constitute the record of Coal & Allied's consultation process with you, the Registered Aboriginal Parties (RAPs), regarding the assessment and management of Aboriginal cultural heritage (ACH) associated with development activities at its operations, projects and lands requiring assessment and/or Aboriginal Heritage Impact Permit (AHIP) approvals under Part 6 of the *National Parks and Wildlife Act 1974* (NPW Act), and other projects and development activities that are associated with major projects and infrastructure approvals assessed under Part 4 and the former Part 3A, s75B (now Part 4, Division 4.1) of the *Environmental Planning and Assessment Act 1979* (EP&A Act), through the auspices of the CHWG.

Proposed MTO/Bulga Mine Ramp 22 Sediment Dam – Assessment and Potential AHIP Approval

Of particular note in these documents is the information presented regarding the proposed Mount Thorley (DA 34/95) Ramp 22 Sediment Dam Project Area (located between the Mount Thorley and Bulga Mines Overburden Emplacement Areas). This development proposal requires assessment and potential AHIP approval under Part 6 of the NPW Act, and discussions pertaining to this proposed development are being held in accordance with the OEH *Aboriginal cultural heritage consultation requirements for proponents 2010* (ACHCRP).

The methodology for the assessment of Aboriginal heritage values for the project area will consist of the comprehensive and systematic pedestrian survey of 100% of the Project Area, to be conducted by representatives of the CHWG, with the purpose to confirm locations of previously recorded ACH sites, identify and record any previously unrecorded sites, and document their nature, extent and location in relation to the proposed Project Area development works. Collecting this information will inform the assessment of any impacts the project may have on ACH sites situated within and in the immediate vicinity of the Project Area and what management options might be considered if disturbance is required. The results of the assessment will then be presented at a future CHWG meeting to be convened to discuss the results of the assessment, impacts posed by the development works, potential management options and inform the preparation of a draft ACH assessment report that will accompany the AHIP application for the Project Area. As per the provisions of the ACHRP, this draft report will be circulated to all RAPs for their review and enable them to provide further input.

Please refer to the enclosed meeting presentation and minutes for full details and a map of the area. As per the ACHCRP, RAPs have a minimum of 28 days after receipt of these documents to provide comments on the proposed methodology to Coal and Allied.

If you have any comments you wish to make about this project, or any of the other activities and issues that were discussed at the 7 March CHWG meeting, please contact me by any of the means listed below. I will contact you with details of the next CHWG meeting once a date has been settled.



Yours sincerely

Joel Deacon

Specialist Cultural Heritage, NSW

Rio Tinto Coal Australia

Hunter Valley Services, Lemington Road, LEMINGTON PO Box 315 SINGLETON, NSW, 2330 Australia

P: +61 2 6570 0462 M: +61 (0)488 721 985 F: +61 2 6570 3601 joel.deacon@riotinto.com

Please see enclosed the following documents on DVD

- Minutes of CHWG meeting 7th March 2013
- Presentation from the 7th March 2013 CHWG meeting

Coal and Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group Community Consultation Meeting

MINUTES

Date: 7th March 2013 **Time:** 0900 - 1400

Venue: Wollombi Brook ACH Conservation Area, 1916 Putty Rd, BULGA.

Chairperson: Joel Deacon

Attendees: Joel Deacon – RTCA Specialist Cultural Heritage

David Cameron - RTCA Manager Cultural Heritage Gary Pappin – RTCA Advisor Cultural Heritage Georgia Bennett – RTCA Graduate Cultural Heritage Rhonda Griffiths – Hunter Valley Aboriginal Corp

Rhoda Perry – Upper Hunter Wonnarua Council Incorporated Laurie Perry – Wonnarua Nation Aboriginal Corporation

Maree Waugh- Wallangan Cultural Services

Suzie Worth - Wanaruah Local Aboriginal Lands Council

Steven Hickey - Widescope Indigenous Group Allen Paget - Ungooroo Aboriginal Corporation

Vicky Slater – Kawul Cultural Services Rod Hickey – Kawul Cultural Services Les Atkinson - Jarban & Mugrebea Jenny Chambers - JLC Cultural Services

Apologies: Norm Archibald – Jumbunna

Deslee Talbot - Deslee Talbot Consultant

George Sampson - Cacatua Culture Consultants

Minutes: Georgia Bennett



Meeting Opened 09:00

- - -

Joel - Discussion of potential AHIP application for construction of sediment dam in vicinity of the Mount Thorley/Bulga Mine shared boundary (slides 21, 22 / page 11). Ramp 22.

There's a dam proposed for Bulga project, not so much for ours but it'd be a shared dam with Bulga looking to build it. It's a sediment dam, to manage the water run-off from their areas subject to their western mining limit DA modification. The majority is located on Mt Thorley operations land although the project area straddles that boundary, that area that Dave mentioned, most of the area is covered by previous surveys in 1983, 1995 and 2001 so at least a dozen years ago and several sites have been located and recorded in there. We got a section 90 back in the early 2000s to salvage a number of cultural heritage sites in that area, ERM did that salvage in 2004. What's clear in the report is that cultural heritage material remains on the ground there, some sites weren't salvaged, some only partially salvaged and at any rate we have gone there and had a look and there are artefacts there. The section 90 has now expired and as Dave mentioned about the Mt Thorley development consent, if your gong to disturb any sites in there we need an AHIP. So we'll undertake the cultural heritage assessment and the consultation for the AHIP application and then we'll go and do the salvage or whatever comes out of that AHIP. Map referred to for location **slide 23** / **page 24**. The pink area is the footprint of the dam, there are dams already there, it's a highly disturbed area except for inside the blue shape, it's relatively undisturbed along that old creek line. Loders Creek or a tributary of Loders Creek.

Dave – you can see here (map referred to), basically all this is rehab dump that's Mt Thorley side, this is Bulga Xstrata on this side, with a shared boundary. The previous section 90 consent goes back to the 90's and early 2000's was for the construction of these dams and drainage all around here, but what they didn't do was disturb the creek at the time, they did the salvaging around it. The creek itself though when you see the vegetation, had been cleared maybe 30 – 40 years ago it's all casuarina re-growth but none the less its effectively a dead end creek now, because it's cut off because of the dumps all around it. This dam is all about capturing that run off to make sure it doesn't get into the creek further down so that it doesn't cause damage. So, the proposal will be that they want to build the dam in this area, therefore we'll need to get an AHIP, but before we do that, we need to do an assessment, so we're going to re-assess the area so we can understand what's there now, what was left behind, what issues there are, go through the impact assessment and decided on appropriate management outcomes.

Joel – those dots represent the sites, some of which have been picked up, some not at all and some only partially salvaged. Some of them are really old recordings so the actual location of the dot doesn't match up to where the artefacts are necessarily, so the survey process will look to find out exactly what's there, what sites are still there, and then we can look at what impacts the dam might have on them. So that yellow dashed line on the map, is basically just walking up and down on each side of the creek back to where it joins an unnamed tributary.

Dave – one of the rationales or the focus for Bulga and MTO about the dam that's here we wanted to make sure that we actually assessed further downstream so that we have a good idea about what impacts if any, might come from overflows, so if the dam gets flooded or whatever, are there going to be sites that are going to be impacted that are sitting on the banks further downstream, so we thought that rather than look at this area, we need to go further downstream and understand what's down there as well to have that appropriately managed. We're not talking about getting an AHIP to disturb anything down there, we just want to know what's there, because there might need to be things done in terms of maintaining the creek, making sure that erosion doesn't occur from overflows for example that disturb sites, and the only way to know that is to go and have a look.

Joel – so that's the basic methodology there (slides 24, 25 / pages 12 and 13). Comprehensive 100% pedestrian survey of the area over a couple of days to re-locate the previously recorded sites, document extent and location, in relation to those proposed works. The results and recommendations from that assessment will come back to the working group to discuss the potential management options there and inform our preparation of the draft report and the associated AHIP application, so once that draft report's done after that next meeting we'll circulate that to all the registered Aboriginal parties giving 28 days for review and input, after which we'll submit it to OEH with the AHIP application and then manage those sites in accordance with that permit. See slide 25 / page 13 timeline: the last date there is 7th Oct but I wouldn't pay too much attention to the actual numbers there, the months though is useful, it's a fairly long process for a small job, so we started the first step was to notify about this meeting, this is all guided by the OEH



guidelines for consultation and AHIPs so have the meeting now on the 7th March, we'll send the results from this meeting out to everyone, we'll hold another meeting, you can see it all laid out in the timeline. So in terms of the survey, the survey might happen around the end of April, then we come back to the group, finalise the report get the AHIP then any work we need to do under the AHIP might not come back until September, so that's the timeline, have a look at it and make sure you understand all the elements that go into this thing. That's the plan for this job,

Dave – so the question is when you're looking at any AHIP area, has the area been assessed? Well we can say it has previously but in this case Coal & Allieds position is

that's fine, and that information will be useful, but we need to do a new assessment, that's the first thing. We have to ask if you agree with that, that it should be assessed.

I don't think there's any objection to that? **No objections raised.** Our proposal in terms of the methodology in its simplest form is, it's a small area and as you know C&A tends to operate on the basis of 100% survey, we don't pick and choose, or do samples etc. even on large areas, so the methodology that we're proposing unless anyone objects, is to do a full 100% pedestrian survey of the whole area as the methodology for that assessment. Anyone got any issues or questions about that?

None.

Dave – and it's an Aboriginal cultural heritage assessment that will also have an archaeological component so we'll have a technical advisor to advise on the archaeological component, but it's not just an assessment of artefacts it's what are the

cultural values here as well and that's what you guys are best placed to do.

Joel – from that assessment the recommendations will come about; do we need to salvage these sites or what? What we'll put in place is put into our AHIP application.

Dave – or indeed are the values such that the dam shouldn't be constructed, it's an impact assessment. We can't just say we're going to build it. We want to build it, but we need to go through those steps so the findings from the assessment might be that there's very significant cultural values or some other constraint that we need to consider.

Joel – that's all we wanted to say about this project does anyone wish to make any further comment there? **No comments offered.**

Dave – so next step will be, a package of information will be sent out following this meeting, a survey plan sent out, and information on the fieldwork component how it's going to happen etc. Everyone who's nominated for this meeting is considered a RAP (Registered Aboriginal Party) for that work.

PPT PRESENTATION TO BE PROVIDED



Appendix 5

Meeting 22 August 2013 – Presentation and Minutes

Rio Tinto Coal Australia Pty Limited GPO Box 391 Brisbane Queensland 4001 Australia T +61 (0) 7 3361 4200 F +61 (0) 7 3361 4370

Private and confidential

XXXX

30 July 2013

Dear XXXXX,

Coal & Allied Cultural Heritage Working Group Meeting – 22 August 2013

Coal & Allied will conduct its consultation process with registered Aboriginal parties regarding the assessment and management of Aboriginal cultural heritage associated with development activities at its operations, projects and lands requiring assessment and/or Aboriginal Heritage Impact Permit (AHIP) approvals under Part 6 of the NPW Act, and other projects and development activities that are associated with major projects and infrastructure approvals assessed under Part 4 and the former Part 3A, s75B (now Part 4, Division 4.1) of the Environmental Planning and Assessment Act 1979 (EP&A Act), through the auspices of the Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group (CHWG).

Details of the next CHWG meeting are as follows:

Date: Thursday 22 August 2013

Time: 9.00am to 2.00pm

Venue: Wollombi Brook Conservation Area, 1916 Putty Road, Bulga (see

location map). Morning tea and lunch will be provided

Please advise Georgia Bennett (see contact details below) of your intention to attend the CHWG meeting at your earliest convenience (or by close of business 21st August 2013) or if you have any queries about the community consultation meeting. <u>If you have already registered your expression of interest for consultation with Coal & Allied regarding Aboriginal cultural heritage, there is no need to re-register your written expression of interest.</u>

The following development proposal requiring assessment and/or potential AHIP approvals under Part 6 of the NPW Act is to be discussed at the CHWG meeting:

- Review of results of assessment survey conducted to inform the development of an AHIP assessment report for the proposed Mount Thorley (DA 34/95) Bulga Ramp 22 Sediment Dam (located between the Mount Thorley & Bulga Mines Overburden Emplacement Areas)
- Review of cultural heritage management measures to be considered for managing development impacts for inclusion in an AHIP application

CHWG discussions pertaining to development activities requiring assessment and potential AHIP approvals under Part 6 of the NPW Act are held in accordance with the OEH Aboriginal cultural heritage consultation requirements for proponents 2010.

The CHWG meeting will also discuss other projects and development activities that are associated with major projects and infrastructure approvals assessed under Part 4 and the former Part 3A, s75B of the Environmental Planning and Assessment Act 1979 (EP&A Act), in particular:

Hunter Valley Operations South (PA06_0261)

- Hunter Valley Operations North (DA 450-10-2003)
- Mount Pleasant Coal Project (DA92/97)

CHWG discussions pertaining to approvals under Part 3A, s75B of the EP&A Act are held in accordance with the OEH *Draft Guidelines for Aboriginal cultural heritage impact assessment and community consultation guidelines (July 2005).*

If you are unable to attend the meeting you may lodge comments, queries or feedback on these or other topics associated with CNA's cultural heritage management program via letter, fax, email or phone prior to the scheduled date of the CHWG meeting. Please see the attached CHWG confidential feedback form which you may choose to complete for this purpose.

I look forward to seeing you at the meeting, and please also find enclosed directions to the venue if you have yet to visit the facility. If you have any queries prior to this date, please feel free to contact either myself or Georgia on the numbers below.

Yours sincerely

Dave Cameron

Manager community relations (QLD) & cultural heritage - Health, Safety, Environment & Communities, Coal Australia

Level 26 – 123 Albert Street, BRISBANE Queensland GPO BOX 391 Brisbane QLD 4001

M: +61 (0) 407 649 205 david.cameron@riotinto.com

Social Comercia

Georgia Bennett

Graduate Cultural Heritage - Health, Safety, Environment & Communities, Coal Australia

Hunter Valley Services, Lemington Road. LEMINGTON PO Box 315, Singleton NSW 2330

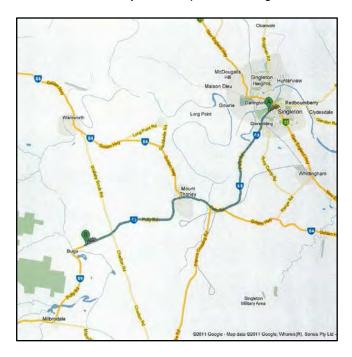
M: +61 (0) 477 304 755 Georgia.bennett@riotinto.com

Please see enclosed the following documents

- Minutes of CHWG meeting 7th March 2013
- Presentation from the 7th March CHWG meeting
- Confidential feedback form
- Agenda for CHWG meeting 22nd August 2013
- Map & directions to the venue

Directions to 1916 Putty Road, Bulga.

Singleton to 1916 Putty Rd- Dive out of town via John St. Drive along Putty road for about 15 mins, past Wallaby Scrub Road and 1916 is 2 mins further along on the right hand side. The entry fence is painted orange.



Muswellbrook to 1916 Putty Rd, Bulga. Drive out of town on Denman Rd. Turn left onto Edderton Rd then left onto Golden Hwy. Turn Right onto Wallaby Scrub Rd then right onto Putty Rd. 1916 is about 2mins down Putty Rd on the right. The entry fence is painted orange.



Coal & Allied Cultural Heritage Working Group Confidential Feedback Form

If you wish to provide private and/or confidential feedback or other pertinent information associated with the assessment and management of Aboriginal cultural heritage associated with Coal & Allied projects, operations or lands please complete this form and provide any additional documents etc and forward to the address provided below. This form can be posted, faxed or emailed.

Your Contact Your Details:
Name:
Address:
Phone:
Email:
Comments/feedback:

Comments/feedback:	

Please attach any additional documents or information and return this form to:

Joel Deacon Specialist Cultural Heritage Rio Tinto Coal Australia Hunter Valley Services PO Box 315 Singleton NSW 2330

Fax: +61 (0) 7 3361 4255
Email: joel.deacon@riotinto.com

Agenda for the Coal & Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group Community Consultation Meeting

Thursday 22nd August 2013

Venue: 1916 Putty Road Cultural Heritage Facility - 9.00am to 2.00pm

Welcome and introductions

- 1. Review of Minutes & Actions from previous CHWG meeting 7th March 2013
- 2. Update on status of the Warkworth Extension Project (PA_09_0202) & Coal & Allied business outlook, operations & projects
- 3. Warkworth Coal Mine Development Consent (DA-300-9-2002-i) (OEH ACHCR 2010)
 - Review of potential requirement for an Aboriginal Heritage Impact Permit for Battle Axe
 Pit development under WML Archaeological & Cultural Heritage Management Plan 2003,
- 4. Mount Thorley Development Consent (DA 34/95) Modification (ACHCR 2010)
 - Update on status of consent condition 34, the preparation & implementation of a Heritage Management Plan & status of WML Archaeological & Cultural Heritage Management Plan 2003.
- 5. Mount Thorley/Bulga Ramp 22 Sedimentation Dam Aboriginal Heritage Impact Permit Assessment consultation process- (DA 34/95) (ACHCR 2010)
 - Briefing by RPS Australia on results of assessment survey conducted (23-24 July) to inform an AHIP assessment report for the proposed Ramp 22 Sedimentation Dam project area
 - Review of development impacts assessment of project on Aboriginal cultural heritage
 - Discussion on potential cultural heritage management measures to be considered for managing development impacts (e.g. design & construction changes, salvage mitigation)
 - Review of AHIP assessment report application process required for the construction of sedimentation dam on the Mount Thorley/Bulga Mine shared boundary (Ramp 22)
- 6. Updates on other Coal & Allied cultural heritage management activities
 - Hunter Valley Operations
 - Mount Pleasant Project
 - C&A Offset lands

7. Administrative Coordination & rostering

- Stakeholder review of the C&A Cultural Heritage Work Roster
- · Update of business details & inductions for upcoming work, especially for Co-ordinators

8. Other Business and Community Feedback/Issues

- Request for renewal of Aboriginal Heritage Information Licence Agreement (AHILA) from OEH for AHIMS data for all CNA owned or managed lands
- Aboriginal Relations update Cate Sims

Notes:

- 'OEH ACHCR 2010' in text denotes development subject to assessment & AHIP approvals under Part 6 of the NPW Act, Office of Environment and Heritage.
- 'DoPI EP&A' in text denotes development subject to a project approval &/or ACHMP conditioned by the Department of Planning & Infrastructure and not requiring an AHIP approval from OEH.

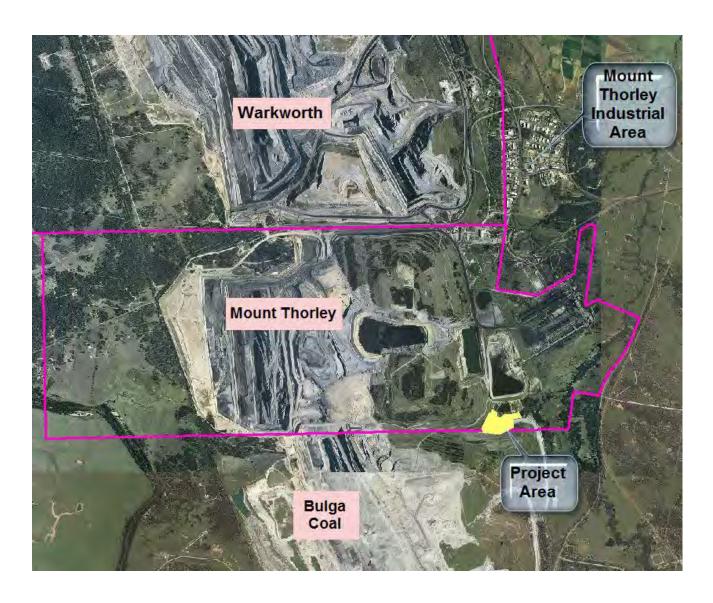


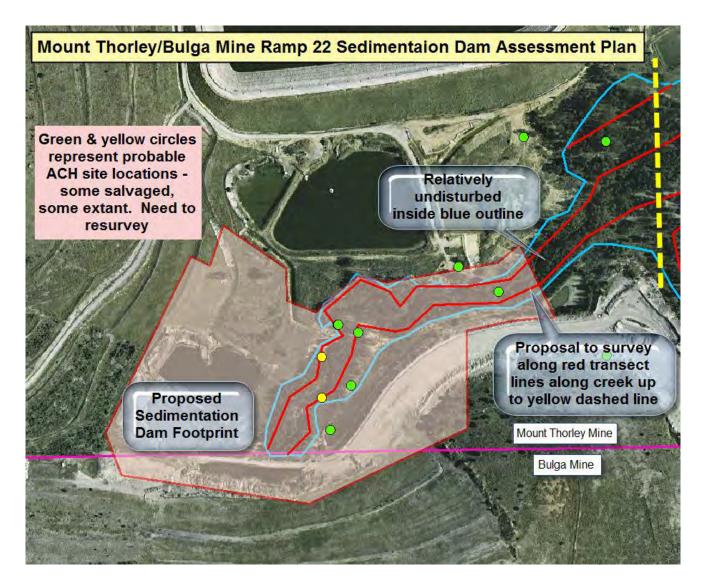
CHWG Meeting Agenda

- 5. Mount Thorley/Bulga Ramp 22 Sedimentation Dam Aboriginal Heritage Impact Permit Assessment consultation process- (DA 34/95) (ACHCR 2010)
- Briefing by RPS Australia on results of assessment survey conducted (23-24 July) to inform an AHIP assessment report for the proposed Ramp 22 Sedimentation Dam project area
- Review of development impacts assessment of project on Aboriginal cultural heritage
- Discussion on potential cultural heritage management measures to be considered for managing development impacts (e.g. design & construction changes, salvage mitigation)
- Review of AHIP assessment report application process required for the construction of sedimentation dam on the Mount Thorley/Bulga Mine shared boundary (Ramp 22)

- Bulga Mine proposing new sedimentation dam to manage water run-off from additional overburden areas within their proposed Western Mining Limit DA modification
- Project Area straddles MTO/Bulga Coal Mine boundary majority located in MTO
- Project Area & immediate surrounds have been subject to previous ACH assessments in 1983, 1995 & 2001 - several ACH sites located & recorded
- s90 Permit #1795 was issued to C&A for a number of ACH sites within & in the vicinity of the current Project Area - salvage undertaken by ERM in 2004
- As original s90 now expired, & as the MTO DC (DA 34/95) was issued under the former Part 4, s75B of the EP&A Act 1979, a new AHIP is required if sites will be disturbed

- Briefing by RPS Australia on results of assessment survey conducted (23-24 July) to inform an AHIP assessment report for the proposed Ramp 22 Sedimentation Dam project area
- Review of development impacts assessment of project on Aboriginal cultural heritage
- Discussion on potential cultural heritage management measures to be considered for managing development impacts (e.g. design & construction changes, salvage mitigation)
- Review of AHIP assessment report application process required for the construction of sedimentation dam on the Mount Thorley/Bulga Mine shared boundary (Ramp 22)





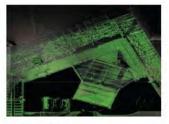


Indicative layout of Ramp 22 Sediment Dam Disturbance Footprint

Timing	Stage
w/c 4 February -	Notification of project & upcoming CHWG meeting via public notice
COMPLETE	& correspondence to CHWG members
7 March-	CHWG meeting to discuss project, methodology for gathering ACH
COMPLETE	information (i.e. survey) & AHIP process
4 April -	Dissemination of this information to RAPs not present at CHWG
COMPLETE	meeting
2 May -	End of statutory time period for gathering further commentary &
COMPLETE	input
w/c 6 May -	Incorporate comments from RAPs & finalise methodology
COMPLETE w/c 23-24 Aug	Conduct nodestrian survey of Project Area to access ACH values
COMPLETE	Conduct pedestrian survey of Project Area to assess ACH values (1-2 days)
w/c 1-2 August	Notification of next CHWG meeting (22 nd August) to discuss results
COMPLETE	of survey & impact assessment for AHIP via public notice &
	correspondence to CHWG members
22 August	CHWG meeting to discuss results, management options & AHIP
	application
w/c 26 August	Dissemination of draft assessment report & AHIP methodology to
	RAPs not present at CHWG meeting
27 September	End of statutory time period for gathering further commentary &
	input
w/c 30	Finalise assessment report & AHIP application
September w/c 7 October	Submit final assessment report & AHIP application to OEH &
w/c / October	provide same to RAPs within 14 days
10 December	OEH reviews AHIP application & makes decision within 60 days
11 December –	Allow time for notifications & arranging field crew for salvage
10 January	operations likely to flow from AHIP consent
w/c 13 January	Conduct salvage activities & other works mandated by AHIP
	consent conditions
27 January	Area released for development



Ramp 22 Sedimentation Dam, Bulga Aboriginal Cultural Heritage Assessment













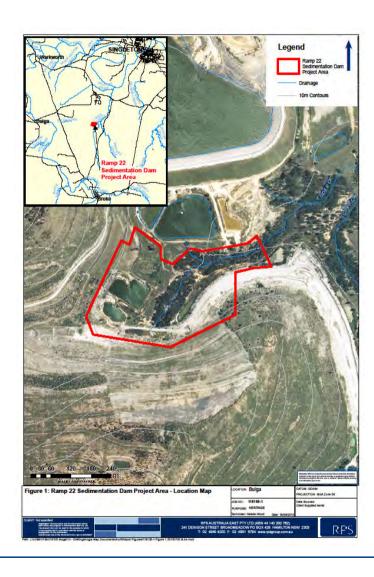








Ramp 22 Sedimentation Dam, Bulga - Project Area





The Aboriginal Cultural Heritage Assessment Report

- This ACHAR has been prepared to meet the heritage assessment requirements for the Ramp 22 Sedimentation Dam Project Area and includes:
- Liaison and partnership with the Aboriginal community in accordance with the DECCW Aboriginal Cultural Heritage Requirements for Proponents (2010) through the auspices of the CHWG;
- A review of all relevant documentation and statutory requirements with regard to Aboriginal heritage;
- Review of data from the Aboriginal Heritage Information
 Management System (AHIMS) to identify known Aboriginal sites;

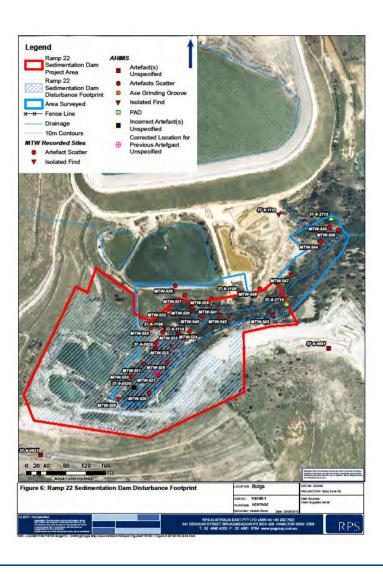


Aboriginal Cultural Heritage Assessment Report cont.

- Review of data from the Aboriginal Heritage Information Management System (AHIMS) to identify known Aboriginal sites;
- A review of environmental information and previous archaeological work to develop a predictive model for Aboriginal archaeological site patterning within the Project Area;
- An assessment of archaeological sensitivity within the Project Area;
- An archaeological survey; and
- Recommendations for the management of Aboriginal objects and sites



Ramp 22 Sedimentation Dam – Disturbance Footprint



RPS Aims of Aboriginal Cultural Heritage Assessment

- » Systematic survey of the Ramp 22 Sedimentation Dam Project Area
- » Identify Aboriginal objects/places in the Project Area
- » Groundtruth previously recorded sites
- Record any newly identified sites
- » Identify the extent of artefact scatters and PADs
- Gather via consultation with registered Aboriginal parties cultural significance of sites and places
- » Assess the archaeological significance of Aboriginal heritage present
- » Assess any potential harm to Aboriginal objects or places
- » Provide heritage management strategies which may included avoidance, mitigation and/or application for an AHIP



Landforms within the Survey Area

- » Creek bed and lower bank incised channel; steep sided
- » Mid bank on north side of creek eroded terrace
- » Upper bank north side of creek flat lying to gently sloping
- » Simple slope high level of disturbances
- » Mid bank on south side of creek flat lying terrace
- » Upper bank on south side of creek flat lying to gently sloping



Northern Upper Bank area







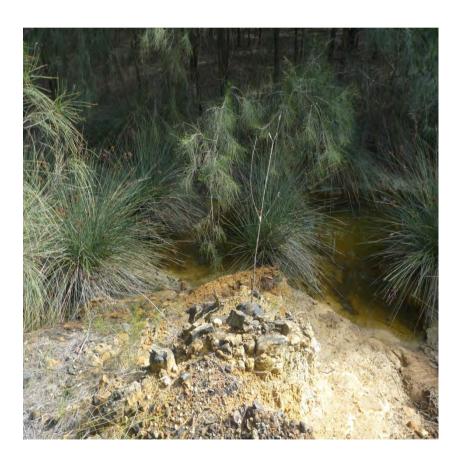
Northern Mid Bank area







Creek Bed & Lower Bank







Creek Bed and Creek Banks







Creek Bed and Creek Banks







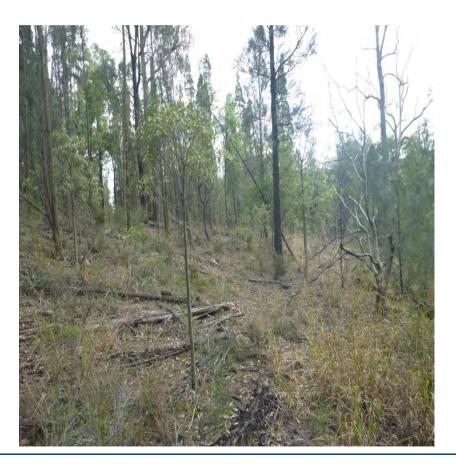
Southern Mid Bank area







Southern Upper Bank area







Simple Slope

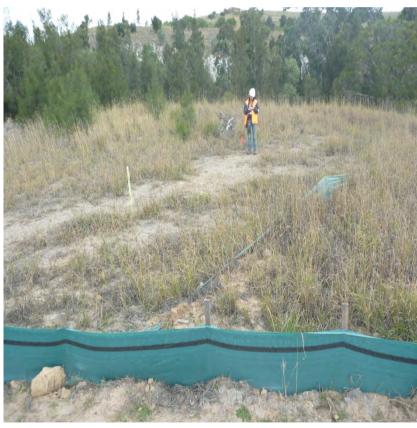






Simple Slope showing Disturbances







Field Survey Methodology

- » Comprehensive pedestrian survey of the area in participation with members of the CHWG
- » Groundtruth and relocate previously recorded sites
- » Document location and extent of any Aboriginal objects and sites
- » Record all extant sites
- » Discuss results with CHWG at scheduled meeting



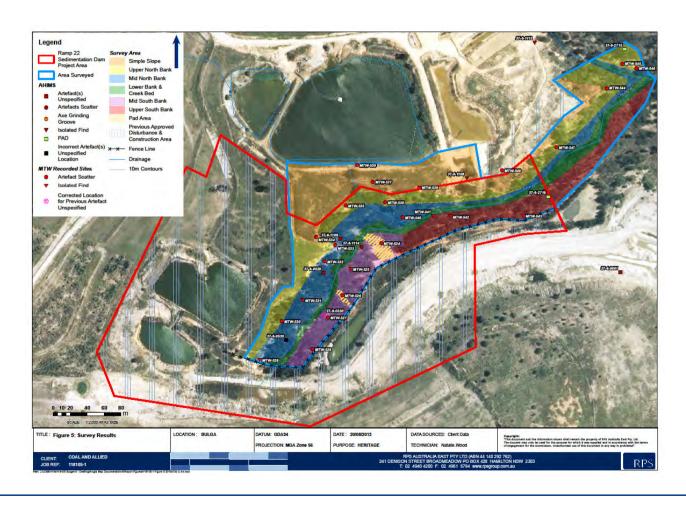
The Ramp 22 Project Area







Aboriginal Cultural Heritage Sites in the Ramp 22 Sedimentation Dam Area





Sites Found in the Ramp 22 Project Area – Isolated Artefacts in Disturbed Contexts

Isolated Artefact MTW 535

Isolated Artefact MTW 525







Sites Found in the Ramp 22 Project Area – Artefact Scatters in Disturbed Contexts

Artefact Scatter MTW 536

Artefact Scatter MTW 539







Sites Found in the Ramp 22 Project Area – Artefact Scatters in Disturbed Contexts

Artefact Scatter MTW 545

Artefact Scatter MTW 546







Sites Found in the Ramp 22 Project Area – Artefact Scatters with PAD

Artefact Scatter MTW & PAD 524 Artefact Scatter & PAD MTW 524







Sites Found in the Ramp 22 Project Area – Artefact Scatters with PAD

Artefact Scatter & PAD MTW 524

Conjoining Silcrete MTW 524







Sites Found in the Ramp 22 Project Area – Artefact Scatters with PAD

Artefact Scatter & PAD MTW 524 Artefact Scatter & PAD MTW 524







Sites Found in the Ramp 22 Project Area – Artefact Scatters with PAD

Artefact Scatter MTW 524

Artefact Scatter MTW 524







Sites Found in the Ramp 22 Project Area – Artefact Scatters with PAD

Artefact Scatter & PAD MTW 526 Artefact Scatter & PAD MTW 526







Sites Found in the Ramp 22 Project Area – Artefact Scatters with PAD

Artefact Scatter & PAD MTW 526



Artefact Scatter & PAD MTW 526





Sites Found in the Ramp 22 Project Area – Artefact Scatters with PAD

Artefact Scatter MTW 538

Artefact Scatter MTW 538







Results of the Survey

- » Results of the survey identified:
- » No artefacts were found in the creek bed which contained water and thick vegetation hindered passage along the creek line
- » Lower creek bank was steeply sloping
- » Mid creek bank was an eroded terrace with a number of artefact scatters along both sides of the creek
- » Upper creek bank was severely eroded from sheet wash and had predominantly isolated finds scatter across the upper part and artefacts on the surface of the B horizon at the break in slope
- » Two previously recorded site 37-6-1108 & 37-6-1109 had been salvaged; 37-6-1114 had not been salvaged; 37-6-0529 & 37-6-0530 had been partially salvaged



Results of the Survey

- » No artefacts were found in the creek bed itself although some artefacts were eroding downslope
- » Mid creek bank was an eroded terrace with a number of artefact scatters along both sides of the creek – there were 2 artefact scatters, 3 isolated find sites on the north side of the creek; 2 artefact scatters with PAD (MTW 524 & MTW 526), 3 artefact scatters and I isolated find sites were on the south side
- » Upper creek bank was severely eroded from sheet wash with there were 2 artefact scatters, 3 isolated find sites &I PAD (37-6-2715) on the north side of the creek; There were 3 isolated find sites and I PAD (37-6-2716) on the south side



Archaeological Significance

- » The isolated find sites were on the surface of extensively disturbed soils and were not in situ – as such they were rated with a low archaeological significance at a local and regional scale
- The artefact scatters on the surface of the B horizon were likewise rated with a low archaeological significance - there are many similar sites across the Hunter Valley and artefacts at these sites were primarily manufactured from mudstone and silcrete
- There were two large artefact scatters with PAD which were rated as high on a local level and moderate on a regional level due the presence of porcellinite, which is uncommon, and a variety of raw material types, in addition to a number of conjoining artefact s being identified at these terrace sites



Mitigation

- » A number of sites will be impacted by the proposed dam construction works and as such an AHIP will be needed. Any impact should be mitigated by the salvage of sites under an AHIP before construction works commence. It is suggested that the salvage should be undertaken by RAPs of the CHWG:
- » Any isolated find sites within the impact zone should be collected by way of surface salvage as they are all in highly disturbed contexts
- » The artefact scatters on the surface of the B horizon should similarly be collected via surface salvage



Mitigation cont.

- » Sites MTW-524 and MTW-526 contained a high density of surface artefacts and a number of artefacts could be seen eroding from the subsurface soils. As much of this terraced area was intact and it was considered that it was likely that there would be artefacts in situ in the flat lying areas that had not been affected by water runoff and inundation events. Also the two large artefact scatters with PAD showed the presence of porcellinite artefacts (which is uncommon) and the assemblage comprised a variety of raw material types; there were also conjoining artefact s identified at these terrace sites.
- » The ten sites in the disturbance footprint will require salvage; subsurface salvage of MTW 526 is also required.
- » Any sites not impacted by the proposed works must be cordoned off with high visibility protective fencing



Moving Forward

- A copy of the draft ACHAR will be forwarded to all RAPs for comment
- RAPs who hold cultural information are requested to provide details to the proponent for inclusion in the ACHAR if possible
- Complete AHIP and submit to the OEH
- Once the AHIP has been approved, the CHWG will work with RTCA/CNA on subsurface excavation & collection, and surface salvage of the artefacts
- Once collected the Aboriginal objects will need to be put in a temporary existing keeping place until a decision is made for a permanent keeping place



Coal and Allied Upper Hunter Valley Aboriginal Cultural Heritage Working Group Community Consultation Meeting

MINUTES

Date: 22 August 2013 **Time:** 0900 - 1400

Venue: Wollombi Brook ACH Conservation Area, 1916 Putty Rd, BULGA.

Chairperson: Joel Deacon

Attendees: Joel Deacon – RTCA Specialist Cultural Heritage

David Cameron - RTCA Manager Cultural Heritage Georgia Bennett – RTCA Graduate Cultural Heritage

Gillian Goode – RPS Pail Amidy – Bulga Coal

Rhonda Griffiths – Hunter Valley Aboriginal Corporation Laurie Perry –Wonnarua Nation Aboriginal Corporation

Maree Waugh- Wallangan Cultural Services

Noel Downs - Wanaruah Local Aboriginal Lands Council

Allen Paget - Ungooroo Aboriginal Corporation

Kerryn Boyd – HECMO Consultants Jenny Chambers - JLC Cultural Services Deslee Matthews – Deslee Talbot Consultants

Arthur Fletcher - Wonn 1 Gary Perkins - Divine Diggers

Margaret Matthews – Aboriginal Native Title Consultants John Matthews – Aboriginal Native Title Consultants Gay Horton – Muswellbrook Culture Consultants

Martin Salavador

Apologies: Tracey Skene

Kathie Kinchela

Minutes: Georgia Bennett

Meeting Opened 09:00

Joel- hand-outs: the presentation, minutes from last meeting, the agenda. Thanks for coming today.

Agenda Item 5 - Mount Thorley/Bulga Ramp 22 Sedimentation Dam Aboriginal Heritage Impact Permit Assessment consultation process- (DA 34/95) (ACHCR 2010)

Joel – main bit of work we've done since last meeting is the survey of a sedimentation dam for Bulga, it'll be a shared dam but Bulga are the proponent but because the land slopes down onto our lease we were doing the surveys. So, it's a new sedimentation dam

1

to manage the water run-off from their additional overburden areas, and it straddles the boundary, but majority of it is on our side in an old remnant tributary of Loders Creek there.

Dave - so not Loders Creek but it's a tributary to

Joel – so the area and all around has had various assessments over the years, 83, 95, 2001 several sites were located and recorded there and there's been several permits, section 90s issued for the salvage of various sites here and there. The last major one being undertaken by ERM in 2004. The results of the survey have borne this out there are artefacts and sites remaining all throughout that area. So in our discussions with Bulga we've determined that we would need to do a survey over the area, and as the land holder we've run that process and as the consent is under the old part 4 that means an AHIP is required as Dave mentioned before, if any sites are to be disturbed. So Gillian is here today, Gillian for RPS. RPS conducted the survey for us last month over a couple of days, Gillian is here to present the results of that survey and to talk about any recommendations

Gillian – this is the map that shows the identified sites and at this stage the proposed development or disturbance footprint. (Gillian hands out maps and a hard copy of her presentation).

Gillian - I'm Gillian Goode and I've been with RPS since 2008 I've worked in the Hunter Valley a lot and around many of the different site areas which I've been very grateful to do, it's been fabulous because the heritage is very important and it's important we look after these areas. So to fill you in there were a number of people who went on the survey under the auspices of the Cultural Heritage Working Group (CHWG). Present here is Maree who was actually at the survey. We did do a comprehensive survey of the area we spread it over 2 days although it was a relatively small area which had to cover, we wanted to make sure it was absolutely thorough so that's the background to what the survey encompassed. So if you have a look at your map there, it's basically this is what was considered to be the project area showing the locality of where it fitted into things so we've been asked to do this Aboriginal Cultural Heritage Assessment Report (ACHAR)to meet the heritage requirements for what's been called the Ramp 22 Sedimentation Dam Project. The actual area covers 2 things; it covers the area, the footprint of disturbance, but also there's an area in the surrounds that might be used for access and there may also be part of the area that may end up with overflow of waters and run off so they're being taken into account too and that's what Paul Amidy from Bulga will be hopefully talking on. The consultation process is being done under the ACHAR process but it's also being done through the CHWG which you guys have already established for many years, since 2005. So the registered Aboriginal Parties will flow through and the survey work was done under the working roster that you already have in place. In order to compile this ACHAR we reviewed all of the documents that we could find that related to the area previously which as Dave says included a vast number of survey reports and also salvage report that had been conducted by Koettig in 1991 and 1994 and ERM in 2004, AMBS went out there in 2002 and there's a heap of other surveys that have been done. So what we started with was a review of the AHIMS database and immediately picked up that there were some anomalies with some of the data that was in that, errors that had been recorded onto it from OEH, so for example there were sites that were recorded on there with the wrong co-ordinates, and there were also descriptions of sites that didn't tally with the site cards, so we went back to base data which was the site cards, and actually plotted our sites from the site cards rather than from the OEH database. I had consultation with the OEH and they will be fixing up those anomalies. So that was the first step which has been ongoing and some of that I had to do after the survey because some of what happened in the field highlighted additional areas that we needed to check out. We did the background environmental information, and after we had recorded all of the sites we did an assessment of the archaeological sensitivity but obviously the Aboriginal Cultural Heritage Sensitivity will be input from the CHWG and we're hoping that this will help formulate management plans for this area and in the event that this project goes

through with the disturbance footprint that is there, then an AHIP would be required for those sites that would impacted by those developments works. So that's the reference that you've got for your map which is the same as this one on the screen. So the basic aims of the cultural heritage assessment was to ensure that we covered a systematic survey of the entire area including the extended survey area, to identify all Aboriginal objects and places in the project area; we ground truthed previously recorded sites even if they were said to be salvaged and on the AHIMS database as destroyed, to one, ensure that they had been completely salvaged and if they hadn't to work out the extent of what was left remaining. We identified the extents of all of the artefact scatters and also some PAD areas; we are looking for ongoing information and feedback from the CHWG and the assessment of the significance of the sites, we are obviously in ongoing process of assessing which sites are going to be disturbed by what impact. So, some will be the construction work, some will be access into the area and some will be overflow of water. What we did as a strategy was to actually divide the project area and the survey area into land forms so that we had an idea of the site patterning and what was coming out over the different landforms. So basically if you go to your map you'll see that there is a first order tributary of Loder Creek, in the older maps it was called Loders Creek, in the current mapping that is supplied, they've dropped the 's' off, so that's why you may hear me speak between Loders and Loder depending on who was doing the works out there. So there's basically an upper slope area which is predominantly trashed from all the sedimentation dams that have come in.

Dave - so that's all dump and dams that slope down into that area and all this area here Gillian- then we have what we call the upper bank, mid bank and lower bank. Now what's happening in this particular part of Loders Creek tributary is that you have a terrace system where the creek bed itself which actually has some bedrock in it and the lower bank are almost one. It's almost like a V, it's very, very steeply inclined, so it cuts through, its still got water in it, it's got quiet heavy vegetation in some areas so you can't pass along the creek because of the water and the mud and the vegetation and then it sort of goes up these steep banks and then you hit the mid bank area which is where you find a break in slope, and a number of artefact scatters and when we walked we were also finding PAD particularly on the southern side of the creek, then you go up again onto another level and that's what we call the upper bank and at the break in slope there you've got B Horizon soils exposed with artefacts sitting on the top of them. Then you go up over the slope and that's where generally, there were just the odd isolated artefact scattered on the slope, obviously not in situ and having come from other areas. And then on an access wall just to the south of that big dam there, there's a long access track which is actually mounded it's a bund wall, it's not as it was originally, it's had soils heaped there, and along that track there were isolated artefacts. So although that's outside of this particular project area because that will be being used for access, those artefacts will need to be salvaged as well

Dave – just a point on that, there's actually a power line, that area was subject to a section 90 a number of years ago when they built the dam and put the power line in and this material has washed out, so we've currently got that blocked off so that no one can access the area and obviously we can't disturb any of those artefacts until if and when we get an AHIP

Gillian - so just before we go into the actual landforms, to cover the disturbances that have happened in the area previously, quiet obviously there's haul roads, dams, sedimentation dams and all of that, but on top of that there's a water pump station that's down near the creek, there's a car parking area, there's the access track that I've just discussed and then down to the west here, there's this massive rock lined drainage channel, that's been built in there, and all of that has been covered under the previous work which included test excavation with the community, and also surface salvage in 2004 with ERM, some of the photos in that report have people sitting on the same log that we sat on for our lunch break and but those works actually went all the way up north as well, they weren't just limited to this area

Dave - points this area out on map

Gillian - so obviously we're interested in the sites that are within our area. Prior to that in 1991 and through to 1994 Margaret Koettig did some, more like regional studies, where she was looking at site patterning of Loder Creek and seeing where the artefacts occurred and what were *in-situ*, at right angles to the creek lines, depth of artefacts going back from the creek etc. and so her report was a very comprehensive report. Within her works there are only 2 sites of her entire regional works, there are only 2 sites that she did in this area and I'll discuss those as well. So that's the background to the previous salvage works that relate to what we're doing

<u>Topography is discussed:</u> So this area here is what we call the Northern Upper Bank: and it basically extends from where you access the car park and dam right across the slope and just dotted over this paddock were isolated artefacts, so this had been previously cleared and these are just the odd isolates that happen across it. This is a view looking up the slope from the break in slope. It's grassed, it's quite good visibility actually, with regrowth of casuarinas to the south and in odd spots around

Dave – and you can see the power pole, that's the dam wall basically with the power line on it

Gillian - so then I wanted to show you some of the northern mid bank area. So this is when you drop down form that exposed upper area you drop down and you get to different styles here. This here is very disturbed, I suspect it's not natural soils at all, I think has been graded and again we only found the odd isolated artefacts on this section, this area here has been disturbed by sheet wash, and cattle and land clearing previously. It's now got casuarina re-growth, so you're still down to the B horizon but it's a lot more level and flat

Dave - just to be clear this area is on the western end, if we go back to that previous picture of the over view of the area, that photo we were just talking about the grading, that was the area that was subject to the last section 90 consent in 2004 when they did the work there. So basically what they've done is when they've built all of that there's actually this couple of meters of basically gravel and spoil, that's been pushed out over that area where the salvage had occurred

Gillian - if you have a look at your map, that area is actually back here on the creek line, sort of in the area where the cattle and so on have dropped down onto the crossing and cleared land in the past. So that covers the northern mid bank area. Now we drop into the creek bank and it's really interesting the way that this tributary is compared to water further downstream, so you've got the permanent water, so that's one area you couldn't possibly cross as it's got water. When you step on the ground its slushy mud and dangerous to cross that. So then you've got these little cut out promontories that sort of go all the way along the southern bank into that creek line and then you've also got some bedrock that some is upright and some is actually under the mud so you can't see it, Then you have areas where the saplings have started to grow down right into the creek bed itself and I'd assume that's due to variations in inundation of water and seeds have replanted themselves. A little bit further downstream to the area that you show in blue you'll find that it starts to look more like this and you've got these very steep drop downs into the creek and you can't access them very easily at all. So they're heading in towards the east and start getting into the other part of the creek system. These are very interesting soils because what they're showing is that you've got the simple slopes coming around, you've got water flowing off there, you've got water coming into the creek with the rain and it's actually eroding the banks from below so there's originally been sheet wash and land clearing but now the actual active erosion is rill erosion coming mostly from below and from the water washing off this flat surface

Noel – that's how erosion works, erosion always starts at the bottom and works its way back, it doesn't go the other way

Gillian – but in this instance it's like this along the creek. So unlike most creek banks where you have just a long line, you have the rill erosion coming down, this is leaving pedestals as it goes along, so you see these sort of pedestal shapes and they're not

actually lying parallel to the creek they're lying at right angles to the creek and also coming back in, so there's this immense curvy area which is quite good because you get to see quiet a good profile. In this particular one was sterile (map referred to) there was nothing in it, there's animal tracks going along there, when you get into the upper slopes on the southern bank, you just have one big area with trees and that fence marks the boundary between Mount Thorley Warkworth and Bulga so you can see the stock pile behind for the Bulga and the water runoff is coming through there and causing these rivulets to come down which are a different system to what's actually happened to the creek itself. So the field methodology was to do a comprehensive survey target each of the sites with complete extent so we did transects across each of the areas, recorded the sites as we went, documenting everything that was there and obviously the results to be discussed here. So that's the project area, this map here shows the colouring in of how I apportioned the landforms and basically they fit with those different pictures that I showed you earlier, and what it did was it showed us what type of site patterning we had, isolated artefacts generally over in the top (orange coloured) area, which was just that disturbed area then we've got the upper bank area which had mainly isolated artefacts and artefact scatters at the break in slope, then we came down to the blue coloured area so this is the northern bank mid-section and that mainly had artefact scatters and the odd isolate that had washed out and down. Then we crossed over the creek and there was nothing in the creek line itself other than a couple of artefacts that washed down slope. The purple area was the area where we identified the majority of the PAD area, so that was where we crossed the creek and we found these areas where there was the exposed face, artefacts coming out of them and then a flat level terrace going back behind them

Arthur - can I just ask a question? The creek as a whole how is it?

Dave - ok I'll just note that Paul Amidy from Bulga Coal has just joined us. So Paul we're just going through the process what we did, the survey and starting to looking at the results so to answer your question Arthur, basically all of this area where you can see where all these activities have taken place in terms of dams, dumps etc. there's been section 90s issued pretty much over all of that creek. It was only one place here where at the last area that was salvaged where it wasn't going to be impacted by any of the works over here (Dave refers to these locations on the power point map) this at that time it wasn't salvaged so it was left behind so that's obviously been protected. So this area it's fair to say, has been substantially disturbed prior to mining because the whole area had been cleared for grazing etc. and there's only 1 or 2 old trees, like dead ones, that still are in the area, the rest of it is recent re-growth. We also knew it was important to continue downstream to have a look at exactly what you were talking about. What's the condition and what are the sites down here and what if anything in terms of if there is a major water event and an overflow from this sediment dam, and we'll talk about this a bit later, are there any sites down-stream that would be exposed potentially to erosion and so on. To go back to your original question, its substantially disturbed back this end through various activities over the years and both of these mines have been operating since the early 80s, the creek continues to flow, it's in pretty good nick, it's not full of rubbish or anything it's a drainage channel

Noel – it's not a drainage channel it's got permanent water in it and look at the artefacts around it! You've described centuries upon centuries of habitation around an area and you're saying it's just a drainage ditch!

Dave – no I'm saying what's happening with it now, I'm not denigrating or suggesting there's no archaeology there....it's all over the place.

Arthur – what I'm saying Dave is, the way for me to get comfortable is to go and visit the place

Dave – we'll get to that. Down this end it's less disturbed because there hasn't been the activity around that area and obviously as it goes further down and joins Loders at the other end

Arthur - so it's generally disturbed

Dave – it's generally disturbed but there's plenty of evidence of archaeology that's both exposed and stuff under the sub surface

Noel – by the sound of it the degradation due to erosion caused by the previous clearing, the creeks actually in quiet good nick in the bottom part of it

Dave - the creek bed

Noel – the creek bed, which is just as culturally significant as the objects that are floating around whether some have been salvaged or not. The artefacts really only tell us how much habitation was going on before and the kinds of activities they were conducting around it but certainly the importance of the creek is not lessened because someone has cleared the timber. The fact that it's revitalizing itself even with all that other disturbance and water run off and lack of control of the water heading into it just shows how much of a resource that particular creek was

Gary – I've just got a question, along the creek bed where you said there are artefacts underneath the surface what's the archaeological extent of that area do you know? How far down do you go until you stop digging?

Gillian - we don't know yet.

Gary - you haven't done anything; you haven't had a look at it yourselves?

Gillian – I'll answer that question a little bit further on. I've got some photos of it so you can have a look at what we think will be the likely depth

Dave – but there's been no excavations.

Gillian - expect for the ones that have been there there's no evidence left of what they did so we don't know what it looked like as all of the soil profiles have been washed away. You know when you do a test excavation you get these lovely profiles, since then the water that's washed through this has washed away all evidence of that so we're now left with what hasn't been disturbed by any excavation and I've got some photos of that coming. So this here is to try and show you the relative disturbance compared to the relative intact, so that we have an idea of what isolated artefacts in disturbed areas what it looked like and what the artefact scatters that were extensive in the non-disturbed, not so disturbed areas looked like. So over here if you go to your big map that I gave you I didn't pick out photos of every site, just representative ones. So in this particular area we're on the northern bank and we're in the area that has been previously graded and then grassed over and one isolated artefact. Then on the cleared areas again, where you've had sheet wash coming across and you've had cattle going through which is the second picture number 525 which is half way down in your map, you've got a single isolate just sitting on the surface of these B horizons so there you've got 2 isolated finds both in disturbed context and both with little likely hood of in situ sub surface artefacts in our opinion. This is the track I was telling you about where you've got a large number of artefacts and I think there coming from the bund wall and they just extend along this power line easement here and again there's no in situ soils as there's a bund wall that runs the length of the dam. It's not all continuous but it's sort of semi-continuous. Then we have this site 539, this site here is right at the break in slope it's a scatter of artefacts sitting on the surface of these eroded soils, they're slowly washing down with rain water down off that area there's a grass paddock close by that's all been part of the previous salvage works and this is just at the interface almost of the upper bank and the mid bank areas part of the upper bank before you drop into the mid back.

Arthur – you mentioned that it's been previously salvaged, can we have numbers or whatever because this pulls the story together on what you found recently to what at that time was re-discovered

Gillian – because this didn't get salvaged this particular area, wasn't part of the salvage works

Arthur - at all?

 ${f Dave}$ - no it has been, it was when they did the original work there, in fact it's just washed down

Gillian - there was an isolated artefact site; 1108

Dave - this hasn't been

Gillian - that's what I'm saying that hasn't been salvaged previously

Dave- I'm talking about this area here.

Gillian – there were 2 sites salvaged in this area previously one of them was an isolated find site up near the car park, the other was an artefact scatter that was subject to surface salvage, it's in the ERM report there weren't that many artefacts in there

Arthur – that's out of the bund more and more is going to keep coming to the surface (1.27.43)

Gillian - exactly. At this particular site, 539 the artefacts in this one we identified there was 11 artefacts sitting on the surface. Everybody alright with that? Anymore queries. Over the length of this track I think there were 41 artefacts from memory, everyone happy to go on? So these areas here are in the least disturbed area to the east up from here where a PAD had originally been identified and this current survey identified a number of artefacts scattered in little locations up to the eastern end of the creek. You'll see a green square on the map and there'll be 3 red circles are these are several artefacts sites here

Dave – this is several hundred meters downstream away from the disturbance zone. We surveyed right up to there just to make sure we knew what was happening down there

Gillian - obviously we'll find out from Paul but I don't believe this area is subject to impact

Paul – just a point to make, the blue hatching on the plan is the only area we'll actually disturb in the construction. So we've actually gone to the engineers and said what's the maximum area you'll need, so outside that blue area no disturbance

Dave – we've explained to people that the disturbance area is down there but we've continued to survey all of this area down the creek to get that context downstream particularly if there's danger to the water flow and erosion along the banks etc.

Gillian – this here is now on the southern side of the creek, this site here is 524 PAD which is outside the disturbance area. (1.30.25) As you can see we've got vertical erosion happening, we've got artefacts spilling out onto the floor here, there was porcellanite, mafic and felsic volcanics, silcrete, mudstone, a variety of artefacts there were spread across this 'tongue' of land around that. In the center of it there were only a couple of artefacts on the top of it. So from that we are assuming that the depth would go down to where you can see the depth here on the photo and of course anything else that might be sub surface. This is natural erosion process, there's a little drainage line coming through here that's coming from the Bulga side and has just gradually eroded out this area. The Loder Creek tributary is at right angles to this. So what the survey did was we flagged every single artefact and we went right around this PAD area so we knew the extent of it, and you'll see that hatched on your map in your handout. It'll be in the report; the extent of the PAD will be shown. So what we then did was having done that we recorded all of those artefacts, what they were, flakes, cores etc.

Arthur – and where do they flow to when they get washed down? Where do they go to? **Gillian** – so basically what they're doing is they're dropping to the west into this drainage ditch channel, they're dropping to the east to the drainage channel on the other side, they're dropping to the north into the actual creek, but they haven't yet made it down into the creek yet. Over time they're going to wash out and get eroded away.

Arthur - numbers?

Gillian – 127 artefacts. That's the central section where you see there's absolutely no artefacts flagged and then you get to edge near the creek and you can just start to see the artefacts getting flagged up again

Noel - so they're sub-surface eroding out where there's erosion?

Gillian - absolutely. Which is why it's a PAD, you have to assume that as the erosion keeps going and that top bit gradually gets eroded away, more and more artefacts are going to come out

Dave - its less of a PAD and more of an archaeological deposit, it's not potentially, it is.

Gillian - So these are the conjoining silcrete that were found at the site, however they were not found down near the creek, they were found in the rill erosion that was on the boundary of Bulga and MTO so they have been exposed to water run off to a much

greater degree and the artefacts are scattered across the surface but they are all still sitting very close together and there the conjoining and I would suspect that we have a good chance of refit with those. The conjoining artefacts were predominantly grey silcrete but that doesn't mean it won't refit with the mudstones that were there as well. Obviously we didn't want to disturb anything because the more we walked over anything it obviously was going to cause it to wash out further, so we were very careful how we actually accessed this area when we did the flagging up. Mudstone that had use wear on it and that was porcellanite (were 3 or 4 pieces of porcellanite in that one place). Here is the other area this is 526 in the disturbance zone, basically as we walked to the east we came across another vertical face which was accentuated by this drainage coming in (see photo) that's the extent of it going across and the artefacts again were dropping down out onto the bottom here but the flat level area at the back had no artefacts exposed on it at all. The face had them all coming out of it and at 526 a number of artefacts we identified 59. That doesn't mean that there's less artefacts there it just means that there were less exposed there

Noel – so generally what's happened here is looking at the fact that there's a slope over behind it as well is that the ground was cleared for stock grazing, soils have washed down from the hills, covered up the artefacts that were there, now that there's trees starting to re-establish, the erosions starting to eat its way back and starting to expose the artefacts

Gillian – or possibly that the artefacts were buried prior to the land clearing back before with general and it could just be through natural process that there could've been burial there too, it would be hard to say until we see the soil profile

Noel – it would depend how far down it goes, looking at the fact that you're getting close to the B horizon I would say that there's been a lot of erosion and

Gillian – absolutely. So that's the one that is within the disturbance area you can see how the waters washing them, they start up in that face there as you can see and then just gradually wash down, so we've got a 2mt rule there and you can see that they've already started to head westwards with the water every time it washes through. This here is site 538, this was in the mid bank area on the north bank, so if you go to your map and you find the big dam on the top and find the center bit and drop down you'll find site 538

Dave- this sits outside of the dam disturbance area

Gillian – however the artefacts are definitely washing down slope on a continual process, so you can see where they are and they're washing downslope

Gary – and they're going to wash straight into the creek are they?

Gillian – they're eventually going to wash into the creek and that's actually what I believe will happen with nearly all of these mid bank sites, the erosion is quite extensive, the inundation levels have been quite extensive

Noel - unless mitigated

Gillian - yes, as it stands left alone, as it is.

(1.38.50) So basically the summary of the results of the survey: there were no artefacts found in the actual creek bed itself other than the few that might have already started washing into it, the creek bed did contain water and thick vegetation hindered passage particularly at the eastern end, the low creek bank was steeply sloping and it was not an easy passage across it, so there were only 2 or 3 areas where one could cross: one was at the eastern end where the major disturbance had been, one was towards the center of it where there was the water pump station and one more up where you guys were

Dave - further to the east

Gillian – other than that you could not cross the creek bank safely because of the depth of the water and also the steepness of the slope. The mid creek bank I fully believe is an eroded terrace and it was predominantly artefact scatters across that area, the other creek bank was severely eroded down to the B horizon in almost every instance there was evidence of sheet wash and predominantly it was artefact scatters at the break in slope and isolated artefacts behind. Now back to the previous works, we ground truthed

site 37-6-1108 which was an isolated find site and there was nothing still there. We ground truthed the artefact scatter that had also been previously salvaged, 1109 and again there was nothing there, although there were the odd artefacts lying nearby; we went to 37-6-1114 now this had been recorded on the AHIMS database as having been salvaged and destroyed it had a permit for that with the ERM works in 2004, but the report by ERM said that they had not salvaged this site. So OEH are going to amend the database to show that this is actually a valid site, it hasn't been salvaged, it's exactly as it was when it was there prior to ERM doing the works except that further erosion has taken place.

Gillian – One would assume that is probably the case, however they have noted and once we make sure we have all the corrections that need to be done to it, the second thing that they did, was that the site cards by Koettig were done in AMG co-ordinates - AMG converts to AGD and 50% of Koettig's sites were put in with GDA so the actual co-ordinate was entered as a GDA which meant it was 200 meters out at that angle. So I picked those up as well and informed them that they will probably need to do some corrections.

Dave – that's a general issue all over the place with the AHIMS data and we'll be talking about that at the end of the meeting.

Discussion about how these co-ordinate errors occur. (1.41.35)

Dave – that's one of the rationales for doing a complete assessment over this area now. So we know exactly where things are, or aren't, what was salvaged and what's there now. We can then make informed decisions knowing what's there, not what we think is there.

Arthur – the makeup of the base of the creek line what is the material / stone?

Gillian – what you've got in the creek is 2 different outcrops but I think they're both the same sandstone formation. Basically you've got what's been obviously eroded over a period of time, very friable, it crumbles easily and it's been overlain by silt and sediments but you can see little bits of it cropping out, then you have the one in the picture where you saw there was a little bit of rock exposed, again you could see the laminated layers in that and it's just eroding and crumbling, also a very friable sandstone.

Arthur – not good for grinding grooves?

Gillian – yes it's not good for grinding grooves. There wasn't any of that beautiful compact sandstone that is classic, suitable for grinding grooves. None of that that we saw in any of this area. Also no flat lying outcrops of sandstone on the creek banks, where those breaks in slope were I actually had a look to make sure that the break in slope wasn't due to some subsurface rock that had caused that to happen and I couldn't see any evidence of any flat lying cohesive sandstone there either

Arthur – is that area under water that may have something?

Gillian – I would be surprised because we were able to see quite a lot of the floor in areas along the bank, as it had swirled and washed and cleared it. Didn't seem to be any of that right type of sandstone.

Arthur – one other thing, can we all have a copy of all artefacts and sites found over the period of time?

Gillian – this will all be detailed in the final report

Dave - this is basically a briefing on the results to put into the draft report

Gillian – there was one other anomaly that I need to talk about with site cards. It's outside the impact zone again, but I want to bring it to your attention, it was 37-6-2716, its shown on the map as a green square, there are 2 PADS 2715 and 2716 now when the AHIMS search came in it said that there was a scar tree and PAD, and when I read site card there was absolutely no mention of a scar tree at all. When the people doing the survey went out and had a look there was no scar tree there either, and OEH said yes they believe the data entry person has by mistake ticked the scar tree box as well. So

that was ground truthed and there were no mature trees in the area what so ever and there were a lot of the typical casuarina regrowth all around that area.

Dave - and just noting that site was recorded in 2002 and in that report it talks about a PAD not a tree

Gillian – we believe that that's another anomaly. Now the last 2 sites that are shown here: 37-6-0529 and 0530, these are Koettig sites. One was plotted correctly, we ground truthed it, found the permit which said partial salvage because she was doing

Dave - section 87

Gillian - section 87 works so we found a few artefacts nearby which we deemed to be within the parameters of her original site but they're just scattered and the rest of the site was not in tact which would be explicable if she had test excavations there. The other site 0530, was plotted on the wrong side of the creek and in the wrong place. When we replotted it, it fell right where we had actually found a site so once we realized that we relooked at the data of the site we had found and realized that her subsurface investigation had genuinely been only partial salvage so there is still the remains of part of her site there and it is within the impact zone. However on the AHIMS database it was shown as being fully destroyed and even though the consent said it was a partial salvage so that will probably need to be rectified as well. That covers those issues, the isolated find sites were on the surface and weren't in situ so from purely archaeological significance not from your significance, and therefore for research value, they were rated as low in significance on a local and regional scale, as they were just artefacts on the surface, not that I'm diminishing the fact that from the point of view of context. The artefact scatters on the surface of B horizon were likewise rated low as they were in clusters, 9, 11, 14, 10 just small amounts sitting there and were gradually working down into the creek. Were many similar sites as you guys know across most of the study areas that are nearby of these types of sites. The other thing of interest with those was they were primarily artefacts manufactured from silcrete and mudstone, as opposed to on the other side of the creek with sites 524 and 526 where it had every raw material type represented but on the northern bank of the creek there was no volcanics etc. There were 2 large artefacts scatters we've called PAD but yes there are subsurface deposits I'm sure about that, which were rated as high on local level because I believe they're important, they should be rated as high because I do believe there is still information that could be added to the regional information that has been gradually collected particularly as it had non local volcanics (tracite, dolerite, didn't see basalt but was porcellanite (non-local material)) an unusual range of raw materials on the southern bank

Arthur - any quartz/ quartzite?

Gillian – yes was quartz but not in large quantities. So this part is obviously determined by the construction footprint, is the hatched area on the map but as Dave said there is still discussions as to if there will be any impact on sites with water flow and additional erosional effects, so if an AHIP is applied for obviously it would have to be before construction was to commence, also mitigation works for all of the sites that were going to remain intact will need to be discussed, cordoned off and obviously the biggest damage at the moment is water run off in my opinion. Any isolated find sites in the impact zone one would assume the best thing for them is surface salvage, artefact scatters on the B horizon the same, but if there are any areas that might have contained sub surface artefacts they should have subsurface salvage excavation etc. At the moment I calculated there were 10 sites in the disturbance footprint that would require salvage, and sub salvage of MTW-526. So any queries before we move forward?

Dave – might be good opportunity while Paul is here, to put up another map showing the dam as a concept. Any questions?

Noel – on the Bulga side I take it that that disturbed area that runs around the edge is a huge spoil heap, a bund wall?

Gillian - yes.

Noel – and Loders Creek is actually on the other side of it as well so it shows that Loders Creek is still flowing even though it has a bund built over the top of it? You've got water

that's not putrid in the creek line, so if the water was putrid it would say it's not flowing it's just sitting there, but it's not. That means it's got to be flowing from above to below so even though they've built a bund across Loders Creek, Loders Creek is still flowing. If it was sitting there from run off it'd go rotten from sitting there that long. A continuous flow all the time.

Dave - Paul it might be a good opportunity to explain the background etc. of the dam,

Paul Amidy (Bulga)- the dam is designed as a sediment dam for the valley up here, at the moment the fence goes down the middle, the divide between the 2 companies, so we're really looking to make this valley above the dam into a more sustainable landform from a final sign off point of view. So obviously to capture the run off from that area we need to build this dam, these dams here that we've got (3) size wise aren't adequate to catch the sediment that has the potential to run off there and eventually into the creek. So the purpose behind the dam and this is very much a concept. We've got to do the surveys like we've done, then we need to do geo-tech surveys as well to determine exactly where that wall would go. It's roughly where it will go but we need to go out and dig some test pits to see where the right material is. It's a sediment dam and it's a main part of making this land form up here into a more sustainable landform. Initially it was going to be a 130mega liter's then it's been downgraded to 80mega liter's and what we would like to do subject to further geo-tech investigations, is actually excavate more material out of here to make it deeper so that the dam wall is of less height. It was up to about 7 or 8 meter's in the initial proposal but it comes down to about 4 or 5 depending upon what we can get out of there. Another issue I picked up there while you were talking was, whilst the construction is in this area here as per your plan, there was talk about stuff down here and what happens in terms of overflows, being a sediment dam it's not designed to overflow, it will have a spillway in the event of a 1 in 100 year event or a pretty significant event, it may spill from time to time. Not good from our point of view, if we spill a sed. dam we're in the papers. It will have a pump on this dam and it'll pump into here, it's a bit confusing because this is on Mount Thorley side of the fence and the reason behind that, why we're doing it, but these guys are doing the assessment, is because at the moment it's on the MTO side of fence. In terms of the construction sequence of this area here, we'll being doing some construction first so therefore it's our responsibility to build the dam, when the constructions finished and when MTO have done their side. Mount Thorley inherits the dam.

Dave - can you make a note about the spillway on the other side

Paul – this was initially designed as the spillway and for a variety of reasons we've said that that is not going to be suitable. It's more likely to be up here

Gillian – does that mean it'll cut off further down then?

Paul – as in the disturbance? Yes (map referred to).

Noel – besides the cultural impacts and the cultural study that's now been done, what environmental studies have been done on the area?

Paul – so it's been subject to a full environmental assessment (water, flora, fauna) the whole lot

Noel – can we get copies of all that please?

Paul – absolutely, no dramas. It's been submitted to the Department of Planning and I think its past the submission phase, so there's a couple of questions around the dam soakage; risk if the dam failed what would be the downstream impact so we're discussing that with those guys.

Noel – my questions are related around OK we've established that it's still flowing underground even though you guys have a bund on your side blocking the creek it's an actively flowing creek. You're about to dig in to below the creek level and how will that impact the flow through to the bottom side of the creek?

Paul – in terms of interrupting the environmental flow?

Noel – the environmental flow is still happening because the water in the creek on the other side, the top part of the creek is blocked but the water in the bottom side isn't run off water. Otherwise it's be stagnant and its not. It's clear from the pictures that there's life in

it etc. If you dig into the bottom here, you're effectively going to take away / drain off that continuous flow down the creek bed so that's going to chop the water supply that's currently there, from the bottom half of the creek. Now what impact is that going to have?

Dave – as part of the environmental study a hydrological study would've been done which would probably answer that I suspect, and having walked around that area is that what you're seeing in terms of the water in the creek is actually clean water because it's coming out of these sediment catchments and then making its way down during rainfall, and also just rainfall around the area from washing in and because the creeks got all that vegetation in it, it's like a filter and it's keeping it relatively clean, but again that's a perfectly valid question

Noel – if waters not flowing, it goes rotten. That's the difference between a swamp and a wetland, it just pools into the bottom it doesn't matter how much grass is there, if it pools into an area that's just a pool it goes rotten. If it's moving through the landscape and has somewhere to exit it stays fresh and clean

Dave - I can tell you I wasn't going to fill my water bottle with it

Rhonda - enough said

Paul – I'm not going to sit here and pretend I've got the details on the water assessment on me, but I'm happy to have a look at it for you and get back to you

Noel - thank you very much

Gary - 80 mega litres, you said the new dam would hold? What do the three dams currently hold?

Paul – probably only about 15 megs.

Gary – that's what we're worried about. 15mgs now and the creeks a bit murky after 80mgl it'd be more like coffee wouldn't it?

Paul - in terms of water quality?

Gary – yeah what's filtering through to the creek now is probably not great, if you're going to times that by 6..

Paul – I suppose the point to make, for the entire catchment that feeds into those dams now, it's vegetated, it's rehab, we've started dumping up here in the past month or so, but historically what's been flowing into those in the last 3-4 years you would almost class as clean water, so by putting this in you shouldn't see any change in terms of the actual quality of the water because there'd be no flow from here to here, unless some catastrophic event and it overflowed.

Dave – so just to be clear basically any water that's shedding off these dumps that are rehabilitated and new dumps, the sediment will sit there, the water will sit there and it'll be pumped into these polishing ponds and kept on site and used on site. The only water that'll make its way into the creek will be water flowing from this side of the dam, on both sides or if there is subsurface water like a spring or whatever and the hydrological study will tell you, that'd be the only other source. There is not water going from out of this dam in to there.

Joel – those reports Noel mentioned do they eventually make their way onto the DoPI website?

Paul – they should already be on there. So that's the proposal in a nutshell.

Dave - can we talk about the geo-tech stuff you want to do?

Paul – to determine the exact location for the dam wall they need to test pits to look at the soil characteristics to find the best place for it. In the plan you have there's a couple of areas we'd like to go. Now we had a walk around yesterday afternoon and there's should be a spot there where we avoid the artefacts.

Map referred to, to show the area in question

Dave - they'd be looking to get into that area with a machine and we'd avoid sites ad engage people from the CHWG to monitor that work.

Discussion about the wall crossing through site 526.

Paul – the geo-tech will determine exactly where that wall will sit

Gary - so there is still a possibility the wall may go slightly north or south?

Paul - absolutely

Dave – The geo tech work can only be done under 2 circumstances: 1) by site avoidance, 2) by AHIP. We want to go by site avoidance because if the dam doesn't happen you don't want to disturb any sites.

Paul – the work will involve walking a machine in and digging a hole to a depth of 3 meter's and then backfill it straight away.

Dave - small trench, width of a bucket

Paul – we want to do that in a sensitive way, I believe there was also talk about going back out there as there's a barb wire fence you need to cross?

Dave – when we did the survey there's a management boundary between the two operations, and you could see some artefacts in the other side of the fence. Question was raised what about those and we said we need to talk to Bulga see if they've been recorded previously and we need permission to cross the fence. Paul said not a problem, so can get a small team out there and finish off that part of the survey, and just connects those sites. That's the second thing we need to do out there.

Arthur - trench testing, how is it done? What about any disturbance?

Paul - Small excavator and we welcome people to come out to monitor the works.

Dave – we'll arrange in cooperation with Bulga timing of that, If something is found then we know and we've shown due diligence

Paul – timing wise that may not happen quickly, we were talking yesterday whether we wait until the sub lease gets swapped back over to our side of the fence, we'll see what happens.

Dave – we'll follow whatever Bulgas schedule is and work around that as best we can, in the interim we'll get back out there as soon as we can. Gillian has a bit more detailed recording to complete out there, so when we do that we'll take a couple of people out and with Bulga go on that side of the fence to finish that survey.

Discussion about what material will be used for the dam construction (clay stockpiles).

Gary – is this area part of the Narrabeen sandstone group?

Gillian – can I get back to you on that? (Discussion about local geology and stone resources).

Dave - any other questions for Paul?

Paul – am happy to take any other questions if you hand out my contact details

Dave – we'll send Paul's contact details out with the minutes etc. and correspondence from the meeting.

Gillian – question about spillway modification, wants a modified GIS layer and information about the test pit work

Paul – to send proposal for test pit and GIS layer / map of amended spillway

Gillian – asks about the spillway construction and materials used; direction of water flow if there's an overflow? Would head into the creek Paul says. Has any study been done of the impact of this water flow downstream?

Paul – that's in the environmental report, same as Noels question in the water assessment.

Dave- key point is it's not likely

Rhonda - what if we had torrential rain?

Paul – that sort of event is why we have a spillway. If there was no spillway, and we had a shocking rain event, the water pressure onto that dam would find the weakest point and the dam would fail, and we'd have a catastrophic impact downstream. It is designed as the overflow in the event we get one of those rainfall events, but the operating philosophy from our point of view is to prevent any water going downstream, as it'd be dirty water most times, so we'll have a pump set up on here and a pumping capacity design based on a pretty major event to be able to pump it back into the dirty water system over here.

Gary – if you aren't granted permission to dig deeper where you want to, that retaining wall will be 8meters high, so how wide would you have to make it? Twice as high, three times as wide sort of thing?

Paul - usually yeah

Gary – so that's going to impact more sites?

Paul – this is worst case scenario (map referred to). This is the 8mtre wall, 130meg. We're only building 80

Gary – is the 130 still in the works?

Paul - no

Noel - what's the potential of putting fish in the dam?

Paul - ask the Department of Primary Industries

Noel – I would rather it not impact the creek, the Lands Council would rather it not impact the creek, if it can't be avoided how can we make it a benefit? Fishing hole.

Paul- (takes this comment on board).

Dave – Maree you were outside, but we did make the point about the land and sites over the fence remember?

Maree - yep

Dave - Paul to arrange access onto Bulga land for survey of this area

Lunch Break

Gillian - Ramp 22 continued: what's happening now is, I've done up a draft Aboriginal Cultural Heritage Assessment Report, I was holding it over until the results of this meeting to put in feedback etc. from today, then that report will come out to you with the usual time for review, then I hope I'll get some comments about how you feel, the other side of things is that it's you guys who hold the cultural information of the area, sites, your own culture so we welcome any information you would like to provide us with. If you have any information you wish to be kept confidential we can do that too. Although we still have to do that survey in the Bulga area, intrinsically it's not going to affect much of what we have here as it's simply to get the extent of the sites that cross in to the border we just need to get an idea of how far into the Bulga side the sites go. One of the things I felt was positive data from the field survey is the fact that the development footprint is less than what I originally believed it might be (less than the original project area), most shaded footprint area on the map is in previously cleared and salvaged areas anyway and has already been fully constructed. When you look at the site patterning on the map we seem to have a relatively constant distribution of the same site types going down stream, artefact scatters close to the creek in mid bank area and exposed small artefact scatters on deflated areas a bit higher and odd lose artefacts across the slopes. We have found a number of PAD areas here although in actual fact the 2 PADS shown on the AHIMS search that were previously registered, are outside the disturbance footprint, but we do have these 2 areas of extensive artefact scatters of which we know there will be sub surface deposits but only one of those is in the development footprint 526. One of the things I would really like is your feedback, in the event this gets approved and we submit for an AHIP, what processes you would like as a community group to see with the salvage works, what ideas you had? There are no culturally scarred or modified trees, no grinding grooves, no rock art.

Arthur - how critical is this (timeframe) from C&A's and Xstrata's point of view?

Dave – overall timeframe is they were looking to have their approval from government for the construction of the dam by end of the year going into early January 2014 and they'd want to start construction pretty soon thereafter, but before they can do that they need to have cultural heritage approval in place (AHIP) so our time frame is exactly the same as that: AHIP in place by Jan thereabouts, depending on how it goes through the process. Done the assessment now in the process of reviewing the results of that assessment to put out a draft report for comment on, there'll be another CHWG meeting where we'll bring back that draft report for further comment then submit that to OEH.

Noel – I can't speak on behalf of the community on this but I find it really annoying (this is me personally), that a decision has been made already that there is going to be a dam here and then they go and get a cultural study done. What about deciding that we might put a dam in here and then we'll do the cultural study and depending on the outcome of that cultural study, as to whether or not we're actually going to go ahead. The decision has already been made that the dam is going to go ahead,

Dave - ok a decision has been made to ask permission of the government to build a dam, we have done several surveys in this area over the years so we know they're sites there. In response to that proposal from Xstrata we've said we're going to make sure we do an assessment of that area, but then ultimately that decision comes down to OEH on the advice of what's in this report and what you guys have to say, and you've just made a comment that's in the minutes, they need to make the decision alongside there colleagues in other departments in government as to what's in the greatest public benefit. Is this an area for example that the cultural heritage values are such that that the dam is inappropriate and should not be built? Well that's up to OEH and others to decide, all we can do is say if this is going to be approved and there's also an approval for disturbance of Aboriginal Cultural heritage sites then how are we going to manage that? What's the appropriate way to do that if it's given that approval? The issue here's going to be that the environmental approvals and other aspects of those consents and requirements on both Bulga and to a lesser degree Mount Thorley Warkworth, is that they're not allowed to let sedimentation into the creeks, so this sort of infrastructure are necessary. It's not to say that this dam will get approved, we don't know. We're in a process of doing that, we've been asked to do a cultural heritage assessment for this and this is where we are now.

Noel – please don't get me wrong I know probably did come off the wrong way and I don't take this out on you guys this time because it's not your fault but it's always the way, they've had their environmental study done, they've decided that this is where we're going to put it if we get approval, not, well lets also do the cultural study and see whether or not this is a good spot.

Dave – I think that'll be part of the assessment that the government has to take into account before they give the approval.

Rhonda – if we had objections for this dam to go ahead it's for us to put forward now isn't it?

Dave – yes and you can do it in two ways, you can object and say from a cultural perspective it's not appropriate, that's fine, or in fact if you've got an objection generally about it, cultural heritage, environmental etc. etc. you need to also communicate that to Paul.

Rhonda – so we need to do it now. We need to put our objections in now, we seem to do it after the fact, this is our opportunity if we object

Joel – Rhonda the whole process for these development applications there's always a public exhibition period for all these type of projects, they're advertised and this one would have been I imagine advertised awhile back and you're right as a member of the public you've got to keep your eye open to see what's coming up and object with the rest of the community or support

Kerryn – do we have a keeping place if this is approved?

Dave – (explains about HVS storage facility that is used under care and control permit from OEH). If the community has an alternative place to put them etc. we're happy for that to happen but that's got to be approved by OEH.

Kerryn - do we have any offsets?

Dave – no. In the context of that area, there is a fair bit of that creek that sits inside Mount Thorley operations that's outside the mining operations which we're managing for conservation, further downstream.

Rhonda – regarding Loders Creek on the Bulga side where the grinding grooves are, and we are aware there is something going through for a Native Title claimant regarding an objection to destroy those grinding grooves, with Loders Creek coming into this new part

of Bulga into Warkworth and the runoff, is there any chance the sediment and that can go further down that creek?

Dave – that's a good point. Answer to the offset question: map used to show areas, in terms of an offset it's not an offsicial offset it doesn't require an offset under this sort of approval, none the less all of that creek line there is all currently protected, not mined etc. so we manage that as it is. Regarding sediment run off going into that creek and creating more sediment downstream at the grinding grooves site at Bulga, well obviously any sediment that comes out of here and the whole idea of a sediment dam is to stop that as much as possible, clearly yeah if sediment gets in the water it'll make its way downstream and come to the grinding groove site I suppose.

Discussion about windblown sediment at the grinding groove site which is on Bulgas land and sediment observed on Ramp 22 survey.

Dave - the question was raised when we looked at photos of some of the sites which are exposures downstream of the dam, so outside of the impact area, that's in the creek it's not going to be disturbed, that we need to look at, outside of this AHIP process rehabilitation or some other management regime to slow that erosion. That might require an AHIP technically, it might well be that the way to deal with it is to cover it up (grass to re-grow, bury the artefacts again so they're stabilized). That may / may not require an AHIP. That's a separate exercise to this, but is something that we should consider as an outcome of this process. That's one of the reasons we did the survey downstream, was to see what was down there; was the dam going to impact upon it? Already run off issues from the Bulga side and to a lesser degree our side, that's creating erosion and erosion creates exposures etc. Going back to the original question this is what these processes are about, in terms of the actual environmental approval for the project, that's something Bulga has put in; they'll have put in a section to say cultural heritage process is being undertaken through a survey and application for an AHIP. It's entirely appropriate for you if for whatever you decide this isn't appropriate from a cultural heritage point of view, then fine here's your chance to say so. You can do that now, put it in writing, respond to the report etc. You can also take it up from an environmental or any other perspective as you like with the proponent themselves. With these planning processes there are only so many opportunities to do that.

Rhonda – question for you Gillian. Anyone who was on the survey did they have any comment regarding where the dam was going to be or where you found the artefacts? Did they have any objections?

Gillian – obviously no one is ever going to happily say 'yes just destroy these sites', because they're important to you as being your cultural heritage, from that point of view there was an acknowledgement that a lot of the area that is being disturbed has already been constructed and disturbed, part of the disturbance footprint is already part of the existing works, that some of the areas that we are going into via access even without these works there are artefacts on that track for example so they do require salvage if they're going to be protected, require mitigation of some sort. There is some existing fencing to quite a degree there (previous works). Maree might be able to let us know if there were any discussions. Feedback we did get was they were happy with the extent and depth of the survey, and depth of recording, we did as near as possible to 100% survey (impossible to do 100% as there are always things in the way). In relation to the sites we didn't get anybody saying there were restrictions on site or any gender specific areas etc. General acknowledgement was that if the footprint was going to disturb that area of large artefact scatter then subsurface work is needed. That's the general overview of feedback we got.

Dave - at the end of each day and end of the project we asked specifically did people have any particular issues they wanted to raise now, and obviously on the day Gillian wasn't there the other archaeologist was, to let us know now, or, if you're uncomfortable raising it in front of people you can raise it at any time, at the CHWG, with Gillian etc.

Dave - repeat's the above statement to Maree and she agrees that this was done.

John - asks if the artefacts have been fenced off.

Dave - there is a fence / signage around the whole area, the only bit not fenced is where the park up area and pump is which was constructed during the last AHIP. There is material that wasn't visible and salvaged in 2004 in that area and has now appeared so we made sure we surveyed through this area, even though it had been subject to a section 90 before. We blocked off / closed the area, (power line access track).

Gary – was there a lot of vegetation covering the creek where the proposal is going?

Gillian - no. Sheet wash and re-grassing, casuarina regrowth

Gary - has the creek created any partially truncated spurs, where you can see artefacts? **Gillian -** yes (this has already been discussed; southern bank area). Incised creek in its original bed. The irregular spurs I feel, are from more recent water runoff cutting across and following depressions etc. and are coming from high rainfall, disturbances etc.

Discussion about rainfall, erosion and slumping in the creek bed.

Arthur – when do we get the opportunity to have a look at the area?

Dave – on a voluntary basis we're more than happy to make that happen. We'll work something out and give people plenty of notice, hopefully in the next couple of weeks. We'll invite people as part of the communication and consultation of this if they wish.

Gillian – Maree do you think we've covered the results of the survey adequately? Are you happy with what's been presented?

Gary - did you have any reservations yourself?

Maree - no.

Noel – the WTC I believe they have cultural knowledge about Loders Creek that I'm not privy to. I believe you should contact Warren Taggart. With regards to the Ramp 22 sedimentation dam, the Loders Creek tributary although blocked in its upper reaches, still has permanent flowing water. The high incidence of cultural objects and diversity of material demonstrates the importance of this area to Aboriginal people in the past, and as one of the few remaining sites of this complexity close proximity to the Loders Creek complex only increases its value to Aboriginal people of today. It should not be damaged further and mitigation to prevent further natural degradation should be started immediately.

Dave - ok we've got that on the recorder.

Arthur - I support what Noel just said

Noel - I'm only bringing this up now as I'm going on three weeks leave

Gillian - just for the record Noel are you happy for me to note that as your response to the discussions in relation to the results of the survey?

Noel – yes, as the Wanaruah Land Councils response. I wouldn't be surprised for that area to become part of the Aboriginal Place Protection application now that it's under threat.

Gillian- has the nomination been lodged yet?

Noel - no.

Dave - explains the acronyms used in the report

Arthur - asks for a summary (map) of what's been recorded and salvaged in this area

Noel – what we'd like to see is a map that covers Bulga all the way through to Warkworth, that has sites on it (all sites) and we would like to see a breakdown by colour of sites that have been salvaged, partially salvaged, marked for destruction etc. so we can see what we'll have left in that area

Dave - CHMP zone plan does this

Dave explains the colours used in the zone plan and what areas have / have not been surveyed.

Dave – interesting point Noel raised about the Application for an Aboriginal area to be put over a portion or all of Loder Creek,

Noel- my understanding initially, it was the Loders Creek grinding grooves, it's a much larger area they refer to as the Loders Creek complex, I don't know the extremities, Land Council does support and we're had unanimous support through our meetings for the protection of that area in support of the WTC.

Gillian – just to confirm as far as you're aware it's Loders Creek but may or may not include some tributaries of Loders Creek?

Noel – I don't know, it's a complex area within the Bulga mining lease area.

Dave – was someone suggesting that one of the outcomes form this assessment was that there needs to be better understanding of what sites there are and cultural values further downstream on this tributary that runs into and Loder Creek?

Noel - surrounding not downstream

Dave - as long as it's on our land is fine

Discussion about works done under the Bulga Optimization Project. Noel mentions Brett Jenkins from Xstrata Aboriginal Liaison.

Dave – in terms of understanding of the sites if this dam was to go ahead and were destroyed then what's downstream that's still there and how's that going to be managed and what impacts might there be from that water flow? Other question raised was about the remediation of those eroded places further downstream which have nothing to do with the dam that we might need to look at some process for fixing those up. AHIP?

Discussion about what can be used to prevent erosion

<u>Next steps</u>; Notes from this meeting and draft report to go out for comment, site visit before next CHWG, comments, then look to finalize the application

Gillian – asks for comments from the group about any preferred method of salvage etc. These can be comments from the draft report.

Noel – we think there should be a re-design of the dam

Dave – geotechnical work on western side, when we get the proposal we'll get people out to monitor that work along with Gillian or an associate of hers

Noel – (expresses his preference for no geo-tech work to be done until the dam is approved or not) I would suggest that anywhere in that tributary within the green corridor (tree line) that if you dig inside that you're impacting on culture not necessarily objects.

Dave – ok take that on board. Any other comments? Any questions ask Gillian.

Gillian's Phone Number: 0432 563 058. RPS: 4940 4200

(Ramp 22 discussion ends)



Appendix 6 AHIMS Search



AHIMS Web Services (AWS) Search Result

Your Ref Number : PR118105 Bulga

Client Service ID: 106264

Date: 16 July 2013

RPS Australia East Pty Ltd -Hamilton

Accounts Payable Fortitude Valley PO Box 237

Brisbane Queensland 4006

Attention: Jeremy Hill

Email: jeremy.hill@rpsgroup.com.au

Dear Sir or Madam:

AHIMS Web Service search for the following area at Datum :GDA, Zone : 56, Eastings : 321100 - 323400, Northings : 6384400 - 6385900 with a Buffer of 0 meters, conducted by Jeremy Hill on 16 July 2013.

The context area of your search is shown in the map below. Please note that the map does not accurately display the exact boundaries of the search as defined in the paragraph above. The map is to be used for general reference purposes only.



A search of the Office of the Environment and Heritage AHIMS Web Services (Aboriginal Heritage Information Management System) has shown that:

40 Aboriginal sites are recorded in or near the above location.

0 Aboriginal places have been declared in or near the above location. *

If your search shows Aboriginal sites or places what should you do?

- You must do an extensive search if AHIMS has shown that there are Aboriginal sites or places recorded in the search area.
- If you are checking AHIMS as a part of your due diligence, refer to the next steps of the Due Diligence Code of practice.
- You can get further information about Aboriginal places by looking at the gazettal notice that declared it. Aboriginal places gazetted after 2001 are available on the NSW Government Gazette (http://www.nsw.gov.au/gazette) website. Gazettal notices published prior to 2001 can be obtained from Office of Environment and Heritage's Aboriginal Heritage Information Unit upon request

Important information about your AHIMS search

- The information derived from the AHIMS search is only to be used for the purpose for which it was requested. It is not be made available to the public.
- AHIMS records information about Aboriginal sites that have been provided to Office of Environment and Heritage and Aboriginal places that have been declared by the Minister;
- Information recorded on AHIMS may vary in its accuracy and may not be up to date. Location details are
 recorded as grid references and it is important to note that there may be errors or omissions in these
 recordings,
- Some parts of New South Wales have not been investigated in detail and there may be fewer records of Aboriginal sites in those areas. These areas may contain Aboriginal sites which are not recorded on AHIMS.
- Aboriginal objects are protected under the National Parks and Wildlife Act 1974 even if they are not recorded as a site on AHIMS.
- This search can form part of your due diligence and remains valid for 12 months.

Email: ahims@environment.nsw.gov.au Web: www.environment.nsw.gov.au



AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR118105 Bulga

Client Service ID: 106264

<u>SiteID</u>	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatur	es	<u>SiteTypes</u>	Reports
37-6-0423	Bulga 1;	AGD	56	322720	6384980	Open site	Valid	Artefact : -		Open Camp Site	1357,1978,212 1
	Contact	Recorders	Hele	n Brayshaw,	Mary Dallas Co	nsulting Archaed	ologists		Permits		
37-6-0424	Bulga 2;	AGD	56	322700	6384570	Open site	Valid	Artefact : -		Open Camp Site	1357,1978,212 1
	Contact	Recorders	Hele	n Brayshaw,	Mary Dallas Co	nsulting Archaed	ologists		Permits		
7-6-0425	Bulga 3;	GDA	56	322905	6384643	Open site	Valid	Artefact : -		Open Camp Site	1357,1978,212 1
	Contact	Recorders	Hele	n Brayshaw,	Mary Dallas Co	nsulting Archaed	ologists		<u>Permits</u>		
7-6-0426	Bulga 4;	AGD	56	322280	6384970	Open site	Valid	Artefact : -		Open Camp Site	1357,1978,212 1
	Contact	Recorders	Hele	n Brayshaw,	Mary Dallas Co	nsulting Archaed	ologists,David Crew		Permits		
7-6-0318	Mt Thorley;MT 32;	AGD	56	322280	6385430	Open site	Valid	Artefact : -		Open Camp Site	436
	Contact	Recorders	ASRS	SYS					Permits	703	
7-6-0319	Mt Thorley;MT 33;	AGD	56	322230	6385370	Open site	Valid	Artefact : -		Open Camp Site	436
	Contact	Recorders	ASRS	SYS					Permits	703	
7-6-0512	B36;Bulga;	AGD	56	322150	6384440	Open site	Valid	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits		
7-6-0513	B37;Bulga;	AGD	56	322190	6384500	Open site	Destroyed	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits	283	
7-6-0514	B38;Bulga;	AGD	56	322320	6384550	Open site	Destroyed	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits	283	
7-6-0515	B39;Bulga;	AGD	56	322390	6384690	Open site	Valid	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits		
7-6-0516	B40;Bulga;	GDA	56	322485	6384994	Open site	Valid	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits	3141	
7-6-0517	B41;Bulga;	AGD	56	322350	6384850	Open site	Valid	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits		
7-6-0518	B42;Bulga;	AGD	56	322260	6384970	Open site	Valid	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits		
7-6-0519	B43;Bulga;	AGD	56	322290	6384890	Open site	Valid	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits		
7-6-0520	B44;Bulga;	AGD	56	322290	6384830	Open site	Valid	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits		
7-6-0521	B45;Bulga;	AGD	56	322300	6384760	Open site	Destroyed	Artefact : -		Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig					Permits Permits	283,284	

Report generated by AHIMS Web Service on 16/07/2013 for Jeremy Hill for the following area at Datum :GDA, Zone : 56, Eastings : 321100 - 323400, Northings : 6384400 - 6385900 with a Buffer of 0 meters. Additional Info : Assessment. Number of Aboriginal sites and Aboriginal objects found is 40

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AHIMS Web Services (AWS)

Extensive search - Site list report

Your Ref Number : PR118105 Bulga

Client Service ID: 106264

<u>iteID</u>	<u>SiteName</u>	Datum	Zone	Easting	Northing	Context	Site Status	<u>SiteFeatures</u>	<u>SiteTypes</u>	Reports
7-6-0522	B46;Bulga;	AGD	56	322200	6384600	Open site	Destroyed	Artefact : -	Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig				Permits	283	
7-6-0529	B53;Bulga;	AGD	56	321700	6385100	Open site	Valid	Artefact : -	Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig				<u>Permits</u>	703,723	
7-6-0477	Bulga 11;	GDA	56	322149	6384497	Open site	Partially Destroyed	Artefact: 500	Open Camp Site	1357,1978,212 1
	Contact	Recorders	Hele	n Brayshaw,	Mary Dallas Co	onsulting Archaeo	logists	<u>Permits</u>	252	
-6-0478	Bulga 12;	GDA		321978	6384527	Open site	Destroyed	Artefact : 50	Open Camp Site	1357,1978,212 1
	Contact	Recorders				onsulting Archaeo		<u>Permits</u>	283	
7-6-0545	B69;Bulga;	GDA	56	322191	6384851	Open site	Destroyed	Artefact : -	Open Camp Site	2121
	Contact	Recorders		rit Koettig				<u>Permits</u>	283,284	
'-6-0530	B54;Bulga;	GDA	56	321761	6385210	Open site	Destroyed	Artefact : -	Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig				<u>Permits</u>	703,723	
-6-0531	B55;Bulga;	GDA	56	321572	6385075	Open site	Destroyed	Artefact : -	Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig				Permits	283	
-6-0532	B56;Bulga;	GDA	56	321359	6384773	Open site	Destroyed	Artefact : -	Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig				<u>Permits</u>	283	
-6-0533	B57;Bulga;	AGD	56	322790	6384350	Open site	Valid	Artefact : -	Open Camp Site	2121
	Contact	Recorders	Marg	rit Koettig				<u>Permits</u>		
-6-0147	Loders Creek ;	AGD	56	322504	6384330	Open site	Destroyed	Artefact : -	Open Camp Site	311,1452
	Contact	Recorders	Len l	Dyall				<u>Permits</u>		
-6-0148	Loders Creek;	AGD	56	322504	6384330	Open site	Valid	Artefact : -, Grinding	Axe Grinding	311,1357,145
								Groove : -	Groove	1978,2121
	Contact	Recorders	Hele	n Brayshaw,	Mary Dallas Co	onsulting Archaeo	logists	<u>Permits</u>	179	
-6-0656	B73;	AGD	56	322210	6385350	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Kerr	y Navin,Loui	se Gay			<u>Permits</u>		
-6-0657	B 47;	GDA	56	322295	6385470	Open site	Destroyed	Artefact : -	Open Camp Site	
	Contact	Recorders	Kerr	y Navin,Loui	se Gay			<u>Permits</u>		
-6-0658	B 75;	AGD	56	322180	6385230	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Kerr	y Navin,Loui	se Gay			<u>Permits</u>		
-6-0659	B 76;	AGD	56	322200	6385150	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Kerr	y Navin,Loui	se Gav			<u>Permits</u>	703,723	
-6-1108	Restriction applied. Please contact ahims@environment.nsw.gov.au.			, 2,20		Open site	Destroyed	<u>- 37111142</u>		
	Contact	Recorders	Gavi	n Martin				<u>Permits</u>	1795,2863	

Report generated by AHIMS Web Service on 16/07/2013 for Jeremy Hill for the following area at Datum :GDA, Zone : 56, Eastings : 321100 - 323400, Northings : 6384400 - 6385900 with a Buffer of 0 meters. Additional Info : Assessment. Number of Aboriginal sites and Aboriginal objects found is 40

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

Your Ref Number : PR118105 Bulga

Client Service ID: 106264

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<u>SiteID</u>	SiteName	<u>Datum</u>	Zone	Easting	Northing	Context	Site Status	<u>SiteFeatures</u>	<u>SiteTypes</u>	Reports
37-6-1109	AG-IF-2	AGD	56	321720	6385140	Open site	Destroyed	Artefact : -		
	Contact	Recorders	Gav	in Martin				<u>Permits</u>	1795,2863	
37-6-1113	Restriction applied. Please contact					Open site	Destroyed			
	ahims@environment.nsw.gov.au.									
	Contact	Recorders	Gavi	in Martin				<u>Permits</u>	1795,2863	
37-6-1114	Restriction applied. Please contact					Open site	Destroyed			
	ahims@environment.nsw.gov.au.									
	Contact	Recorders	_	in Martin				<u>Permits</u>	1795,2863	
37-6-0660	B 77	AGD	56	322210	6385110	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Keri	ry Navin,Loui	se Gay			<u>Permits</u>		
37-6-0661	W5	GDA	56	322155	6385290	Open site	Valid	Artefact : -	Open Camp Site	
	Contact	Recorders	Keri	ry Navin,Mr.ŀ	Celvin Officer			<u>Permits</u>	723,736,750,1061	
37-6-0511	B35;Bulga;	GDA	56	322075	6384599	Open site	Destroyed	Artefact : -	Open Camp Site	2121
	Contact	Recorders	Mar	grit Koettig				<u>Permits</u>	283	
37-6-2715	AG-PAD-2	GDA		322160	6385553	Open site	Valid	Potential		
						•		Archaeological		
								Deposit (PAD) : -		
	Contact	Recorders	Mr.I	Luke Godwin				<u>Permits</u>		
37-6-2716	AG-PAD-3	GDA	56	322070	6385379	Open site	Valid	Potential		
								Archaeological		
								Deposit (PAD) : -,		
								Modified Tree		
								(Carved or Scarred):		
								-		
	<u>Contact</u>	Recorders	Mr.I	Luke Godwin				<u>Permits</u>		



Appendix 7 Glossary of Site Types



The following is a brief description of most Aboriginal site types. Most of these do not occur in the immediate Project Area although are provided for regional context.

Artefact Scatters

Artefact scatters are defined by the presence of two or more stone artefacts in close association (i.e. within fifty metres of each other). An artefact scatter may consist solely of surface material exposed by erosion, or may contain sub-surface deposit of varying depth. Associated features may include hearths or stone-lined fireplaces, and heat treatment pits.

Artefact scatters may represent:

- camp sites: involving short or long-term habitation, manufacture and maintenance of stone or wooden tools, raw material management, tool storage and food preparation and consumption;
- hunting or gathering activities;
- activities spatially separated from camp sites (e.g. tool manufacture or maintenance); or
- transient movement through the landscape.

The detection of artefact scatters depends upon conditions of surface visibility, including vegetation cover, ground disturbance and recent sediment deposition. Unfavourable conditions obscure artefact scatters and prevent their detection during surface surveys.

Bora Grounds

Bora grounds are a ceremonial site associated with initiations. They are usually comprise two circular depressions in the earth, and may be edged with stone. Bora grounds generally occur on soft sediments in river valleys, although they may also be located on high, rocky ground in association with stone arrangements.

Burials

Human remains were often placed in hollow trees, caves or sand deposits and may have been marked by carved or scarred trees. Burials have been identified eroding out of sand deposits or creek banks, or when disturbed by development. The probability of detecting burials during archaeological fieldwork is extremely low.

Culturally Modified Trees

Culturally modified trees include scarred and carved trees. Scarred trees are caused by the removal of bark for use in manufacturing canoes, containers, shields or shelters. Notches were also carved in trees to permit easier climbing. Scarred trees are only likely to be present on mature trees remaining from original vegetation. Carved trees, the easiest to identify, are caused by the removal of bark to create a working surface on which engravings are incised. Carved trees were used as markers for ceremonial and symbolic purposes, including burials. Although, carved trees were relatively common in New South Wales in the early 20th century, vegetation removal has rendered this site type extremely rare. Modified trees, where bark was removed for often domestic use are less easily identified. Criteria for identifying modified trees include: the age of the tree; type of tree (the bark of many trees is not suitable, also introduced species would be unlikely subjects); axe marks (with the need to determine the type of axe - stone or steel – though Aboriginal people after settlement did use steel); shape of the scar (natural or humanly scarred); height of the scar above the ground (reasonable working height with consideration given to subsequent growth).

Fish Traps



Fish traps comprised arrangements of stone, branches and/or wickerwork placed in watercourses, estuaries and along coasts to trap or permit the easier capture of sea-life.

Grinding Grooves

Grinding grooves are elongated narrow depressions in soft rocks (particularly sedimentary), generally associated with watercourses, that are created by the shaping and sharpening of ground-edge implements. To produce a sharp edge the axe blank (or re-worked axe) was honed on a natural stone surface near a source of water. The water was required for lubricating the grinding process. Axe grinding grooves can be identified by features such as a narrow short groove, with greatest depth near the groove centre. The grooves also display a patina developed through friction between stone surfaces. Generally a series of grooves are found as a result of the repetitive process.

Isolated Finds

Isolated finds occur where only one artefact is visible in a survey area. These finds are not found in apparent association with other evidence for prehistoric activity or occupation. Isolated finds occur anywhere and may represent loss, deliberate discard or abandonment of an artefact, or may be the remains of a dispersed artefact scatter. Numerous isolated finds have been recorded within the Project Area. An isolated find may flag the occurrence of other less visible artefacts in the vicinity or may indicate disturbance or relocation after the original discard.

Middens

Shell middens comprise deposits of shell remaining from consumption and are common in coastal regions and along watercourses. Middens vary in size, preservation and content, although they often contain artefacts made from stone, bone or shell, charcoal, and the remains of terrestrial or aquatic fauna that formed an additional component of Aboriginal diet. Middens can provide significant information on land-use patterns, diet, chronology of occupation and environmental conditions.

Mounds

Aboriginal mounds are places where people lived and reflect a record of that living space. Mounds may be places where Aboriginal people lived over long periods of time. Mounds often contain charcoal, burnt clay or stone heat retainers from cooking ovens, animal bones, shells, stone tools and occasionally Aboriginal burials.

Mythological / Traditional Sites

Mythological and traditional sites of significance to Aboriginal people may occur in any location, although they are often associated with natural landscape features. They include sites associated with dreaming stories, massacre sites, traditional camp sites and contact sites. Consultation with the local Aboriginal community is essential for identifying these sites.

Rock Shelters with Art and / or Occupation Deposit

Rock shelters occur where geological formations suitable for habitation or use are present, such as rock overhangs, shelters or caves. Rock shelter sites generally contain artefacts, food remains and/or rock art and may include sites with areas of potential archaeological deposit, where evidence of rock-art or human occupation is expected but not visible. The geological composition of the Project Area greatly increases the likelihood for rock shelters to occur.

Stone Arrangements



Stone arrangements include lines, circles, mounds, or other patterns of stone arranged by Aboriginal people. These may be associated with bora grounds, ceremonial sites, mythological or sacred sites. Stone arrangements are more likely to occur on hill tops and ridge crests that contain stone outcrops or surface stone, where impact from recent land use practices has been minimal.

Stone Quarries

A stone quarry is a place at which stone resource exploitation has occurred. Quarry sites are only located where the exposed stone material is suitable for use either for ceremonial purposes (e.g. ochre) or for artefact manufacture.



Appendix 8

Site Cards



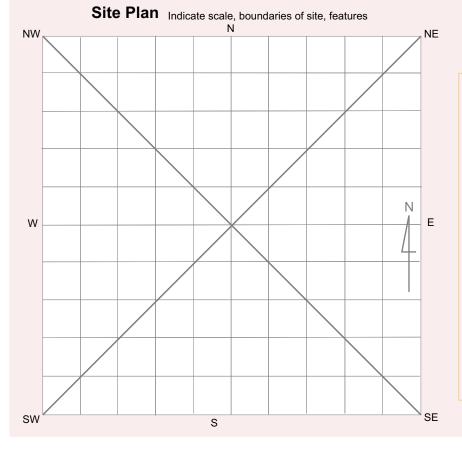


Office Use Only	
Site Number	
Date received// Date entered into system/_/ Date catalogued/_/_	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
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Knowledge Holder	
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Address	
Phone number Fax Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Aboriginal Heritage Offic of Cultural Heritage Division Contacts	
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SW

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General Site Information Features Closed Site Open Site 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition **Site Orientation** V N-S Boulder Boulder 3. Art Wind erosion Sandstone platform NE-SW 4. Artefact Water erosion Silica gloss E-W 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South 15. Potential Archaeological Deposit Other platform South West 16. Stone Quarry West 17. Shell North West 18. Stone Arrangement 19. Modified Tree 20. Water Hole



Site Dime	nsions
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Closed Site	Dimensions (m)
	Internal length Internal width
	Shelter height
	Shelter floor area
Open Site D	imensions (m)
80	Total length of visible site
20	Average width of visible site
1600	Estimated area of visible site
	Length of assessed site area

Aboriginal Community Inte																							
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NPWS FEATURE RECORD	ING FORM - ARTEFACT	page 1
Site I.D.	Site Name MTW 524	
First recorded date 24/07/2013	·	
No. of instances 129		
Recorded by JH		
Stone artefacts only Yes No	Percentage of Non-stone Artefacts to Percentage of S	stone Artefacts
Artefacts collected No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80	
Permit issued No	0-9%	
Feature Context & Condition Scar	tter No. 1 Easting Northin	ng
Density	Dimensions	Yes No
(Artefact count per square metre)	Length (m) Width (m) Depth (m	n) In situ Yes Stratified
Feature Condition General Cond	Recommended Action	
Very good Weathere	ed	Revegetation
Good Vehicle d	amage Fencing S	Signage
Poor Surface w	vater wash Closure to public	Soil erosion control
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Fine grained siliceous Granite Granite Granite Tin can Backed blade Manuport Wire Blade Blade Milling slab Ground Ground Bipolar Wire Sandstone Sandstone Silcrete Shell Green glass Amethyst glass Flake Flake Flake Faceted Ground Bipolar Ground Bipolar Flake Faceted Ground Bipolar Flake Faceted Ground Bipolar Flake Flake Flake Flake Flake Flake Flake Flake Focal Ground Bipolar Flake Flake Flake Flake Flake Flake Flake Flake Flake Focal Shell Ground Bipolar Flake Flak													
Quartz Wire Blade Milling slab Ground Bipolar Quartzite Nail Core Mortar Indeterminate Sandstone Shell Cyclon Nuclear tool Green glass Amber glass Wood Eloura Proximal fragment Amethyst glass Resin Flake Tula Other diagnostic type Modified Unworked Modified Unworked Bipolar Comments: Comments: Core tool Muller Bipolar Mortar Indeterminate Bipolar Flatform Type Cross Section High/strong High/weak Low/weak Irregular Flocal High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool Cross Section High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/weak Low/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/strong High/weak Irregular Flocal Shell Cyclon Nuclear tool W High/strong High/st					Hamn	nerstone							
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Silcrete Shell Cyclon Nuclear tool Green glass Amber glass Wood Eloura Proximal fragment Amethyst glass Resin Flake Tula Other diagnostic type Modified Unworked Moderminate Bipolar Comments: ease refer to the RPS (2013) Aboriginal Cultural Heritage Assessment Bulga Coal Surface Operations - Mount Thorley	Quartzit				Morta	r							
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Amethyst glass Resin Flake Tula W High/strong Other diagnostic type Shattered Low/weak Modified Shattered Low/weak Unworked Photerminate Bipolar Comments: ease refer to the RPS (2013) Aboriginal Cultural Heritage Assessment Bulga Coal Surface Operations - Mount Thorley	Green g	glass	Bone	Distal fragment	Pirri				Dietferm Tree	_	C	4!	
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ease refer to the RPS (2013) Aboriginal Cultural Heritage Assessment Bulga Coal Surface Operations - Mount Thorley					Unwo	rked				III	egular		
ease refer to the RPS (2013) Aboriginal Cultural Heritage Assessment Bulga Coal Surface Operations - Mount Thorley													
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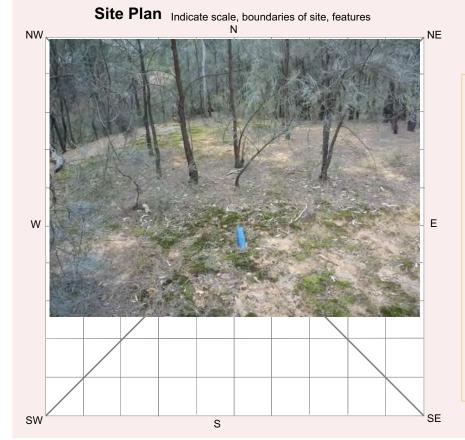


Office Use Only	
Site Number	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address	
Phone number Fax	
Knowledge Holder	
Title Surname First Name Initials	Client on
	system
Organisation Organisation	
Address	
Phone number Fax Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Abonginal heritage offic of Cultural heritage Division Contacts	
Geographic Location	
Site Name M T W 5 2 5	
Easting 3 2 1 8 3 7 Northing 6 3 8 5 2 9 3 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Primary Recorder	
Title Surname First Name Initials	
MR HILL JEREMY	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 24/07/2013	

SW

SE

Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	✓ NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole



	erpretation an	d Manager	nent Red	ommend	ations					
waliwainam, Cita Aaa										
reliminary Site Asse		Droliminan	, Manag	mont Bo	commo	ndatio	ne			
MTW-525 an isolated arte								nocure	Thoa	roa was
populated with Casuarinas					i was io	caleu c	JII all ez	(posure	. IIIe a	irea was
Jopulated With Casuannas	anu grasses.	GSE and C	33 v Wele	a nign.						
nis section should only be	filled in by the	Endorsees								
	filled in by the		ninated Tr	rustee	Nati	ve Title	· Holder			-
			ninated Ti	rustee	Nati		· Holder t Name			nity Consens Initials
ndorsed by: Kno		r Nom	ninated Ti	rustee	Nati					-
ndorsed by: Kno		r Nom	ninated Ti	rustee	Nati					-
ndorsed by: Knd		r Nom	ninated Tr	rustee	Nati					-
ndorsed by: Kno Title Organisation		r Nom	ninated Tr							-
ndorsed by: Title Organisation Address Phone number	owledge Holde	r Nom Surname	ninated Tr	rustee						-
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Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings	owledge Holde	r Nom Surname	ninated Ti							-

NPWS FEATURE RECORD	DING FORM - ARTEFACT	page 1
Site I.D.	Site Name MTW 525	
First recorded date 24/07/2013	ps:tanss	
No. of instances 1		
Recorded by JH		
Yes No Stone artefacts only Yes	Development of New Stone Autofacts to Development of Stone	Autofooto
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone	
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100%
Feature Context & Condition Sca	tter No. Easting Northing	
Density	Dimensions	Yes No
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ
		Stratified
Feature Condition General Cond	dition Recommended Action	
	. Boardwalk Reve	getation
Very good Weathere	Fencing	qe
Good Vehicle d	amage Closure to public Soil e	rosion control
Poor Surface v	vater wash	closure/re-routing
Fire dama	age	onal recording
Erosion		onal recording
Stock dar	mage Expert assessment	
Exposed	archaeological material Meeting with land manager	
Feature Plan (Indicate scale, local		
W	diffe	mplete when <i>feature</i> environment rs to <i>site</i> environment, use attributes
	from	ı cover card, p. 2)
	Land fo	nrm
	Land fo	
		Till dill
	Slope	
	Vegeta	tion
W	N E Land us	se .
	Water	
	Distance to permanent water so	ource metres
	Distance to temporary water so	urce
	Name of nearest permanent wa	ter source
	Name of nearest temporary wat	er
SW	SE	

NPWS	FEATUR	RE RECO	RDING TABL	.E - ARTEFA	ACT				pa	ige 2
			5	Stone Artefa	ict					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Mudstone	Flake							
Instance		A		ner Artefact –				를 (c)	도 🗢	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	Pick (m
Mater	ial		Artefact Desc	rintion		Platform Surfac	o Te	rminat	ion	
Basalt Chert	ained siliceous de one	Clear glass Ceramic Porcelain Tin can Wire Nail Button Shell	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool	(F N F (Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar	Fea Hir scar Ste Ou	ather ige	1011	
Green g Amber g Amethy	glass glass	Bone Wood Resin	Distal fragment Eloura Flake	Pirri Proximal fragm Tula Other diagnosti Modified Unworked	c type	Platform Type W Focal Shattered	Hiç Hiç Lo	ross Se gh/strong gh/weak w/weak egular	ection	
						Bipolar				
Comm	nents:									





Office Use Only	
Site Number	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address	
Phone number Fax	
Knowledge Holder	
Title Surname First Name Initials	Oliant an
	Client on system
Organisation Organisation	
Address	
Phone number Fax Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Aboriginal Heritage Offic of Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 2 6	
Easting 3 2 1 8 2 7 Northing 6 3 8 5 2 6 3 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Primary Recorder	
Title Surname First Name Initials	
MR HILL JEREMY	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 24/07/2013	

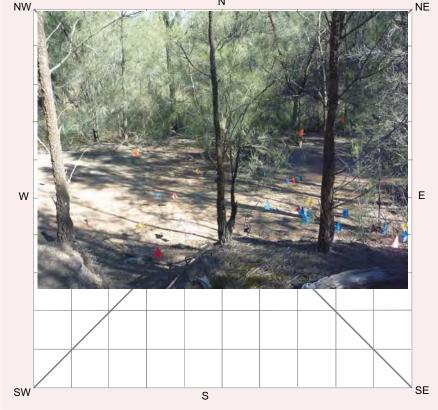
SE

NPWS Aboriginal Site Recording Form - Site Information page 3 **General Site Information Features Closed Site Open Site** 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition **Site Orientation** V N-S Boulder Boulder 3. Art Wind erosion Sandstone platform NE-SW 4. Artefact Water erosion Silica gloss E-W 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South √ 15. Potential Archaeological Deposit Other platform South West

Site Plan Indicate scale, boundaries of site, features

West

North West



Site Dimensions										
Closed Site Dimensions (m) Internal length Internal width Shelter height										
	Internal length									
	Internal width									
	Shelter height									
	Shelter floor area									
Open Site D	imensions (m)									
25	Total length of visible site									
10	Average width of visible site									
250	Estimated area of visible site									
	Length of assessed site area									

16. Stone Quarry

19. Modified Tree

20. Water Hole

18. Stone Arrangement

17. Shell

NPWS Aboriginal Site R	Recording	j Forn	n - Si	te Int	erp	retat	ion	an	J C	on	nm	un	ity	S	tat	em	en	ıt	р	age	4
Aboriginal Community Interp	pretation au	nd Man	agem	ent Re	com	men	datio	ns													
Aboriginal Community interp	protation ai	ia man	agem		.0011		uutic	7113													
																					-
																					-
																					_
																					-
	-																				_
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																					_
Preliminary Site Assess																					
Site Cultural & Scientific An																					
MTW-526 was located along																					<u> </u>
bank and a large flat lying are																					_
objects. The site consisted or																					
from quartz, dolerite and trac																					
water flow which de-stabilise	ed part of site	e. A nu	ımber	of con	joinir	ng arte	efact	s we	re i	der	ntifi	ed.	MT	W-	520	6 ex	ten	dec	25	me	tres
in a north west to south east	axis and wa	as 10 m	etres	wide.	The F	PAD a	rea v	was	defi	ne	d b	y fla	tlyi	ng	inta	act /	A h	oriz	on s	soils	<u>in</u> a
terraced area. The PAD was	s located to	the nor	th and	east o	of the	expo	sed	ero	led	cre	ek	ban	k a	nd	art	efac	cts	cou	ld b	e cle	<u>ea</u> rly
identified eroding out of the s	soils on the	souther	n edg	e of th	e teri	race.															
																					_
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This section should only be fill	led in by the	Endor	sees												,						
Endorsed by: Know	rledge Holde	er 🔲	Nomi	nated ¹	Trust	ee	I	Vati	e T	itle	Н	olde	٢		С	omr	nur	nity	Cor	sen	sus
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Address																					
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Attachments (No.)	Comme	1115																			
A4 location map																					-
B/W photographs																					-
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Site plans, drawings																					
Site plans, drawings Recording tables																					_
Recording tables																					<u>-</u>
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NPWS FEATURE RECORDING FORM - ARTEFACT page 1								
Site I.D.	Site Name MTW 526							
First recorded date 24/07/2013								
No. of instances 61								
Recorded by JH								
Yes No Stone artefacts only Yes								
165	Percentage of Non-stone Artefacts to Percentage of Sto	one Artefacts						
Artefacts collected No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-8	9% 90-100%						
Permit issued No	0-9%							
Feature Context & Condition Sca	tter No. Easting Northing							
Density	Dimensions	Yes No						
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ						
		Stratified						
Feature Condition General Cond	dition Recommended Action							
Name and North and	Boardwalk	evegetation						
Very good Weathers	Fencing	gnage						
Good Vehicle d	Closure to public Sc	oil erosion control						
	vater wash Continued inspection Tra	ack closure/re-routing						
Fire dam	age —	dditional recording						
Erosion	Expert assessment	3						
Stock da	mage Meeting with land manager							
Exposed	archaeological material							
Feature Plan (Indicate scale, loca	NE							
	Feature Environment	(Complete when feature environment differs to site environment, use attributes from cover card, p. 2)						
	Lan	d form						
	Lan	d form unit						
	Slop	pe						
	Veg	getation						
W IFRAO WAR	Land	d use						
V	Water							
	Distance to permanent water	er source metres						
	Distance to temporary water	r source metres						
	Name of nearest permanent	water source						
	Name of the state	ataa						
	Name of nearest temporary	water						
	SE							
SW	9E							

NPWS	S FEATUR	RE	RECO	RDIN	IG TABL	.E - A	RTEFA	CT					ра	ige 2
					5	Stone	Artefa	ct						SS
Instance No.	Recording Date		rtefact Iaterial	Arte	fact Type		form face	Platform ⁻	Гуре	Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
2	24/07/2013			Core										
23	24/07/2013	Mu	dstone	Flake										
29	24/07/2013			Flake										
1	24/07/2013													
1	24/07/2013			Core										
1	24/07/2013			Flake										
1	24/07/2013	Bas	alt	Flake										
					0.1	_		_						(0
					Oti	ner A	rtefact	Type				£ Œ	- -	Thickness (mm)
Instance No.	Recordin	ıg	Artefa		Artefact	Type			Des	cription		Length (mm)	Width (mm)	ickr (m.
	Date		Mater		6								≥ ج	É
1	24/07/2013		Volcanic		Core									
1	24/07/2013		Tuff		Flake									
1	24/07/2013		Mudstor	ie	Flake Scra	per								
Matau	:-1			Λ4	fact Dags	- ul 41	_			Nathara Carta	. Та	rminat	ion	
Mater Basalt	iai	Cle	ar glass	Arte	efact Desc	criptio Flake				Platform Surfac		erminat ather	ion	
Chert		Cer	ramic	Anvil		Flake	d piece		F	lake scar	Hir	nge		
Fine gra Granite	ained siliceous		can	Axe Back	ed blade	Hamr Manu	nerstone port			More than one flake aceted		ep itrepasse		
Quartz Quartzit	to	Wir Nai		Blade		Milling Morta	g slab			Ground Indeterminate	Bip	oolar		
Sandsto	one	But	ton	Core	tool	Mulle	r			Bipolar				
Silcrete Green o		She Bor		Cyclo	on I fragment	Nucle Pirri	ar tool							
Amber	glass	Wo		Elou	a	Proxi	mal fragme	ent		Platform Type		ross Se	ection	
Amethy	st glass	Res	sin	Flake)	Tula Other	· diagnosti	c type	Ė	ocal		gh/strong gh/weak		
						Modif Unwo	ied			hattered ndeterminate		w/weak egular		
						Oliwc	ikeu			Bipolar		ogului		
Commi	oonto:													
Comm	nems:													





Office Use Only Site Number	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address	
Phone number Fax Fax	
Title Surname First Name Initials	
Title Surname First Name Initials	Client on
	system
Organisation Address	
Address	
Phone number Fax Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 2 7	
Easting 3 2 1 8 1 0 Northing 6 3 8 5 2 3 7 AGD/GDA GDA	
Mapsheet B U L G A 9 1 2 3 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Primary Recorder	
Title Surname First Name Initials M R H I L L J J E R E M Y	
	G.II.
Organisation R P S	Client on system
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 24/07/2013	

SW

SE

SE

W IFRAO (187)

S

Site Plan Indicate scale, boundaries of site, features

Site Dime	nsions
Closed Site	Dimensions (m)
	Internal length Internal width
	Shelter height
	Shelter floor area
Open Site D	Dimensions (m)
	Total length of visible site
5 0	Average width of visible site
2500	Estimated area of visible site
	Length of assessed site area

20. Water Hole

NPWS Aboriginal Site	Recording Form - Site Interpretation and Community Statement page
Aboriginal Community Inte	erpretation and Management Recommendations
thoriginal Community into	siprotation and management recommendations
Preliminary Site Asse	
Site Cultural & Scientific A	Analysis and Preliminary Management Recommendations
This site was located on to	the south west of a modified drainage channel/runoff area that separated it from MTW 526 a
was situated on a north fac	cing slope. It consists of 83 artefacts and is to the west of an unnamed tributary of Loders Cre
Some of the artefacts were	e eroding out of the root systems of Casuarina trees. MTW 527 exhibited signs of inundation
was split into two clusters.	One cluster was located in the runoff area and consisted of primarily mudstone artefacts. The
second cluster was based	on the knoll and consisted primarily of silcrete artefacts. A large portion of these artefacts we
eroding from the knoll.	
	Elladia hasha Fodansaa
This section should only be	
_	owledge Holder
Title	Surname First Name Initials
Organisation	
Address	
Phone number	Fax Fax
Attachments (No.)	Comments
A4 location map	
B/W photographs	
Colour photographs	
Slides	
Aerial photographs	
Site plans, drawings	
Recording tables	
Other	
Feature inserts-No.	
I calule macha-ivo	

NPWS FEATURE RECORD	DING FORM - ARTEFACT	page 1
Site I.D.	Site Name MTW 527 Importance	
First recorded date 24/07/2013		
No. of instances 83		
Recorded by JH		
Yes No Stone artefacts only Yes	Percentage of Non-stone Artefacts to Percentage of Stone	Artofacts
Artefacts collected No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89%	
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89%	90-100%
Feature Context & Condition Sca	tter No. 1 Easting Northing	
Density	Dimensions	Yes No
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ Stratified
Feature Condition General Cond	dition Recommended Action	
Very good Weathere	Boardwalk Reve	getation
Good Vehicle d	Fencing	age
	Closure to public Soil e	erosion control
	vater wash Continued inspection Track	c closure/re-routing
Fire dam		ional recording
Erosion	Expert assessment	· ·
Stock da	mage Meeting with land manager	
Exposed	archaeological material	
Feature Plan (Indicate scale, loca	tion of instances)	
N W	NE Feature Environment (Co	emplete when <i>feature</i> environment
	diffe	ers to site environment, use attributes n cover card, p. 2)
	Land for	orm
	Land for	orm unit
	Slope	
	Vegeta	ation
W	Land u	se
	Water	
	Distance to permanent water se	ourcemetres
	Distance to temporary water so	ource metres
	Name	
	Name of nearest permanent wa	ater source
	Name of nearest temporary wa	ter
SW	SE	

NPWS	S FEATUR	RE RECO	RDING TABI	E - ARTEFA	ACT				ра	ige 2
			(Stone Artefa	ct					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-17	24/07/2013		Flake							
18	24/07/2013		Core	Multi Platform						
19	24/07/2013	Mudstone	Core	Single Platform						
20-21	24/07/2013		Core	Multi Platform						
22 23-83	24/07/2013 24/07/2013		Flake Tool Flake							
Instance No.	Recordin Date	g Artefa Mate	Ot act Artefact	her Artefact Type		cription		Length (mm)	Width (mm)	Thickness (mm)
Material Basalt Clear glass Adze Chert Ceramic Anvil Fine grained siliceous Porcelain Axe Granite Tin can Backed blade Quartz Wire Blade Quartzite Nail Core Sandstone Button Core tool Silcrete Shell Cyclon Green glass Bone Distal fragment Amber glass Wood Eloura Amethyst glass Resin Flake			ription Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool Pirri Proximal fragm Tula Other diagnosti Modified Unworked	ent F	Platform Surface Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar Platform Type N Focal Indeterminate Bipolar	Fei Hir scar Ste Ou Bip CI Hig Hig Lo				
Comm	nents:									

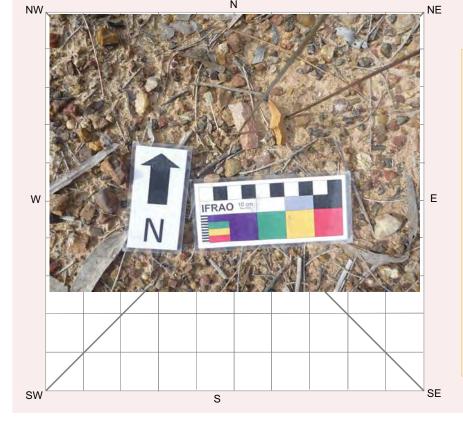




Office Use Only	
Site Number	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Information Access	055
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation Organisation	system
Address	
Phone number Fax	
Knowledge Holder	
Title Surname First Name Initials	
	Client on system
Organisation Organisation	
Address	_
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 2 8	
Easting 3 2 1 7 9 2 Northing 6 3 8 5 2 0 0 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Cirio registration	
Primary Pagardar	
Primary Recorder Title Surname First Name Initials	
MR HILL J JEREMY	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 24/07/2013	

	Gene	eral	Site Information	Features			
Clo	sed Site			Open Site		1. Aboriginal Ceremony & Dreaming	
Shelter/Cave Formation Rock Surface Condition			Site Orientation		2. Aboriginal Resource & Gathering		
	Boulder		Boulder	✓ N-S		3. Art	
	Wind erosion		Sandstone platform	NE-SW	✓	4. Artefact	
	Water erosion		Silica gloss	E-W		5. Burial	
	Rock collapse		Tessellated	SE-NW	6. Ceremonial Ring		
			Weathered	eathered N/A 7. Conflict			
			Other platform			8. Earth Mound	
Cor	dition of Ceiling	She	lter Aspect			9. Fish Trap	
	Boulder		North			10. Grinding Groove	
	Sandstone platform		North East			11. Habitation Structure	
	Silica gloss		East			12. Hearth	
	Tessellated		South East			13. Non Human Bone & Organic Material	
	Weathered		South			14. Ochre quarry	
	Other platform		South West			15. Potential Archaeological Deposit	
			West			16. Stone Quarry	
			North West			17. Shell	
						18. Stone Arrangement	
						19. Modified Tree	
						20. Water Hole	

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions							
Closed Site Dimensions (m)							
	Internal length						
	Internal width						
	Shelter height						
	Shelter floor area						
Open Site D	imensions (m)						
25	Total length of visible site						
5	Average width of visible site						
125	Estimated area of visible site						
	Length of assessed site area						

Aboriginal Community Interpretation and Management Recommendations								
Preliminary Site Assessment								
Site Cultural & Scientific Analysis and Preliminary Management Recommendations								
MTW-528 was a moderate sized artefact scatter of 14 artefacts located on the surface of an eroded creek bank. This								
artefact scatter consisted of 12 silcrete artefacts and two quartz artefacts. There was no evidence of mudstone artefacts at								
MTW-528. Maximum site density was five artefacts per square metre. This artefact scatter extends 25 metres on a north								
south axis and is approximately five metres wide. Gravel was noted in and near this artefact scatter and the site was in a								
highly disturbed context.								
This section should only be filled in by the Endorsees								
This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments Attachments (No.) Comments								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments A4 location map B/W photographs Colour photographs								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs Colour photographs Slides								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments A4 location map B/W photographs Colour photographs Slides Aerial photographs								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables								
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings								

NPWS FEATURE RECORDING FORM - ARTEFACT	page 1							
Site I.D. Site Name MTW 528 Importance								
First recorded date								
No. of instances 14								
Recorded by JH								
Yes No Stone artefacts only Yes Percentage of Non-stone Artefacts to Percentage of Stone Artefacts								
Artefacts collected No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%								
Permit issued No 0-9%								
Feature Context & Condition Scatter No. Easting Northing								
Density Dimensions	Yes No							
(Artefact count per square metre) Length (m) Width (m) Depth (m) Stratified								
Feature Condition General Condition Recommended Action								
Boardwalk Revegetation								
Very good Weathered Fencing Signage								
Good Vehicle damage Closure to public Soil erosion contr	·ol							
Poor Surface water wash								
Fire damage Continued inspection Track closure/re-	-							
Erosion Fire hazard reduction Additional recording	ing							
Stock damage Expert assessment								
Exposed archaeological material Meeting with land manager								
Feature Plan (Indicate scale, location of instances) N Feature Environment (Complete when feature from cover card, p. 2) Land form Land form unit Slope Vegetation Land use Water Distance to permanent water source Distance to temporary water source Name of nearest permanent water source Name of nearest temporary water								
SW SE								

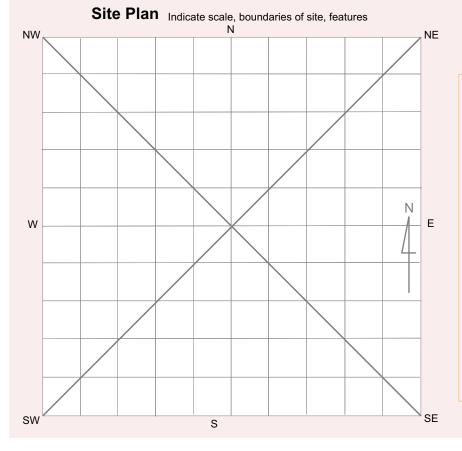
NPWS FEATURE RECORDING TABLE - ARTEFACT page 2											
Stone Artefact											
Instance No.	Recording Date	Artefact Material	Artefact Type	Platforr Surfac		Type T	ermination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-11	24/07/2013	Silcrete	Flake								
12	24/07/2013		Core								
13-14	24/07/2013	Quartz	Flake								
			Oth	ner Arte	fact Type						ess (
Instance	Recordin			Туре		Descri	iption		Length (mm)	Width (mm)	Thickness (mm)
No.	Date	Mate	rial						ے ت	≥ 5	Ę)
Mater	ial		Artefact Desc	ription		Pla	tform Surfac	e Te	rminat	ion	
Basalt		Clear glass Ceramic	Adze Anvil	Flake tool		Cort		Fea	ather		
	ained siliceous	Porcelain	Axe	Flaked pie	tone	More	e than one flake		p		
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling sla		Gro			trepasse olar		
Quartzit Sandsto		Nail Button	Core Core tool	Mortar Muller		Inde Bipo	eterminate olar				
Silcrete Green g		Shell Bone	Cyclon Distal fragment	Nuclear to Pirri	ool						
Amber (glass	Wood Resin	Eloura Flake	Proximal f	fragment	Pla W	atform Type		ross Se gh/strong	ection	
Amouny	ot glass	11001	ridito		gnostic type	Foc Stha	al attered	Hig	gh/weak w/weak		
				Unworked	l	₽nde	eterminate		egular		
						Bipo	UIdI				
Comments:											





Office Use Only							
Site Number							
Date received/ Date entered into system/ Date catalogued/							
Entered by (I.D.)							
Information Access	Office Use						
Gender/male Gender/female Location restriction General restriction No access							
For Further Information Contact:							
Nominated Trustee							
Title Surname First Name Initials							
	Client on						
Organisation Organisation	system						
Address							
Phone number Fax							
Knowledge Holder							
Title Surpame First Name Initials							
	Client on system						
Organisation Organisation							
Address	_						
Aboriginal Heritage Unit or Cultural Heritage Division Contacts							
Geographic Location							
Site Name M T W 5 2 9							
Easting 3 2 1 7 3 0 Northing 6 3 8 5 1 8 7 AGD/GDA GDA							
Mapsheet B U L G A 9 1 3 2 4 S							
Zone 56 Location Method Differential GPS							
Other Registration							
Carlot Proglotication							
Primary Recorder							
Title Surname First Name Initials							
MR HILL J JEREMY							
Organisation R P S	Client on						
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system						
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4							
Date recorded 24/07/2013							

General Site Information Features Closed Site Open Site 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition **Site Orientation** V N-S Boulder Boulder 3. Art Wind erosion Sandstone platform NE-SW 4. Artefact Water erosion Silica gloss E-W 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South 15. Potential Archaeological Deposit Other platform South West 16. Stone Quarry West 17. Shell North West 18. Stone Arrangement 19. Modified Tree 20. Water Hole



Site Dimensions								
Closed Site Dimensions (m)								
	Internal length							
	Internal width							
	Shelter height							
	Shelter floor area							
Open Site D	imensions (m)							
10	Total length of visible site							
15	Average width of visible site							
150	Estimated area of visible site							
	Length of assessed site area							

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement page 4							
Aboriginal Community Interpretation and Management Recommendations							
Preliminary Site Assess	sment						
•	alysis and Preliminary Management Recommendations						
MTW-529, an isolated artefac	ct site with one artefact, was in a highly eroded area that showed evidence of extensiv	ve sheet					
wash and rill erosion. The sit	ite was located on the boundary of the Bulga and MTW mines. The area had been						
revegetated with grasses and	d Casuarina trees to the east. This site had a south east facing aspect and was locate	ed on an					
upper bank of the first order t	tributary of Loder Creek. Both GSE and GSV were high in this area.						
-							
This coeffice about a cuty be fill	lad in butter Endamana						
This section should only be filled							
	rledge Holder Nominated Trustee Native Title Holder Community Co						
Title	Surname First Name Initials	; 7					
Organisation							
Address							
Phone number	Fax						
Attachments (No.)	Comments						
A4 location map							
B/W photographs							
Colour photographs							
Slides							
Aerial photographs							
Site plans, drawings							
Recording tables							
Other							
Feature inserts-No.							

NPWS FEATURE RECORDING FORM - ARTEFACT page 1									
Site I.D. Site Name MTW 529 Importance									
First recorded date 24/07/2013									
No. of instances 1									
Recorded by JH									
Yes No Stone artefacts only Yes Percentage of New stone Artefacts to Bercentage of Stone Artefacts									
Artefacts collected No									
Permit issued No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100% 0-9%									
Feature Context & Condition Scatter No. Easting Northing									
Density Dimensions	Yes No								
(Artefact count per square metre) Length (m) Width (m) Depth (m)									
Stratified									
Feature Condition General Condition Recommended Action									
Boardwalk Revegetation									
Very good Weathered Fencing Signage									
Good Vehicle damage Closure to public Soil erosion con	trol								
Poor Surface water wash Continued inspection Track closure/re									
Fire damage	_								
Erosion	aing								
Stock damage Expert assessment									
Exposed archaeological material Meeting with land manager									
Feature Plan (Indicate scale, location of instances) N NE NE NE NE NE NE NE NE NE									
W Feature Environment (Complete when feature differs to site environment from cover card, p. 2)									
Land form									
Land form unit									
Slope									
Vegetation									
W Land use									
Water									
Distance to permanent water source	metres								
	metres								
Distance to permanent water source									
Distance to permanent water source									
Distance to permanent water source Distance to temporary water source									
Distance to permanent water source Distance to temporary water source									
Distance to permanent water source Distance to temporary water source Name of nearest permanent water source									

NPWS FEATURE RECORDING TABLE - ARTEFACT page 2										
Stone Artefact										
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Mudstone	Flake							
Inotonoo		A		ner Artefact –				를 (c)	도 🗢	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	Phick (m
Mater	ial		Artefact Desc	rintion		Platform Surfac	o Te	rminat	ion	
Basalt Chert	ained siliceous de one	Clear glass Ceramic Porcelain Tin can Wire Nail Button Shell	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool	(F N F (Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar	Fea Hir scar Ste Ou	ather ige	1011	
Green g Amber g Amethy	glass glass	Bone Wood Resin	Distal fragment Eloura Flake	Pirri Proximal fragm Tula Other diagnosti Modified Unworked	c type	Platform Type W Focal Shattered	Hiç Hiç Lo	ross Se gh/strong gh/weak w/weak egular	ection	
						Bipolar				
Comments:										

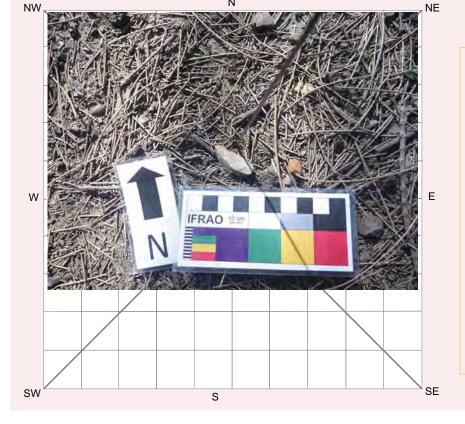




Date received	Office Use Only								
Entered by (I.D.) Information Access Gender/fiemale	Site Number								
Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials	Date received/ Date entered into system/ Date catalogued/								
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Entered by (I.D.)								
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Address Phone number Fax Knowledge Holder Title Surname First Name Initials Client on system Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 0 Society Soc	Information Access								
Nominated Trustee Title Surname First Name Initials Client on system Address Phone number Title Surname First Name Initials Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 7 5 6 Northing 6 3 8 5 2 3 2 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4									
Title Suname First Name Initials Client on system Address Phone number Knowledge Holder Title Suname First Name Initials Client on system Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 0 Easting 3 2 1 7 5 6 Northing 6 3 8 5 2 3 2 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Suname First Name Initials Organisation First Name Initials Client on system Frist Name Initials Client on system Client on system Phone number 2 (4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	For Further Information Contact:								
Client on system Client on system Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 0 Easting 3 2 1 7 5 6 Northing 6 3 8 5 2 3 2 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Organisation FPS Other Registration Client on system	Nominated Trustee								
Organisation Address Phone number Fax Knowledge Holder Title Surname First Name Initials Organisation Address Description Address Description Client on system Organisation Aboriginal Heritage Unit or Cultural Heritage Division Contacts Description D	Title Surname First Name Initials								
Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 7 5 6 Northing 6 3 8 5 2 3 2 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Organisation R P S Other Registration Client on system Client on system Organisation Contacts Client on system Organisation Client on system Primary Recorder Title Surname First Name Initials M R H I L L J J E E M Y Client on system Client on system Client on system Phone number 2 4 9 1 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4		Client on							
Phone number Knowledge Holder Title Surname First Name Initials Client on system Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 7 5 6 Northing 6 3 8 5 2 3 2 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J J E R E M Y Organisation R P S I J E R E M Y Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Organisation	system							
Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 0 Easting 3 2 1 7 5 6 Northing 6 3 8 5 2 3 2 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y Organisation Address PO B D X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Address								
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Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 0 Easting 3 2 1 7 5 6 Northing 6 3 8 5 2 3 2 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y Organisation R P S Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Knowledge Holder								
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W		Oliant an							
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 0									
Address	Organisation								
Phone number									
Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name									
Client on system									
Site Name M T W 5 3 0	Aboriginal heritage officer cultural heritage division contacts								
Site Name M T W 5 3 0									
Primary Recorder	Geographic Location								
Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder	Site Name M T W 5 3 0								
Title Surname First Name Initials MR HILL JEREMY Organisation RPS Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Easting 3 2 1 7 5 6 Northing 6 3 8 5 2 3 2 AGD/GDA GDA								
Title Surname First Name Initials MR HILL JEREMY Organisation RPS Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Mapsheet B U L G A 9 1 3 2 4 S								
Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 0 Fax 2 4 9 6 1 6 7 9 4 Initials									
Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 0 Fax 2 4 9 6 1 6 7 9 4 Initials	Other Registration								
Title Surname First Name Initials M R H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Other Registration								
Title Surname First Name Initials M R H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4									
Title Surname First Name Initials M R H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4									
MR HILL JEREMY Organisation RPS Client on system Address POBOX 428 HAMILTON NSW 2303 Phone number 249404200 Fax 249616794									
Organisation R P S Client on system Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4									
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4		Client on							
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4									
h. 1077 10040									
	husz/1949								

General Site Info	Features			
Closed Site	Open Site	1. Aboriginal Ceremony & Dreaming		
Shelter/Cave Formation Rock Surface	Condition Site Orientation	2. Aboriginal Resource & Gathering		
Boulder Boulder	N-S	3. Art		
Wind erosion Sandston	e platform NE-SW	4. Artefact		
Water erosion Silica glos	ss E-W	5. Burial		
Rock collapse Tessellate	ed ✓ SE-NW	6. Ceremonial Ring		
Weathere	ed N/A	7. Conflict		
Other pla	tform	8. Earth Mound		
Condition of Ceiling Shelter Aspe	ct	9. Fish Trap		
Boulder North		10. Grinding Groove		
Sandstone platform North East	st	11. Habitation Structure		
Silica gloss East		12. Hearth		
Tessellated South Ea	st	13. Non Human Bone & Organic Material		
Weathered South		14. Ochre quarry		
Other platform South We	est	15. Potential Archaeological Deposit		
West		16. Stone Quarry		
North We	st	17. Shell		
		18. Stone Arrangement		
		19. Modified Tree		
		20. Water Hole		

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions							
Closed Site Dimensions (m)							
	Internal length						
	Internal width						
	Shelter height						
	Shelter floor area						
Open Site D	imensions (m)						
25	Total length of visible site						
12	Average width of visible site						
300	Estimated area of visible site						
	Length of assessed site area						

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement	page 4
Aboriginal Community Interpretation and Management Recommendations	
Preliminary Site Assessment	
Site Cultural & Scientific Analysis and Preliminary Management Recommendations	
MTW-530, comprising four artefacts but with a maximum density of one artefact per square metre was located in	an area
that had been revegetated with Casuarina trees with a grassed area to the west. The site was at the base of a ge	
slope. This site included three mudstone artefacts (two flakes and one core) and one silcrete flake. This scatter	
encompasses an area of approximately 25 metres by 12 metres area at the base of the Casuarina trees. This site	e had a
south east facing aspect with moderate GSE and the high GSV.	
This section should only be filled in by the Endorsees	
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Communit	onsensus
Title Surname First Name Initials	S
Organisation Organisation	
Address	
Phone number Fax	
Attachments (No.) Comments	
A4 location map	
B/W photographs —	
Colour photographs —	
Slides	
Aerial photographs	
Site plans, drawings	
Recording tables	
Other	
Feature inserts-No.	

NPWS FEATURE RECOR	DING FORM - ARTEFACT	page 1
Site I.D.	Site Name MTW 530 Importance	
First recorded date 24/07/2013		
No. of instances 4		
Recorded by JH		
Yes No Stone artefacts only Yes	Deventors of Non-stone Artefacts to Deventors of Stone	o Artofooto
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone	
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100%
Feature Context & Condition Sca	tter No. Easting Northing	
Density	Dimensions	Yes No
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ Stratified
Feature Condition General Con	dition Recommended Action	
Very good Weathere	Boardwalk Reve	egetation
Good Vehicle of	Fencing	age
	Closure to public Soil 6	erosion control
	water wash Continued inspection Track	k closure/re-routing
Fire dam		tional recording
Erosion	Expert assessment	J
Stock da	mage Meeting with land manager	
Exposed	archaeological material	
Feature Plan (Indicate scale, local	tion of instances)	
N W	NE Feature Environment (CA	omplete when feature environment
	diff	fers to site environment, use attributes m cover card, p. 2)
	Land f	orm
	Land f	orm unit
	Slope	
	Vegeta	ation
W	Land u	ıse
	Water	
	Distance to permanent water s	ource metres
	Distance to temporary water so	ource metres
	Name of a second second	otor ogures
	Name of nearest permanent w	aler source
	Name of nearest temporary wa	ater
SWS	SE	

NPWS	S FEATUR	RE RECO	RDING TABI	E - ARTEF	ACT				pa	age 2
			•	Stone Artef	act					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-3	24/07/2013	Mudstone	Flake							
4	24/07/2013	Silcrete	Flake							
			Ot	her Artefac	t Type			£		Thickness (mm)
Instance No.	Recordin			Туре	Des	scription		Length (mm)	Width (mm)	ickn (mr
NO.	Date	Mate	Tai						5 5	É
Mater	ial		Artefact Des	cription		Platform Surfac	ce Te	rminat	ion	
Basalt Chert		Clear glass Ceramic	Adze Anvil	Flake tool Flaked piece		Cortex Flake scar		ather nge		
Fine gra Granite	ained siliceous	Porcelain Tin can	Axe Backed blade	Hammerstone Manuport		More than one flake Faceted	scar Ste			
Quartz		Wire Nail	Blade Core	Milling slab Mortar		Ground Indeterminate		oolar		
Sandsto	one	Button Shell	Core tool Cyclon	Muller Nuclear tool		Bipolar				
Green g	glass	Bone	Distal fragment Eloura	Pirri		Platform Type	C	ross Se	ection	
Amber s		Wood Resin	Flake	Proximal fragi Tula		W Focal	Hiç	gh/strong		
				Other diagnos Modified	olio typo	\$ hattered	Lo	gh/weak w/weak		
				Unworked		Indeterminate Bipolar	Irre	egular		
Comn	nents:									





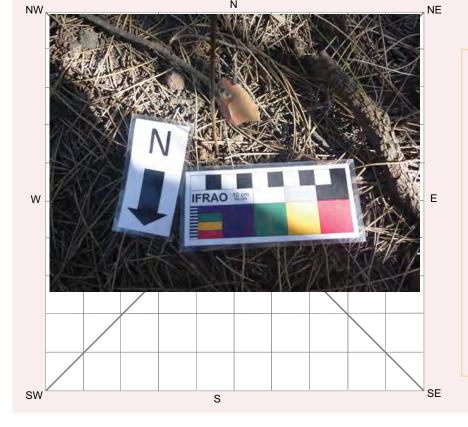
Office Use Only	
Site Number	
Date received/ Date entered into system/ Date catalogued/	
Entered by (I.D.)	
Information Access	055
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address	
Phone number Fax	
Knowledge Holder	
Title Surname First Name Initials	
	Client on system
Organisation Organisation	
Address	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 3 1	
Easting 3 2 1 7 8 0 Northing 6 3 8 5 2 5 7 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Carol Regionation	
Primary Recorder	
Title Surname First Name Initials	
MR HILL JEREMY	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 24/07/2013	

NPWS Aboriginal Site Recording Form - Site Information

page 3

Genera	al Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation Ro	ck Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling S	nelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions							
Closed Site	Closed Site Dimensions (m)						
	Internal length						
	Internal width						
	Shelter height						
	Shelter floor area						
Open Site D	imensions (m)						
5	Total length of visible site						
5	Average width of visible site						
25	Estimated area of visible site						
	Length of assessed site area						

NPWS Aboriginal Site Re	ecording Form -	- Site Interp	oretation	and Comm	unity Statement	page 4
Aboriginal Community Interpr	retation and Manac	rement Reco	mmendatio	ons		
Aboriginal Community interpre	ctation and manag	jement Reco	michael	J113		
Preliminary Site Assessr						
Site Cultural & Scientific Anal						
MTW-531, an isolated find site						· · · · · · · · · · · · · · · · · · ·
consisted of one mudstone flal					ated with regrown C	<u>asuarina tre</u> es
and leaf litter and grasses redu	uced GSV in this are	ea. GSE was	also mode	rate.		
This section should only be filled	d in by the Endorse	es				
Endorsed by: Knowle	edge Holder 🔲 No	ominated Trus	stee 🗌	Native Title Ho	lder Communi	ty Consensus
Title	Surnam	е		First Na	me Ir	nitials
Organisation						
Address						
Phone number			Fax]
Attachments (No.)	Comments					
A4 location map						
B/W photographs						
Colour photographs						
Slides						
Aerial photographs						
Site plans, drawings						
Recording tables						
Other Feature inserts-No.						

NPWS FEATURE RECORD	ING FORM - ARTEFACT	page 1
Site I.D.	Site Name MTW 531	
First recorded date 24/07/2013		
No. of instances 1		
Recorded by JH		
Yes No Stone artefacts only Yes	Development of New stone Artefacts to Development of Stone	Artofooto
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone	
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-9%	90-100%
Feature Context & Condition Sca	tter No. Easting Northing	
Density	Dimensions	Yes No
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ
		Stratified
Feature Condition General Cond	dition Recommended Action	
	. Boardwalk Reveg	getation
Very good Weathere	Fencing	ge
Good Vehicle d	amage Closure to public Soil er	rosion control
Poor Surface v	vater wash	closure/re-routing
Fire dama	age — — — — — — — — — — — — — — — — — — —	onal recording
Erosion		mai recording
Stock dar	mage Expert assessment	
Exposed	archaeological material Meeting with land manager	
Feature Plan (Indicate scale, local		
W	differ	nplete when <i>feature</i> environment sto <i>site</i> environment, use attributes
	from	cover card, p. 2)
	Land for	rm
	Land for	
		THE GIRL
	Slope	
	Vegetat	
W	N E Land us	e
	Water	
	Distance to permanent water so	ource metres
	Distance to temporary water sou	urce metres
	Name of nearest permanent wa	ter source
	Name of nearest temporary wat	er
sw	SE	

NPWS	FEATUR	RE RECO	RDING TABL	.E - ARTEFA	ACT				ре	ige 2
			5	Stone Artefa	ict					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Mudstone	Flake							
Inotonoo		A		ner Artefact –				를 (c)	도 🗢	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	Phick (m
Mater	ial		Artefact Desc	rintion		Platform Surfac	o Te	rminat	ion	
Basalt Chert	ained siliceous de one	Clear glass Ceramic Porcelain Tin can Wire Nail Button Shell	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool	(F N F (Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar	Fea Hir scar Ste Ou	ather ige	1011	
Green g Amber g Amethy	glass glass	Bone Wood Resin	Distal fragment Eloura Flake	Pirri Proximal fragm Tula Other diagnosti Modified Unworked	c type	Platform Type W Focal Shattered	Hiç Hiç Lo	ross Se gh/strong gh/weak w/weak egular	ection	
						Bipolar				
Comm	nents:									





Date received	Date received / / Date entered into system / Date catalogued / Entered by (I.D.) Information Access	
Entered by (I.D.) Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Title Surname First Name Initials Client on system Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Title Surname First Name Initials Other Registration Primary Recorder Title Surname First Name Initials Other Registration Client on system Corganisation AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Corganisation AGdress P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 AGD/GDA GDA Client on system	Entered by (I.D.) Information Access Office Us	
Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Sumame First Name Initials	Information Access Office Us	
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials	Office Us	
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Phone number Initial Surname First Name Initials Knowledge Holder Title Surname First Name Initials Client on system Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 IS Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Organisation Initials Organisation Contacts Client on system Initials Address P O B X 4 2 8 H A M I L T O N N S W 2 3 0 3		
Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Knowledge Holder Title Surname First Name Initials Client on system Address Phone number Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Again Agdress Other Registration Primary Recorder Title Surname First Name Initials Organisation Address Other Registration Client on system	Gender/male Cocation restriction No access	е
Title Sumame First Name Initials Organisation Address Phone number Knowledge Holder Title Sumame First Name Initials Client on system Address Phone number Organisation Address Phone number Fax Client on system Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Total Control Contro	For Further Information Contact:	
Client on system Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 2		
Organisation Address Phone number Knowledge Holder Fax	Title Surname First Name Initials	
Address Phone number Knowledge Holder		
Phone number Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 2 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Other Registration Client on system Cilent on system Cilent on system	Organisation syste	m l
Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 2 Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Other Registration Client on system Client on system Client on system Client on system	Address	ı
Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 2 Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	Phone number Fax Fax	
Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 2 Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	Knowledge Holder	
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 2 Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y Organisation R P S Other Registration Client on system	Title Surname First Name Initials	
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 2	Client	
Phone number		
Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 2 Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R M Y Organisation R P S Client on system		
Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 2		
Client on Site Name		
Site Name M T W 5 3 2	Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Site Name M T W 5 3 2		
Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA	Geographic Location	
Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3	Site Name M T W 5 3 2	
Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3	Easting 3 2 1 8 0 6 Northing 6 3 8 5 3 0 3 AGD/GDA GDA	
Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3	Mapsheet B U L G A 9 1 3 2 4 S	
Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3		
Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y	Other Registration	
Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3	Other registration	
Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address POBOX 428 HAMILTONNSW 2303 Client on system		
Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3	Driman, Dogardar	
MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3		
Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3		
Address POBOX 428 HAMILTON NSW 2303	Organisation R P S Client	on
	syste	
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
D4/07/0040		

General Site Information Features Closed Site Open Site 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition **Site Orientation** V N-S Boulder Boulder 3. Art Wind erosion Sandstone platform NE-SW 4. Artefact Water erosion Silica gloss E-W 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South 15. Potential Archaeological Deposit Other platform South West 16. Stone Quarry West 17. Shell North West 18. Stone Arrangement 19. Modified Tree 20. Water Hole

Site Plan Indicate scale, boundaries of site, features NE NE SW S SE SE

Site Dimensions								
Closed Site	Dimensions (m)							
	Internal length							
	Internal width							
	Shelter height							
	Shelter floor area							
Open Site D	imensions (m)							
5	Total length of visible site							
5	Average width of visible site							
25	Estimated area of visible site							
	Length of assessed site area							

NPWS Aboriginal Site Re	cording Form - Site Inter	page 4
Aboriginal Community Interpr	etation and Management Reco	mmendations
Preliminary Site Assess	nent	
Site Cultural & Scientific Ana	ysis and Preliminary Managen	nent Recommendations
MTW-532 consisted of one mi	dstone and one silcrete flake wit	h a maximum density of one artefact per square metre. Th
site extended five metres alon	g a north to south axis and had a	south facing aspect. MTW-532 was located in an exposed
area that was eroding downslo	pe and into the creek bed. The	artefacts were situated at the base of two trees which had
their root systems undercut by	erosion. Pebble laterite was not	ed on the surface of the exposed area. Animal tracks were
noted near MTW-532.		
-		
	– .	
This section should only be fille	In by the Endorsees	
-	dge Holder Nominated Trus	•
Title	Surname	First Name Initials
Organisation		
Address		
Phone number		Fax Fax
Attachments (No.)	Comments	
A4 location map		
B/W photographs		
Colour photographs		
Slides		
Aerial photographs		
Site plans, drawings		
Recording tables		
Other		
Feature inserts-No.		

NPWS FEATURE RECORD	DING FORM - ARTEFACT	page 1
Site I.D.	Site Name MTW 532	
First recorded date 24/07/2013	por.tail.oo	
No. of instances ²		
Recorded by ^{JH}		
Yes No Stone artefacts only Yes	Developtions of New Steves Autofacts to Developtions of Steve	a Artafaata
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone	
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100 %
Feature Context & Condition Sca	tter No. ¹ Easting Northing	
Density	Dimensions	Yes No
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ
		Stratified
Feature Condition General Cond	dition Recommended Action	
	Boardwalk	egetation
Very good Weather	Fencing	age
Good Vehicle d	amage	erosion control
Poor Surface v	vater wash	k closure/re-routing
Fire dama	age — — · · · · · · · · · · · · · · · · ·	tional recording
Erosion		lional recording
Stock da	mage Expert assessment	
Exposed	archaeological material Meeting with land manager	
Feature Plan (Indicate scale, local		
w	dif	omplete when <i>feature</i> environment fers to <i>site</i> environment, use attributes om cover card, p. 2)
		sere. sa.a, p. 2)
	Land f	orm
		form unit
	Slope	J dilit
		r.
	Veget	
W	N E Land	esu
	Water	
	Distance to permanent water s	source metres
	Distance to temporary water se	ource metres
	Name of nearest permanent w	ater source
	Name of nearest temporary wa	ater
SW	SE	

NPWS	S FEATUR	RE RECO	RDING TABL	E - ARTE	ACT				pa	age 2
			5	Stone Arte	fact					sse (
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Mudstone	Flake							
2	24/07/2013	Silcrete	Flake							
			011	A (C	· -					W
Instance	Danaudia			her Artefac				agt T	£ @	Thickness (mm)
No.	Recordin Date	ig Artefa Matei		Туре	Des	scription		Length (mm)	Width (mm)	Ä E
Mater	ial		Artofact Door	printion		Platform Surface	To	erminat	ion	
Basalt	ıaı	Clear glass	Artefact Des	Flake tool		Cortex	Fe	ather	.1011	
Chert Fine gra	ained siliceous	Ceramic Porcelain	Anvil Axe	Flaked piece Hammerston		Flake scar More than one flake	scar Ste			
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground		itrepasse oolar		
Quartzii Sandsto		Nail Button	Core Core tool	Mortar Muller		Indeterminate Bipolar				
Silcrete Green g		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri						
Amber Amethy	glass	Wood Resin	Eloura Flake	Proximal frag Tula		Platform Type W		ross Se gh/strong		
,e,	or glass			Other diagno	Juo typo	Focal Shattered	Hiç	gh/weak w/weak		
				Unworked		Indeterminate Bipolar		egular		
Comn	nents:									





Office Use Only	
Site Number	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation Organisation	system
Address	
Phone number Fax	
Knowledge Holder	
Title Surpame First Name Initials	
	Client on system
Organisation Organisation	
Address	_
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 3 3	
Easting 3 2 1 8 1 9 Northing 6 3 8 5 3 2 2 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Primary Recorder	
Title Surname First Name Initials	
MR HILL JEREMY	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 24/07/2013	

Gener	ral Site Information	Features	
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation R	ock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole

Site Plan Indicate scale, boundaries of site, features

W SE

Site Dimensions								
Closed Site	Dimensions (m)							
	Internal length Internal width Shelter height Shelter floor area							
Open Site Dimensions (m)								
10	Total length of visible site							
10	Average width of visible site							
100	Estimated area of visible site							
	Length of assessed site area							

NPWS Aboriginal Site R	cording Form - Site In	terpretation and Communit	ty Statement page 4
Aboriginal Community Interp	etation and Management F	Recommendations	
Preliminary Site Assess	ment		
Site Cultural & Scientific Ana	lysis and Preliminary Mana	agement Recommendations	
MTW-533 consisted of two sil	rete flakes and two mudstor	ne flakes with a maximum density o	f three artefacts per square
metre. This site was located	ղ a highly eroded area close	to the creek bank and the artefacts	were on the surface of the
clayey B horizon. Small sized	pebble laterite was noted in t	this exposure. Three of the artefac	ts were identified close to the
stump of a felled tree. MTW-5	33 was situated opposite a m	nodified drainage channel. MTW-5	33 extended approximately
2.5 metres over a small mour	.t		
This section should only be fille	d in by the Endersees		
-	dge Holder Nominated		Community Consensus
Title	Surname	First Name	Initials
Organisation			
Address			
Phone number		Fax Fax	
Attachments (No.)	Comments		
A4 location map			
B/W photographs			
Colour photographs			
Slides			
Aerial photographs			
Site plans, drawings			
Recording tables			
Other			
Feature inserts-No.			

NPWS FEATURE RECOR	DING FORM - ARTEFACT	page 1				
Site I.D. Site Name MTW 533 Importance						
First recorded date 24/07/2013						
No. of instances 4						
Recorded by JH						
Yes No Stone artefacts only Yes	Developting of New Stone Artefasts to Developting of Ston	o Artofooto				
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone					
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100%				
Feature Context & Condition Sca	tter No. Easting Northing					
Density	Dimensions	Yes No				
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ Stratified				
Feature Condition General Con	dition Recommended Action					
Very good Weathere	Boardwalk Reve	egetation				
Good Vehicle of	Fencing	age				
	Closure to public Soil	erosion control				
	water wash Continued inspection Trac	k closure/re-routing				
Fire dam		tional recording				
Erosion	Expert assessment	J				
Stock da	mage Meeting with land manager					
Exposed	archaeological material					
Feature Plan (Indicate scale, local	tion of instances)					
N W	NE Feature Environment (c	complete when feature environment				
	dif	ffers to site environment, use attributes om cover card, p. 2)				
	Land t	form				
	Land	form unit				
	Slope					
	Veget	ation				
W	N E Land	use				
	Distance to permanent water s	source metres				
	Distance to temporary water s	ource metres				
	Name of a second second	votor oourse				
	Name of nearest permanent w	aler source				
	Name of nearest temporary wa	ater				
SWS	SE					

NPWS	S FEATUR	RE RECO	RDING TABI	E - ARTE	FACT				pa	age 2
			(Stone Arte	fact					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-2	24/07/2013	Mudstone	Flake							
3-4	24/07/2013	Silcrete	Flake							
			01		· =					w
Instance	D P.	A 1.5		her Artefa –				# (c	£ @	Thickness (mm)
No.	Recordin Date	ig Artefa Matei		Туре	Des	scription		Length (mm)	Width (mm)	Hick T)
Mater Basalt	ial	Clear glass	Artefact Des Adze	cription Flake tool		Platform Surfactoritex		erminat ather	ion	
Chert Fine gra	ained siliceous	Ceramic	Anvil Axe	Flaked piece Hammerston		Flake scar More than one flake		nge ep		
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground	Ou	trepasse oolar		
Quartzit		Nail Button	Core Core tool	Mortar Muller		Indeterminate Bipolar				
Silcrete		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri		Біроіаі				
Green g	glass	Wood Resin	Eloura Flake	Proximal frag		Platform Type		ross Se		
Amethy	st glass	Resili	riake	Tula Other diagno	stic type	Focal \$hattered	Hiç	gh/weak w/weak		
				Modified Unworked		#ndeterminate		w/weak egular		
						Bipolar				
Comn	nents:									

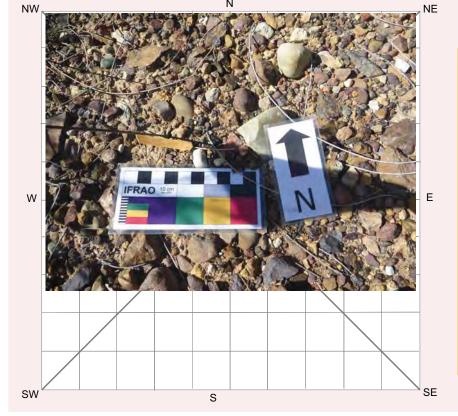




Date received	Date received Date entered into system Date catalogued Entered by (I.D.) Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	
Entered by (I.D.) Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Title Surname First Name Initials Client on system Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Title Surname First Name Initials Other Registration Primary Recorder Title Surname First Name Initials Other Registration Client on system Corganisation AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Corganisation AGdress P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 AGD/GDA GDA Client on system	Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	
Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Sumame First Name Initials	Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials	Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	,
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Phone number Initial Surname First Name Initials Knowledge Holder Title Surname First Name Initials Client on system Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 IS Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Organisation Initials Organisation Contacts Client on system Initials Address P O B D X 4 2 8 H A M I L T O N N S W 2 3 0 3	Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	
Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Knowledge Holder Title Surname First Name Initials Client on system Address Phone number Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Client on system Primary Recorder Title Surname First Name Initials M R H I L L J J E R E M Y AGD/GDA GDA Client on system	Nominated Trustee	
Title Sumame First Name Initials Organisation Address Phone number Fax Knowledge Holder Title Sumame First Name Initials Organisation Address Phone number Initials Organisation Address Phone number First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Total Control Contro		
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Organisation Address Phone number Knowledge Holder Fax	Title Sumame First Name minuals	
Address Phone number Knowledge Holder		
Phone number Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 4 A AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Other Registration Client on system Cilent on system Cilent on system	Organisation system	n
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Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 4 Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y Organisation R P S Other Registration Client on system	Title Surname First Name Initials	
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 4	Client	
Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 4 ABB AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Initials Client on system		
Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 4 Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R M Y Organisation R P S Organisation R P S Client on system		
Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 4 A AGD/GDA GDA Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S AGD/GDA GDA Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J J E R E M Y AGD/GDA GDA Client on system		
Geographic Location Site Name MTW 5 3 4 A AGD/GDA GDA Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S AGD/GDA GDA Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS JEREMY Client on system		
Site Name M T W 5 3 4	Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Site Name M T W 5 3 4		
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Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3	Site Name M T W 5 3 4	
Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3	Easting 3 2 1 7 9 6 Northing 6 3 8 5 3 3 1 AGD/GDA GDA	
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MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3		
Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3		
Address POBOX 428 HAMILTON NSW 2303	Organisation R P S Client	on
Dhara number 2 4 9 4 0 4 2 0 0 Fay 2 4 9 6 1 6 7 9 4	evetal	
Phone number 2 1 3 1 2 3 3 1 1 Fax 2 1 3 3 1 3 1 1 1 1 1	Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
D4/07/0040		

Current Land Tenure Public Public Dept.									-
✓ Private		No.		No.		-	网		
Primary report I.D. (I.D. Office Use only)									
RPS (2013) Aboriginal Cultural Heritage Assessment			差分		NAME OF THE OWNER, OWNE			5 AVV	
Bulga Coal Surface Operations - Mount Thorley	w			(B)		μ.		7	
Operations Ramp 22 Sedimentation Dam						未来			
								*	
				1	51				
				N.					

Site Plan Indicate scale, boundaries of site, features



Site Dimensions					
Closed Site Dimensions (m)					
	Internal length				
	Internal width				
	Shelter height				
	Shelter floor area				
Open Site D	limensions (m)				
12	Total length of visible site				
5	Average width of visible site				
60	Estimated area of visible site				
	Length of assessed site area				

20. Water Hole

NPWS Aboriginal Site	Recording Form - Site Interpretation and Community Statement page 4
Aboriginal Community Inte	erpretation and Management Recommendations
Aboriginal Community into	Apriciation and management recommendations
Preliminary Site Asse	
	Analysis and Preliminary Management Recommendations
	the upper bank of a highly modified drainage line in an exposed area with pebble laterite. One
	e blade and two flakes were identified at this site. MTW-534 has an easterly aspect and its site
· · · · · · · · · · · · · · · · · · ·	metres. This site sloped to the east. A modified drainage channel was located to the west and
the silcrete core was situat	ed on the edge of this channel. The other artefacts were spread across the slope.
This section should only be	filled in by the Endorsees
Endorsed by: Kno	wledge Holder Nominated Trustee Native Title Holder Community Consensus
Title	Surname First Name Initials
Organisation	
Address	
Phone number	Fax Fax
Attachments (No.)	Comments
A4 location map	
B/W photographs	
Colour photographs	
Slides	
Aerial photographs	
Site plans, drawings	
Recording tables	
Other	
Feature inserts-No.	

NPWS FEATURE RECOR	DING FORM - ARTEFACT	page 1				
Site I.D.	Site Name MTW 534 Importance					
First recorded date 24/07/2013						
No. of instances 4						
Recorded by JH						
Yes No Stone artefacts only Yes	Development of New States Autofasts to Development of State	a Autofaata				
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Ston					
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	6 90-100%				
Feature Context & Condition Scatter No. Easting Northing						
Density	Dimensions	Yes No				
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ Stratified				
Feature Condition General Con	dition Recommended Action					
Very good Weather	Boardwalk Reve	egetation				
Good Vehicle of	Fencing	age				
	Closure to public Soil erosion control					
	Water wash Continued inspection Track closure/re-routing					
	Fire damage Fire hazard reduction Additional recording					
Erosion	Expert assessment	J				
Stock da	mage Meeting with land manager					
Exposed	archaeological material					
Feature Plan (Indicate scale, local	ution of instances)					
N W	NE Feature Environment (c	complete when feature environment				
	dil	ffers to site environment, use attributes om cover card, p. 2)				
	Land t	form				
	Land	form unit				
	Slope					
	Veget	ation				
W	N E Land	use				
	Water Water					
	Distance to permanent water s	source metres				
	Distance to temporary water s	ource metres				
	Name of pageod pageons in	votor course				
	Name of nearest permanent w	rater source				
	Name of a constitution	otor				
	Name of nearest temporary wa	aler				
CIM	SE					
SW	JL					

Instance Recording Artefact Material Artefact Type Platform Surface Platform Type Termination Cross Section Platform Surface Platform Section Platform Platform Section Platform Platform Section Platform Platfor
1 24/07/2013 Mudstone Blade
1 24/07/2013 Mudstone Blade
3-4 24/07/2013 Mudstone Flake
Other Artefact Type Instance No. Date Material Artefact Type Description Other Artefact Type Material Description Other Artefact Type Description Other Artefact Type Description
Other Artefact Type Instance No. Date Artefact Material Artefact Type Description Other Artefact Type Material Artefact Type Description Other Artefact Type Description
Other Artefact Type Instance No. Date Material Artefact Type Description Other Artefact Type Artefact Type Description Other Artefact Type Description
Other Artefact Type Instance No. Recording Date Material Artefact Type Description Which Date Date Description Other Artefact Type Description
Other Artefact Type Instance No. Date Material Artefact Type Description Other Artefact Type Instance No. Date Material Artefact Type Description
Other Artefact Type Instance No. Date Artefact Material Artefact Type Description Other Artefact Type Description July (www.) July
Other Artefact Type Instance No. Date Artefact Material Artefact Type Description Artefact Type Description July (a will be a fact of the fact of t
Other Artefact Type Instance No. Date Artefact Material Artefact Type Description Service
Compared to the conting No. Compared to the continuous part of t
Instance Recording Artefact Type Description No. Date Artefact Type Description Description Description Description Description
Instance Recording No. Date Artefact Artefact Type Description No. Date Material Artefact Type Description Light Street Stree
No. Date Material Arteract Type Description E S S E S E S E S E S E S E S E S E S
Material Artefact Description Platform Surface Termination
Basalt Clear glass Adze Flake tool Cortex Feather
Chert Ceramic Anvil Flaked piece Flake scar Hinge Fine grained siliceous Porcelain Axe Hammerstone More than one flake scar Step
Granite Tin can Backed blade Manuport Faceted Outrepasse Quartz Wire Blade Milling slab Ground Bipolar
Quartzite Nail Core Mortar Indeterminate Sandstone Button Core tool Muller Bipolar
Silcrete Shell Cyclon Nuclear tool Green glass Bone Distal fragment Pirri
Amber glass Wood Eloura Proximal fragment Platform Type Cross Section Amethyst glass Resin Flake Tula W High/strong
Other diagnostic type Focal High/weak Modified Shattered Low/weak
Unworked f ndeterminate Irregular Bipolar
Comments:
Comments.



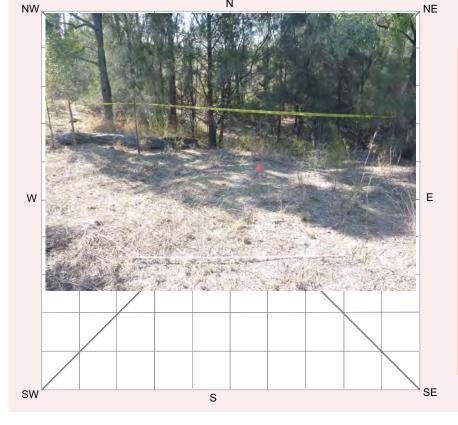


Office Use Only	
Site Number	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation Organisation	system
Address	
Phone number Fax Fax	
Knowledge Holder	
Title Surname First Name Initials	Client on
	system
Organisation	
Address	
Phone number Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 3 5	
Easting 3 2 1 8 3 1 Northing 6 3 8 5 3 6 9 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Duimon, Doggador	
Primary Recorder Title Surname First Name Initials	
MR HILL J JEREMY	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 24/07/2013	

Silica gloss East South East Tessellated Weathered South Other platform South West West North West

12. Hearth 13. Non Human Bone & Organic Material 14. Ochre quarry 15. Potential Archaeological Deposit 16. Stone Quarry 17. Shell 18. Stone Arrangement 19. Modified Tree 20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions					
Closed Site Dimensions (m)					
	Internal length Internal width Shelter height Shelter floor area				
Open Site D	Dimensions (m)				
25	Total length of visible site				
5	Average width of visible site				
100	Estimated area of visible site				
	Length of assessed site area				

Aboriginal Community Interpretation and Management Recommendations
asong man sommanny interpretation and management resonant management
Preliminary Site Assessment
Site Cultural & Scientific Analysis and Preliminary Management Recommendations
MTW-535 comprising four artefacts but with a maximum density of one artefact per square metre was located at the top of
the upper part of the north bank and was located in an eroded area. MTW-535 had a south east facing aspect, but the
artefacts were situated on a north east to south west axis. The extent of this site is approximately 25 metres along its axis
and approximately five metres wide. The GSV in at this site was moderate to high due to the erosion in the area and GSE
was high. Revegetated Casuarina trees surrounded the site except in the north west which was grassed. MTW-535
consisted of three silcrete flakes and one mudstone flake.
This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus
Title Surname First Name Initials
Organisation
Address
Address
Phone number Fax Fax
Phone number Fax Fax
Phone number Fax Fax
Phone number Fax Attachments (No.) Comments
Attachments (No.) Ad location map Comments
Attachments (No.) Attachments (No.) Ad location map B/W photographs Fax Fax
Attachments (No.) A4 location map B/W photographs Colour photographs Slides
Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs
Attachments (No.) Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings
Attachments (No.) Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables
Attachments (No.) Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings

NPWS FEATURE RECORD	DING FORM - ARTEFACT	page 1				
Site I.D.	Site Name MTW 535					
First recorded date 24/07/2013	importance					
No. of instances 4						
Recorded by JH						
Yes No Stone artefacts only Ves						
103	Percentage of Non-stone Artefacts to Percentage of Stone Ar	rtefacts				
Artefacts collected No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-	-100%				
Permit issued No	0-9%					
Feature Context & Condition Scatter No. Easting Northing						
Density	Dimensions	Yes No				
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ				
		tratified				
Feature Condition General Cond	dition Recommended Action					
Very good Weathere	Boardwalk	ation				
	Fencing					
Good Vehicle d	Closure to public Soil eros	sion control				
	vater wash Continued inspection Track cle	osure/re-routing				
Fire dam	age	al recording				
Erosion	Expert assessment	ŭ				
Stock da	mage Meeting with land manager					
Exposed	archaeological material Mostaria Mariana manager					
Feature Plan (Indicate scale, loca	tion of instances)					
N N	Feature Environment (Comple differs to	ete when feature environment site environment, use attributes ver card, p. 2)				
	Land form	ı unit				
	Slope					
	Vegetation	n				
	Land use					
W N	Water					
	Distance to permanent water sour	ce				
IFRAO Wan	Distance to temporary water source					
	Distance to temporary water source	metres				
	Name of nearest permanent water	r source				
	Name of nearest temporary water					
SW	SE					

NPWS	FEATUR	RE RECO	RDING TABL	E - ARTE	FACT				pa	age 2
Stone Artefact g										
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Typ	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-3	24/07/2013	Silcrete	Flake							
4	24/07/2013	Mudstone	Flake							
				ner Artefa				£ @	- -	Thickness (mm)
Instance No.	Recordin Date	ig Artefa Mate		Туре	De	escription		Length (mm)	Width (mm)	jck (mr
	Date	Iviato	iai						> ~	F
Mater	ial	Class slass	Artefact Desc	-		Platform Surfa	•	erminat	ion	
Basalt Chert		Clear glass Ceramic	Adze Anvil	Flake tool Flaked piece		Cortex Flake scar	Hir	ather nge		
Fine gra Granite	ained siliceous	Tin can	Axe Backed blade	Hammerstor Manuport	ie	More than one flake Faceted	Ou	itrepasse		
Quartz Quartzit	te	Wire Nail	Blade Core	Milling slab Mortar		Ground Indeterminate	Bip	oolar		
Sandsto Silcrete		Button Shell	Core tool Cyclon	Muller Nuclear tool		Bipolar				
Green g	glass	Bone Wood	Distal fragment Eloura	Pirri Proximal fra	rment	Platform Type	С	ross Se	ection	
Amethy		Resin	Flake	Tula Other diagno		W Focal		gh/strong gh/weak		
				Modified	ostic type	\$hattered Indeterminate	Lo	w/weak egular		
				Unworked		Bipolar	1110	ogulai		
Comm	nents:									
										·





Site Number -	
Date received / / Date entered into system / / Date catalogued / /	
Entered by (I.D.)	
Information Access	Office Use
Gender/male Gender/female Location restriction General restriction No access	Only
For Further Information Contact:	
Nominated Trustee Title Surname First Name Initials	
Title Surfame First Name initials	Client on
Organisation	system
Address	
Phone number Fax	
Title Surname First Name Initials	
Title Surname First Name Initials	Client on system
Organisation	System
Address	
Phone number Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 3 6	
Easting 3 2 1 8 4 5 Northing 6 3 8 5 4 1 7 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Primary Recorder	
Title Surname First Name Initials	
MR HILL JEREMY JH	
Organisation R P S	Client on system
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 24/07/2013	

Service corridor

Transport corridor

Urban expansion

(I.D. Office Use only)

SW

Residential

National Park / other Government

Current Land Tenure

Ramp 22 Sedimentation Dam

Dept.

I.D.

RPS (2013) Aboriginal Cultural Heritage Assessment Bulga Surface Operations - Mount Thorley Operations

Public

Private

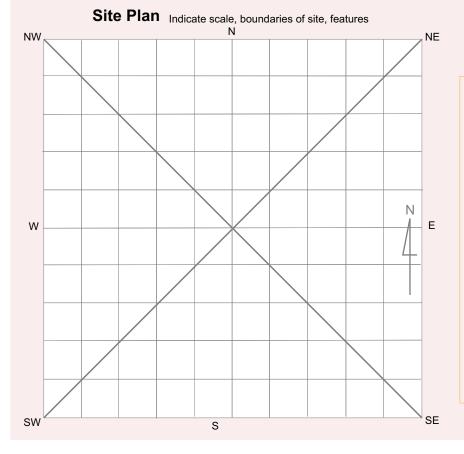
Primary report

connects to a haul road. See also GPS coordinates

Site Location Map NW



General Site Information Features Closed Site Open Site 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition Site Orientation Boulder N-S 3. Art Boulder Wind erosion Sandstone platform NE-SW 4. Artefact ✓ E-W Water erosion Silica gloss 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South 15. Potential Archaeological Deposit Other platform South West 16. Stone Quarry West 17. Shell North West 18. Stone Arrangement 19. Modified Tree 20. Water Hole



Site Dimensions					
Closed Site	Dimensions (m)				
	Internal length				
	Internal width				
	Shelter height				
	Shelter floor area				
Open Site D	imensions (m)				
300	Total length of visible site				
5	Average width of visible site				
1500	Estimated area of visible site				
	Length of assessed site area				

Preliminary Site Assessment Site Cultural & Scientific Analysis and Preliminary Management Recommendations MTW-536 was located along a vehicle access track for a powerline constructed on a raised bank of a dam that extended 300 metres on an east to west axis, and had a south facing aspect. MTW-536 was approximately 5 metres in width and the site had a south west facing aspect. Artfacts on the eastern end of this track were ending downslope into a grassed area. This site contained 41 artefacts spread along the dirt access track. Three cores and 24 mudstone flakes and 14 sibrate flakes were identified. Some rill erosion was noted along the western edge of the track. A dam was located approximately two metres to north of this site. This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname Initials Organisation Fix Name Initials Attachments (No.) Comments Attachments (No.) Comments Attachments (No.) Comments Attachments (No.) Comments Site plans, drawings Recording lables Other Feature inserts-No.	NPWS Aboriginal Site R	ecording Form - Site Interpretation and Community S	Statement page 4
Preliminary Site Assessment Site Cultural & Scientific Analysis and Preliminary Management Recommendations MTW-536 was located along a vehicle access track for a powerline constructed on a raised bank of a dam that extended 300 metres on an east to west axis, and had a south facing aspect. MTW-536 was approximately 5 metres in width and the site had a south west facing aspect. A Trefacts on the eastern end of this track were eroding downslope into a grassed area. This site contained 41 artefacts spread along the dirt access track. Three cores and 24 mudstone flakes and 14 silcrete flakes were identified. Some rill erosion was noted along the western edge of the track. A dam was located approximately two metres to north of this site. This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Initials Title Sumame Initials First Name Initials Organisation Address Phone number Fax At location map BW photographs Colour photographs Site plans, drawings Recording tables Other	Aboriginal Community Interp	retation and Management Recommendations	
Site Cultural & Scientific Analysis and Preliminary Management Recommendations MTW-536 was located along a vehicle access track for a powerline constructed on a raised bank of a dam that extended 300 metres on an east to west axis, and had a south facing aspect. MTW-536 was approximately 5 metres in width and the site had a south west facing aspect. Artefacts on the eastern end of this track were eroding downslope into a grassed area. This site contained 41 artefacts spread along the dirt access track. Three cores and 24 mudstone flakes and 14 silcrete flakes were identified. Some rill erosion was noted along the western edge of the track. A dam was located approximately two metres to north of this site. This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Initials Organisation Address Phone number First Name Initials Attachments (No.) Comments Attachments (No.) Comments At location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other			
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Recording tables Other	Aerial photographs		
Other	Site plans, drawings		
	Recording tables		
Feature inserts-No.	Other		
	Feature inserts-No.		

NPWS FEATURE RECOR	DING FORM - ARTEFACT	page 1
Site I.D.	Site Name MTW 536 Importance	
First recorded date 24/07/2013		
No. of instances 41		
Recorded by JH		
Yes No Stone artefacts only Yes	Percentage of New Stone Autofacts to Percentage of Stor	no Artofonto
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Ston	
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-899 0-9%	% 90-100%
Feature Context & Condition Sca	atter No. 1 Easting Northing	
Density	Dimensions	Yes No
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ
Feature Condition General Con	dition	Stratified
reature condition	Recommended Action	
Very good Weather	ed	regetation
Good Vehicle of	damage Fencing Sigr	nage
Poor Surface v	water wash Closure to public Soil	erosion control
Fire dam	Continued inspection Trace	ck closure/re-routing
Erosion		litional recording
Stock da	Expert assessment	
	archaeological material Meeting with land manager	
Exposeu	archaeological material	
Feature Plan (Indicate scale, loca		
W	d	Complete when feature environment liffers to site environment, use attributes rom cover card, p. 2)
	Land	form
	Land	form unit
	Slope)
	Vege	tation
	N Land	use
W	Water	
	Distance to permanent water	source metres
	Distance to temporary water s	source metres
	Name of nearest permanent v	water source
	Name of nearest temporary w	/ater
SW	SE	

			RDING TABL						PC	age 2
			S	Stone Artef	act					SSS
stance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
2	24/07/2013	Mudstone	Core		Single Platform					
-24	24/07/2013	Mudstone	Flake							
5	24/07/2013	Mudstone	Core		Multi Platform					
5-41	24/07/2013	Silcrete	Flake							
			Otl	ner Artefac	t Type					SS
stance	Recordin	g Artef				scription		ngth mr)	Width (mm)	Thickness
No.	Date	Mate		ТурС	200	oription		Ler (T	Μ. E	Thic
Matori	ial		Artofact Dose	crintion		Platform Surfa	co Te	arminat	tion	
Materi Basalt	ial	Clear glass	Artefact Desc	cription Flake tool	_	Platform Surfa Cortex	•	erminat ather	tion	
Basalt Chert		Ceramic	Adze Anvil	Flake tool Flaked piece	- (Cortex Flake scar	Fe Hir	ather nge	tion	
Basalt Chert Fine gra Granite	ained siliceous	Ceramic Porcelain Tin can	Adze Anvil Axe Backed blade	Flake tool Flaked piece Hammerstone Manuport) (Cortex Flake scar More than one flake Faceted	Fe Hir scar Ste	ather nge ep itrepasse		
Basalt Chert Fine gra	ained siliceous	Ceramic Porcelain	Adze Anvil Axe	Flake tool Flaked piece Hammerstone	(Cortex Flake scar More than one flake	Fe Hir scar Ste	ather nge ep		
Basalt Chert Fine gra Granite Quartz Quartzite Sandsto	ained siliceous de one	Ceramic Porcelain Tin can Wire Nail Button	Adze Anvil Axe Backed blade Blade Core Core tool	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller	; ; ;	Cortex Flake scar More than one flake Faceted Ground	Fe Hir scar Ste	ather nge ep itrepasse		
Basalt Chert Fine gra Granite Quartz Quartzite	ained siliceous de one	Ceramic Porcelain Tin can Wire Nail	Adze Anvil Axe Backed blade Blade Core	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar)	Cortex Flake scar More than one flake Faceted Ground ndeterminate Bipolar	Fe Hir scar Ste Ou Bip	ather nge ep utrepasse polar		
Basalt Chert Fine gra Granite Quartz Quartzite Sandsto Silcrete Green gl Amber g	ained siliceous de one glass	Ceramic Porcelain Tin can Wire Nail Button Shell Bone Wood	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon Distal fragment Eloura	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool Pirri Proximal fragi	e f	Cortex Flake scar More than one flake Faceted Ground ndeterminate	Fe Hir e scar Ste Ou Bip	ather nge ep ttrepasse polar	ection	
Basalt Chert Fine gra Granite Quartz Quartzite Sandsto Silcrete Green gl	ained siliceous de one glass	Ceramic Porcelain Tin can Wire Nail Button Shell Bone	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon Distal fragment	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool Pirri Proximal fragr Tula Other diagnos	e f	Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar Platform Type W Focal	Fe Hir e scar Ste Ou Bip C Hie Hie	ather nge ep utrepasse polar ross Se gh/strong gh/weak	ection	
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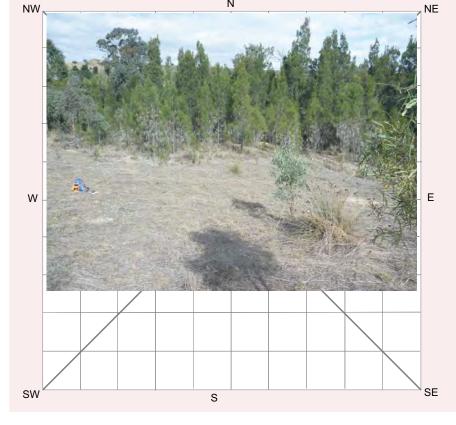




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Gen	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	√ 4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions							
Closed Site Dimensions (m)							
	Internal length						
	Internal width						
	Shelter height						
	Shelter floor area						
Open Site D	imensions (m)						
10	Total length of visible site						
10	Average width of visible site						
Estimated area of visible site							
	Length of assessed site area						

Preliminary Site Assessment Site Cultural & Scientific Analysis and Preliminary Management Recommendations MTW-537 was identified along an animal track and had a south facing aspect. This site was located at the base of a gentle slope directly below and to the south of MTW-536. MTW-537 was identified along an animal track and had a south facing aspect. This site was located at the base of a gentle side producted the area had been slashed and some juvenile Casuarinas were identified to the south. MTW-537 was located close to a drainage channel that flowed into the first order tributary. This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Sumame First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments Address Phone number Address Phone number Fax Stides Aerial photographs Site plans, drawings Recording tables Other Feature inserts-No.	NPWS Aboriginal Site	Recording Form - Site Interpretation and Community Statement page	ge 4
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	Feature inserts No.		

NPWS FEATURE RECORDING FORM - ARTEFACT	page 1
Site I.D. Site Name MTW 537 Importance	
First recorded date 24/07/2013	
No. of instances 4	
Recorded by JH	
Yes No Stone artefacts only Yes Percentage of Non-stone Artefacts to Percentage of Stone Artefacts	te
Artefacts collected No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%	
Permit issued No 0-9%	
Feature Context & Condition Scatter No. Easting Northing	
Density Dimensions	Yes No
(Artefact count per square metre) Length (m) Width (m) Depth (m)	tu
Stratifie	d
Feature Condition General Condition Recommended Action	
Boardwalk Revegetation	
Very good Weathered Fencing Signage	
Good Vehicle damage Closure to public Soil erosion co	ontrol
Poor Surface water wash Continued inspection Track closured	
Fire damage Fire hazard reduction Additional reco	_
Erosion	ording
Stock damage Expert assessment	
Exposed archaeological material Meeting with land manager	
	metres
SW SE	

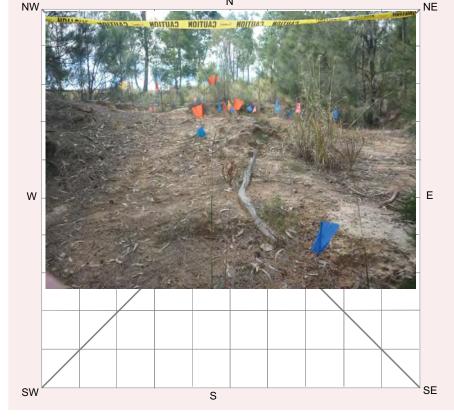
NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2									
			S	tone Artefa	act					ssa
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Silcrete	Flake							
2-4	24/07/2013	Mudstone	Flake							
				ner Artefact				€ €	- -	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	ick (mr
	Date	Water	iai						> ~	F
Mater	ial	Class slass	Artefact Desc	_		Platform Surfac	-	rminat ather	ion	
Basalt Chert		Clear glass Ceramic	Anvil	Flake tool Flaked piece	I	Flake scar	Hir	nge		
Granite	ained siliceous	Tin can	Axe Backed blade	Hammerstone Manuport	ı	More than one flake Faceted	Ou	trepasse		
Quartz Quartzit	te	Wire Nail	Blade Core	Milling slab Mortar	1	Ground Indeterminate	Bip	olar		
Sandsto Silcrete		Button Shell	Core tool Cyclon	Muller Nuclear tool	[Bipolar				
Green g Amber g		Bone Wood	Distal fragment Eloura	Pirri Proximal fragm		Platform Type		ross Se	ction	
Amethy	st glass	Resin	Flake	Tula Other diagnost		W Focal		gh/strong gh/weak		
				Modified Unworked	(\$hattered Indeterminate		w/weak egular		
						Bipolar				
Comm	nents:									





Office Use Only				
Site Number				
Date received/ Date entered into system/_ Date catalogued//				
Entered by (I.D.)				
Information Access	257			
Gender/male Gender/female Location restriction General restriction No access	Office Use Only			
For Further Information Contact:				
Nominated Trustee				
Title Surname First Name Initials				
	Client on			
Organisation	system			
Address				
Phone number Fax				
Knowledge Holder				
Title Surname First Name Initials				
	Client on system			
Organisation Organisation				
Address				
Aboriginal Heritage Unit or Cultural Heritage Division Contacts				
Geographic Location				
Site Name M T W 5 3 8				
Easting 3 2 1 8 7 8 Northing 6 3 8 5 3 7 2 AGD/GDA GDA				
Mapsheet B U L G A 9 1 3 2 4 S				
Zone 56 Location Method Differential GPS				
Other Registration				
Carol Regionation				
Primary Recorder				
Title Surname First Name Initials				
MR HILL JEREMY				
Organisation R P S	Client on			
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system			
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Ш			
Date recorded 24/07/2013				

Site Plan Indicate scale, boundaries of site, features



Closed Site Dimensions (m) Internal length Internal width Shelter height Shelter floor area Open Site Dimensions (m) 2 0 Total length of visible site Average width of visible site 1 0 0 Estimated area of visible site Length of assessed site area

Aboriginal Community Interpretation and Management Recommendations
asong mar community morprotation and management recommendations
Preliminary Site Assessment
Site Cultural & Scientific Analysis and Preliminary Management Recommendations
MTW-538 an artefact scatter comprising 29 artefacts with a maximum density of six artefacts per square metre was
identified at the edge of the break in slope in a severely eroded area. The artefacts were on the surface of the B horizon.
The area was vegetated with Casuarina trees to the east, west and south with a grassed area to the north. This site
extended approximately 20 metres in length and five metres in width. It had a south facing aspect. The main
concentrations of artefacts were located in the southern part of MTW-538. This site included 18 mudstone flakes, 10
silcrete flakes and 1 porcellanite flake. A mature aged felled tree was located approximately five metres to the east of this
site. It was inspected for cultural scarring, but no scar was identified.
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensu
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensu
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensu Title Surname First Name Initials
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensuration Organisation Address
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensuration Organisation Address Phone number Address
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensuration Organisation Address Phone number Fax Attachments (No.) Comments
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensuration Organisation Address Phone number Address Address
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensuration Organisation Address Phone number Fax Attachments (No.) Comments
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments A4 location map
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensu Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs Colour photographs
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensu Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments Attachments (No.) Comments Solides Aerial photographs
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments Attachments (No.) Comments B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensu Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments Attachments (No.) Comments Sides Aerial photographs Site plans, drawings Recording tables
Title Surname First Name Initials Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings

NPWS FEATURE RECORDING FORM - ARTE	EFACT page 1
Site I.D. Site Name MTW Importance	/ 538
First recorded date	
No. of instances ²⁹	
Recorded by JH	
Yes No	
Stone artefacts only Yes Percentage of Non	n-stone Artefacts to Percentage of Stone Artefacts
Artefacts collected No 0-9% 10-19% 20-29% 3	30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%
Permit issued No 0-9%	
	Easting Northing
Density Dimensions	Yes No
(Artefact count per square metre) Length (m)	Width (m) Depth (m)
	Stratified
Feature Condition General Condition	Recommended Action
Very good Weathered	Boardwalk Revegetation
	Fencing
	Closure to public Soil erosion control
Poor Surface water wash	Continued inspection Track closure/re-routing
Fire damage	Fire hazard reduction Additional recording
Erosion	Expert assessment
Stock damage	Meeting with land manager
Exposed archaeological material	
Feature Plan (Indicate scale, location of instances)	
N N	Feature Environment (Complete when feature environment differs to site environment, use attributes from cover card, p. 2)
	Land form
	Land form unit
2 12 12 12 12 13 12 13 13 13 13 13 13 13 13 13 13 13 13 13	Slope
	Vegetation
	Land use
W IERAO to an	E
N	Water Distance to permanent water source
	, motios
	Distance to temporary water source metres
	Name of nearest permanent water source
	Name of nearest temporary water
sw	SE

NPWS FEATURE RECORDING TABLE - ARTEFACT page 2										
			S	Stone Art	efact					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Ty	pe Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-18	24/07/2013		Flake							
	24/07/2013		Flake							
29	24/07/2013	Porcellanite	Flake							
			2/1	5 4 5	. =					(0
Instance	5 "			ner Artefa –				n gt	도 👄	Thickness (mm)
Instance No.	Recordin Date	ng Artefa Mater		Туре		Description		Length (mm)	Widt (mm	hick (m
									-	
Mater Basalt	ial	Clear glass	Artefact Desc Adze	cription Flake tool		Platform Surfa Cortex		erminat ather	ion	
Chert Fine gra	ained siliceous	Ceramic Porcelain	Anvil Axe	Flaked pied Hammersto		Flake scar More than one flake		nge ep		
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground		itrepasse oolar		
Quartzit		Nail Button	Core Core tool	Mortar Muller		Indeterminate Bipolar	ľ			
Silcrete Green g		Shell Bone	Cyclon Distal fragment	Nuclear too	ļ	Біроіаі				
Amber	glass	Wood Resin	Eloura Flake	Proximal fra	agment	Platform Type		ross Se		
Amethy	si giass	Resili	riane	Other diagr	ostic type	Focal \$hattered	Hi	gh/weak w/weak		
				Modified Unworked		#ndeterminate		egular		
						Bipolar				
	Comments: Please see attached information									
Please	see attach	ea intormatio	Ori							

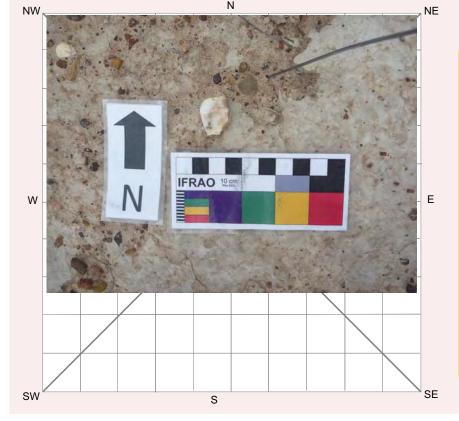




Date received Date entered into system Date catalogued Date received Date entered into system Date catalogued Date catalogued Date entered into system Date catalogued Date catalogued Date entered into system Date catalogued Date catalogue	Office Use Only							
Entered by (I.D.) Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Client on system Address Phone number Fax Knowledge Holder Title Surname First Name Initials Client on system Organisation Address Phone number Fax Abortginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8	Site Number							
Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Sumame First Name Initials Organisation Address Phone number Knowledge Holder Title Sumame First Name Initials Organisation Address Phone number Fax Client on system Adoriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MT W 5 3 9 1 3 2 4 S	Date received// Date entered into system// Date catalogued/_/							
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Entered by (I.D.)							
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Title Surname First Name Initials Organisation Address Phone number Fax Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Initials Initials	Information Access	257						
Nominated Trustee Title Surname First Name Initials Client on system Address Phone number Title Surname First Name Initials Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9 9 1 3 2 4 5 9 1 3 2 4 5 9 1 3 2 4 5 9 1 3 4 5 9 1 5 9 1 5 9 1 5 9 1 9	Gender/male Gender/female Location restriction General restriction No access							
Title Surname First Name Initials Client on system Address Phone number Title Surname First Name Initials Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultrural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Aboriginal Heritage Division Contacts Title Surname First Name Initials Primary Recorder Title Surname First Name Initials	For Further Information Contact:							
Client on system Address Phone number Title Surname First Name Initials Organisation Address Phone number Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MT W 53 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials								
Organisation Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Title Surname First Name Initials							
Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Other Registration Primary Recorder Title Surname First Name Initials								
Phone number Knowledge Holder	Organisation	system						
Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 8 Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Address							
Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Phone number Fax Fax							
Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Knowledge Holder							
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials								
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials								
Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Organisation							
Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials								
Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 3 9								
Geographic Location Site Name MTW 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials								
Site Name M T W 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Aboriginal Heritage Unit or Cultural Heritage Division Contacts							
Site Name M T W 5 3 9 Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials								
Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Geographic Location							
Mapsheet B U L G A 9 1 3 2 4 S	Site Name M T W 5 3 9							
Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Easting 3 2 1 9 1 8 Northing 6 3 8 5 3 9 0 AGD/GDA GDA							
Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials	Mapsheet B U L G A 9 1 3 2 4 S							
Primary Recorder Title Surname First Name Initials								
Primary Recorder Title Surname First Name Initials	Other Registration							
Title Surname First Name Initials								
Title Surname First Name Initials								
Title Surname First Name Initials	Primary Recorder							
Organisation R P S Client on	Organisation R P S	Client on						
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3								
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4							
	Date recorded 24/07/2013							
	Date recorded 24/07/2013							

General Site Information	Features			
Closed Site	Open Site	1. Aboriginal Ceremony & Dreaming		
Shelter/Cave Formation Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering		
Boulder Boulder	V N-S	3. Art		
Wind erosion Sandstone platform	NE-SW	√ 4. Artefact		
Water erosion Silica gloss	E-W	5. Burial		
Rock collapse Tessellated	SE-NW	6. Ceremonial Ring		
Weathered	N/A	7. Conflict		
Other platform		8. Earth Mound		
Condition of Ceiling Shelter Aspect		9. Fish Trap		
Boulder North		10. Grinding Groove		
Sandstone platform North East		11. Habitation Structure		
Silica gloss East		12. Hearth		
Tessellated South East		13. Non Human Bone & Organic Material		
Weathered South		14. Ochre quarry		
Other platform South West		15. Potential Archaeological Deposit		
West		16. Stone Quarry		
North West		17. Shell		
		18. Stone Arrangement		
		19. Modified Tree		
		20. Water Hole		

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions						
Closed Site	Dimensions (m)					
	Internal length					
	Internal width					
	Shelter height					
	Shelter floor area					
Open Site D	imensions (m)					
10	Total length of visible site					
10	Average width of visible site					
100	Estimated area of visible site					
	Length of assessed site area					

NPWS Aboriginal Site F	Recording Form - Site Interpretation and Community Statement page
Aboriginal Community Interp	pretation and Management Recommendations
Preliminary Site Assess	sment
Site Cultural & Scientific An	nalysis and Preliminary Management Recommendations
MTW-539 was located on a	small exposed mound at the break in slope between the upper northern bank and the mid
slope area. The site extende	ed approximately three metres on a north to south axis and three metres in an east west
direction. It comprised six m	nudstone flakes, four silcrete flakes and one quartz flake. The area to the south was popula
with juvenile Casuarina trees	s. The exposed mound on which this site was found was surrounded by slashed grass.
This section should only be fill	led in by the Endersees
_	vledge Holder
Title	Surname First Name Initials
Organisation	
Address	
Phone number	Fax Fax
Attachments (No.)	Comments
A4 location map	
B/W photographs	
Colour photographs	
Slides	
Aerial photographs	
Site plans, drawings	
Recording tables	
Other	
Feature inserts-No.	
reature inserts-No.	

NPWS FEATURE RECORDING FORM - ARTEFACT page							
Site I.D.	Site Name MTW 539 Importance						
First recorded date 24/07/2013							
No. of instances 11							
Recorded by JH							
Yes No Stone artefacts only Yes	Developtions of New stone Autofasta to Developtions of Stone	- Autofooto					
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone						
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100%					
Feature Context & Condition Sca	atter No. Easting Northing						
Density	Dimensions	Yes No					
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ Stratified					
Feature Condition General Con-	dition Recommended Action	Granied					
Noncord Worthow	Boardwalk	egetation					
Very good Weathere	Fencing	age					
Good Vehicle d	Closure to public Soil 6	erosion control					
	rater wash Continued inspection Track closure/re-routing						
Fire dam	age — — · · · — —	tional recording					
Erosion							
Stock da	mage Expert assessment						
Exposed	archaeological material Meeting with land manager						
Feature Plan (Indicate scale, loca	tion of instances)						
N W	NE Feature Environment (Co	omplete when feature environment					
	diff	fers to <i>site</i> environment, use attributes m cover card, p. 2)					
	Land for	orm					
	Land f	orm unit					
	Slope						
	Vegeta	ation					
	N Land u						
W	E	13C					
	Water						
	Distance to permanent water s						
	Distance to temporary water so	ource metres					
	Name of poorest permanent w	rator source					
	Name of nearest permanent w	atel Source					
	Name of nearest temporary wa	iter					
SW	SE						

NPWS FEATURE RECORDING TABLE - ARTEFACT page 2										
			5	Stone Artef	act					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-6	24/07/2013	Mudstone	Flake							
7-10	24/07/2013		Flake							
11	24/07/2013	Quartz	Flake							
			0.11	A 4 6	· =					(O
Instance	Daaaadia			ner Artefac -				n gt	£ @	Thickness (mm)
No.	Recordin Date	ig Artefa Matei		Туре	Des	scription		Length (mm)	Width (mm)	Ä E
									-	
Mater Basalt	ial	Clear glass	Artefact Desc Adze	cription Flake tool		Platform Surfact Cortex		erminat ather	ion	
Chert Fine gra	ained siliceous	Ceramic	Anvil Axe	Flaked piece Hammerstone		Flake scar More than one flake	Hir scar Ste			
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground		trepasse olar		
Quartzi		Nail Button	Core Core tool	Mortar Muller	1	Indeterminate Bipolar				
Silcrete Green		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri						
Amber of Amethy	glass	Wood Resin	Eloura Flake	Proximal fragn Tula		Platform Type		ross Segh/strong	ection	
Ametry	si giass	1103111	i lake	Other diagnos	lio typo	Focal Shattered	Hiç	gh/weak w/weak		
				Modified Unworked		nattered Phdeterminate Bipolar		egular		
						ļ, - · · · · ·				
Comn	nents:									





Date received	Office Use Only						
Information Access	Site Number						
Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Date received/ Date entered into system/ Date catalogued//_						
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Entered by (I.D.)						
Gender/male Cocation restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Client on system Knowledge Holder Title Surname First Name Initials Title Surname First Name Initials Client on system Knowledge Holder Title Surname Initials Organisation Address Phone number Fax Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 0 1 3 2 4 S	Information Access	257					
Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 8 9 8 Northing 6 3 8 5 3 5 5 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 2 4 S Content on Site Name Initials Title Surname First Name Initials Division Contacts First Name Initials Organisation Site Name Initials First Name Initials First Name Initials First Name Initials Organisation Client on system Primary Recorder Title Surname First Name Initials M R H I L L J J E R E M Y Organisation R P S Client on system Phone number P G B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	Gender/male Gender/female Location restriction General restriction No access						
Title Surname First Name Initials Client on system Address Phone number Title Surname First Name Initials Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 0 Easting 3 2 1 8 9 8 Northing 6 3 8 5 3 5 5 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Organisation R P S Other Registration Client on system First Name Initials Client on system Client on system Primary Recorder Title Surname First Name Initials Client on system Client on system Primary Recorder Title Surname First Name Initials Client on system First Name Initials Client on system First Name Initials Client on system First Name Initials First Name Initials Client on system First Name Initials First Name Initials	For Further Information Contact:						
Client on system Client on system Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 8 9 8 Northing 6 3 8 5 3 5 5 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Organisation F P S Other Registration Client on system Frist Name Initials M R H I L L J J E R E M Y Organisation R P S Other Registration First Name Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3							
Organisation Address Phone number Knowledge Holder Fax	Title Surname First Name Initials						
Address Phone number Fax							
Phone number Knowledge Holder Title Sumame First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 8 9 8 Northing 6 3 8 5 3 5 5 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Sumame First Name Initials M R H I L L J E R E M Y Organisation R P S Other Registration Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Organisation	system					
Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 8 9 8 Northing 6 3 8 5 3 5 5 AGD/GDA GDA	Address						
Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 4 0 Easting 3 2 1 8 9 8 Northing 6 3 8 5 3 5 5 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Phone number Fax Fax						
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Phone number							
Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 0							
Client on system Client on s							
Site Name M T W 5 4 0	Aboriginal Heritage Unit or Gultural Heritage Division Contacts						
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Mapsheet B U L G A 9 1 3 2 4 S	Site Name M T W 5 4 0						
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MR HILL JEREMY Organisation RPS Client on system Address POBOX 428 HAMILTONNSW 2303 Phone number 249404200 Fax 249616794							
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4							
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Organisation R P S	Client on					
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4							
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General Site Information Features Closed Site Open Site 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition Site Orientation Boulder N-S 3. Art Boulder Wind erosion Sandstone platform NE-SW 4. Artefact ✓ E-W Water erosion Silica gloss 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South 15. Potential Archaeological Deposit Other platform South West 16. Stone Quarry West 17. Shell North West 18. Stone Arrangement 19. Modified Tree 20. Water Hole

Site Plan Indicate scale, boundaries of site, features NE NE SW S SE SE

Site Dime	nsions
Closed Site	Dimensions (m)
	Internal length
	Internal width
	Shelter height
	Shelter floor area
Open Site D	imensions (m)
20	Total length of visible site
10	Average width of visible site
200	Estimated area of visible site
	Length of assessed site area

NPWS Aboriginal Site R	Recording Form - Site Interpretation and Community Statement pa	age 4
Aboriginal Community Interp	pretation and Management Recommendations	
Preliminary Site Assess	sment	
•	alysis and Preliminary Management Recommendations	
MTW-540, an artefact scatter	r comprising nine artefacts, was located on an eroded bank at the break in slope. This s	scatter
consisted of three mudstone	flakes and six silcrete flakes. The artefacts were on the surface of the B horizon. MTW	/-540
extended approximately 20 m	netres along a north south axis and was approximately 10 metres wide. Pebble laterite	was_
noted in the exposed areas.	The GSV and GSE were high in this area.	
-		
-		
This section should only be filled		
	edge Holder Nominated Trustee Native Title Holder Community Cons	sensus
Title	Surname First Name Initials	
		7
Organisation		
Address		
Phone number	Fax Fax	
Attachments (No.)	Comments	
A4 location map		
B/W photographs		
Colour photographs		
Slides		
Aerial photographs		
Site plans, drawings		
Recording tables		
Other		
Feature inserts-No.		

NPWS FEATURE RECOR	DING FORM - ARTEFACT	page 1			
Site I.D.	Site Name MTW 540 Importance				
First recorded date 24/07/2013					
No. of instances					
Recorded by JH					
Yes No Stone artefacts only Yes	Percentage of Non-stone Artefacts to Percentage of Ston	on Artofacts			
Artefacts collected No					
Permit issued No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100% 0-9%					
	atter No. Easting Northing				
Density	Dimensions	Yes No			
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ			
		Stratified			
Feature Condition General Con	dition Recommended Action				
	Boardwalk Rev	egetation			
Very good Weather	Fencing	nage			
Good Vehicle of	Closure to public Soil	erosion control			
	Water wash Continued inspection Trac	ck closure/re-routing			
Fire dam	age	itional recording			
Erosion		naonai 1000raing			
Stock da					
Exposed	archaeological material Meeting with land manager				
Feature Plan (Indicate scale, loca					
N W		Complete when <i>feature</i> environment			
		iffers to <i>site</i> environment, use attributes om cover card, p. 2)			
	Land	form			
	Land	form unit			
	Slope				
	Veget	tation			
	N Land				
W	E	use			
	Water				
	Distance to permanent water	mease			
	Distance to temporary water s	source metres			
	Name of nearest permanent w	vater source			
	Name of flearest permanent w	vater source			
	Name of a constitution	rotor			
	Name of nearest temporary w	aler			
	CE CE				
SW	SE				

NPWS	S FEATUR	RE RECO	RDING TABI	E - ARTE	FACT				pa	age 2
			•	Stone Arte	efact					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Typ	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-3	24/07/2013	Mudstone	Flake							
4-9	24/07/2013	Silcrete	Flake							
			04	l A4 . £ .	-4 T					Ø
Instance	Doordin	a Artofo		her Artefa -				gth n)	돈 근	Thickness (mm)
No.	Recordin Date	ig Artefa Matei		Туре	De	escription		Length (mm)	Width (mm)	Ä E
B4 -4			Autofoot Doo	! 4!		Dietferme Confe	Т	erminat	ion	
Mater Basalt	ıaı	Clear glass	Artefact Des Adze	Flake tool		Platform Surfa Cortex	Fe	ather	ion	
Chert Fine gra	ained siliceous	Ceramic Porcelain	Anvil Axe	Flaked piece Hammersto		Flake scar More than one flake		nge ep		
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground		itrepasse oolar		
Quartzi Sandsto		Nail Button	Core Core tool	Mortar Muller		Indeterminate Bipolar	·			
Silcrete Green g		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri		·				
Amber of Amethy	glass	Wood Resin	Eloura Flake	Proximal fra Tula	gment	Platform Type		ross Se gh/strong		
Ametry	si giass	1.0011	Tiako	Other diagn Modified	ostic type	Focal Shattered	Hi	gh/weak w/weak		
				Unworked		#ndeterminate Bipolar		egular		
						Dipolal				
Comn	nents:									





Office Use Only Site Number	
Date received/ Date entered into system/ Date catalogued/	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address Address	
Phone number Fax Fax	
Knowledge Holder	
Title Surname First Name Initials	Q11 /
	Client on system
Organisation Organisation	
Address	
Phone number Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Aboriginal Heritage Unit of Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 4 1	
Easting 3 2 1 9 3 4 Northing 6 3 8 5 3 5 6 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
	1
Primary Recorder Title Surname First Name Initials	
MR HILL JEREMY	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
- Liver to a land	
Date recorded 24/07/2013	

General Site Information Features Closed Site Open Site 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition **Site Orientation** V N-S Boulder Boulder 3. Art Wind erosion Sandstone platform NE-SW 4. Artefact Water erosion Silica gloss E-W 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South 15. Potential Archaeological Deposit Other platform South West 16. Stone Quarry West 17. Shell North West 18. Stone Arrangement 19. Modified Tree 20. Water Hole

Site Plan Indicate scale, boundaries of site, features NE NE SW S SE SE

Site Dimensions						
Closed Site	Dimensions (m)					
	Internal length Internal width					
	Shelter height					
	Shelter floor area					
Open Site D	imensions (m)					
1	Total length of visible site					
1	Average width of visible site					
1	Estimated area of visible site					
	Length of assessed site area					

NPWS Aboriginal Site R	Recording Form - Site Interpretation and Community Statement	page 4
Aboriginal Community Interp	pretation and Management Recommendations	
Preliminary Site Assess	sment	
Site Cultural & Scientific An	alysis and Preliminary Management Recommendations	
MTW-541 was an isolated m	oudstone flake, located at the base of a gentle slope from the Upper South Bank. Cas	suarinas
populated the area and GSV	was hindered by leaf litter which covered the slope Further to the north a vertical dro	op off to
the creek was noted. There	was evidence of sheet wash close to this site and some animal tracks were located to	o the
south.		
This costion about any be fill	lad in buttle Enderses	
This section should only be fill		
	rledge Holder	
Title	Surname First Name Initials	S T
Organisation _		
Address		
Phone number	Fax Fax	
Attachments (No.)	Comments	
A4 location map		
B/W photographs		
Colour photographs		
Slides		
Aerial photographs		
Site plans, drawings		
Recording tables		
Other		
Feature inserts-No.		

NPWS FEATURE RECORD	ING FORM - ARTEFACT	page 1				
Site I.D. Site Name MTW 541 First recorded date 24/07/2013 No. of instances 1 Recorded by JH Yes No Stone artefacts only Yes Percentage of Non-stone Artefacts to Percentage of Stone Artefacts Artefacts collected No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100% Permit issued No 0-9% Feature Context & Condition Scatter No. Easting Northing Northing In situ Length (m) Width (m) Depth (m)						
Fire dama Erosion Stock dan	Boardwalk Fencing Closure to public Continued inspection Fire hazard reduction Expert assessment	Stratified Revegetation Signage Soil erosion control Frack closure/re-routing Additional recording				
Feature Plan (Indicate scale, location Name of the control of the	Feature Environment La La Ve	differs to site environment, use attributes from cover card, p. 2) and form and form unit ope egetation and use ter source				
SW S	SE					

NPWS	FEATUR	RE RECO	RDING TABL	.E - ARTEFA	ACT				ре	ige 2
			5	Stone Artefa	ict					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Mudstone	Flake							
Instance		A		ner Artefact –				를 (c)	도 🗢	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	Phick (m
Mater	ial		Artefact Desc	rintion		Platform Surfac	o Te	rminat	ion	
Basalt Chert	ained siliceous de one	Clear glass Ceramic Porcelain Tin can Wire Nail Button Shell	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool	(F N F (Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar	Fea Hir scar Ste Ou	ather ige	1011	
Green g Amber g Amethy	glass glass	Bone Wood Resin	Distal fragment Eloura Flake	Pirri Proximal fragm Tula Other diagnosti Modified Unworked	c type	Platform Type W Focal Shattered	Hiç Hiç Lo	ross Se gh/strong gh/weak w/weak egular	ection	
						Bipolar				
Comm	nents:									





Date received	Office Use Only	
Entered by (I.D.) Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Sumame First Name Initials Client on system Knowledge Holder Title Sumame First Name Initials Client on system Organisation Address Phone number Fax Abortiginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 9 5 4 Northing 6 3 8 5 3 5 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 Again	Site Number	
Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Date received/ Date entered into system/ Date catalogued/	
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Entered by (I.D.)	
Gender/male Cocation restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Client on system Knowledge Holder Title Surname First Name Initials Title Surname First Name Initials Client on system Knowledge Holder Title Surname Initials Client on system Organisation Address Phone number Fax Pax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 9 5 4 Northing 6 3 8 5 3 5 6 AGD/GDA GDA Mapsheet B U C A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Client on system Primary Recorder Title Surname Initials M R H I L J R E M Y	Information Access	257
Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 9 5 4 Northing 6 3 8 5 3 5 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 2 4 S Cother Registration Primary Recorder Title Surname First Name Initials Title Surname First Name Initials Address Other Registration Client on system	Gender/male Gender/female Location restriction General restriction No access	
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Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 2 Easting 3 2 1 9 5 4 Northing 6 3 8 5 3 5 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Knowledge Holder	
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 2 Easting 3 2 1 9 5 4 Northing 6 3 8 5 3 5 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E E M Y Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4		
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 4 2 Easting 3 2 1 9 5 4 Northing 6 3 8 5 3 5 6 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4		
Address	Organisation	
Phone number		
Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 2		
Client on system Client on s		
Site Name M T W 5 4 2	Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Site Name M T W 5 4 2		
Easting 3 2 1 9 5 4 Northing 6 3 8 5 3 5 6 Naghheat B U L G A 9 1 3 2 4 S Northing 56 Location Method Differential GPS	Geographic Location	
Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4 Initials	Site Name M T W 5 4 2	
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MR HILL JEREMY Organisation RPS Client on system Address POBOX 428 HAMILTONNSW 2303 Phone number 249404200 Fax 249616794		
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4		
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Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4		
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General Site Information Features Closed Site Open Site 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition **Site Orientation** V N-S Boulder Boulder 3. Art Wind erosion Sandstone platform NE-SW 4. Artefact Water erosion Silica gloss E-W 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South 15. Potential Archaeological Deposit Other platform South West 16. Stone Quarry West 17. Shell North West 18. Stone Arrangement 19. Modified Tree 20. Water Hole

Site Plan Indicate scale, boundaries of site, features NE NE SW S SE SE

Site Dimensions						
Closed Site	Dimensions (m)					
	Internal length Internal width					
	Shelter height					
	Shelter floor area					
Open Site D	imensions (m)					
1	Total length of visible site					
1	Average width of visible site					
1	Estimated area of visible site					
	Length of assessed site area					

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement	age 4
Aboriginal Community Interpretation and Management Recommendations	
Preliminary Site Assessment	
Site Cultural & Scientific Analysis and Preliminary Management Recommendations	
MTW-542 was an isolated find that consisted of a mudstone flake. This site was located on the upper south bank o	of an
unnamed tributary of Loders Creek. Casuarinas populated the area and an exposed area to the east was identified	I that
was highly eroded. This sheet wash erosion was inspected for artefacts but none were identified. This eroded area	a had_
recently had water flow over it and this could have washed artefacts further down slope.	
This section should only be filled in by the Endorsees	
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Con	nsensus
Title Surname First Name Initials	
Organisation	
Address	
Phone number Fax	
Attachments (No.) Comments	
A4 location map	
B/W photographs ————————————————————————————————————	
Colour photographs	
Slides	
Aerial photographs	
Site plans, drawings	
Recording tables	
Other	
Feature inserts-No.	

NPWS FEATURE RECORDING FORM - ARTEFACT page 1				
Site I.D.	Site Name MTW 542			
First recorded date 24/07/2013				
No. of instances 1				
Recorded by JH				
Yes No Stone artefacts only Yes	Percentage of Non-stone Artefacts to Percentage of Stone	Artefacts		
Artefacts collected No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89%			
	0-9%			
Feature Context & Condition Scatter	r No. Easting Northing			
Density	Dimensions	Yes No		
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ Stratified		
Feature Condition General Condition	ion Recommended Action			
	Boardwalk	getation		
Very good Weathered	Fencing			
Good Vehicle dam	Closure to public Soil e	rosion control		
Poor Surface wat	er wash	closure/re-routing		
Fire damage		onal recording		
Erosion		brial recording		
Stock dama	ge Expert assessment			
Exposed are	chaeological material Meeting with land manager			
Feature Plan (Indicate scale, location N	NE Feature Environment (Conditifier	tion se ource		
SWS	SE			

NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2									
			5	Stone Artefa	ict					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Mudstone	Flake							
Instance		A		ner Artefact –				를 (c)	도 🗢	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	Phick (m
Mater	ial		Artefact Desc	rintion		Platform Surfac	o Te	rminat	ion	
Basalt Chert	ained siliceous de one	Clear glass Ceramic Porcelain Tin can Wire Nail Button Shell	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool	(F N F (Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar	Fea Hir scar Ste Ou	ather ige	1011	
Green g Amber g Amethy	glass glass	Bone Wood Resin	Distal fragment Eloura Flake	Pirri Proximal fragm Tula Other diagnosti Modified Unworked	c type	Platform Type W Focal Shattered	Hiç Hiç Lo	ross Se gh/strong gh/weak w/weak egular	ection	
						Bipolar				
Comm	Comments:									





Office Use Only	
Site Number	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation Organisation	system
Address	
Phone number Fax	
Knowledge Holder	
Title Surname First Name Initials	Client on
	Client on system
Organisation	
Address	
Phone number Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Aboriginal heritage offic of Cultural heritage Division Contacts	
Geographic Location	
Site Name M T W 5 4 3	
Easting 3 2 2 0 4 0 Northing 6 3 8 5 3 5 6 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Other Registration	
Primary Recorder Title Surname First Name Initials	
Title Surname First Name Initials M R H I L L J J E R E M Y J E R E M Y	
Organisation R P S	Client on
Address PO BOX 428 HAMILTON NSW 2303	system
h.voz/so-	
Date recorded [4/07/2013]	

NPWS Aboriginal Site Recording Form - Site Information page 3 **General Site Information Features Closed Site Open Site** 1. Aboriginal Ceremony & Dreaming 2. Aboriginal Resource & Gathering Shelter/Cave Formation Rock Surface Condition **Site Orientation** V N-S Boulder Boulder 3. Art Wind erosion Sandstone platform NE-SW 4. Artefact Water erosion Silica gloss E-W 5. Burial Rock collapse Tessellated SE-NW 6. Ceremonial Ring Weathered N/A 7. Conflict Other platform 8. Earth Mound 9. Fish Trap **Condition of Ceiling Shelter Aspect** 10. Grinding Groove Boulder North 11. Habitation Structure Sandstone platform North East 12. Hearth Silica gloss East 13. Non Human Bone & Organic Material South East Tessellated 14. Ochre quarry Weathered South 15. Potential Archaeological Deposit Other platform South West 16. Stone Quarry West

SE

17. Shell

18. Stone Arrangement

19. Modified Tree

20. Water Hole



S

Site Plan Indicate scale, boundaries of site, features

North West

Site Dimensions				
Closed Site	Dimensions (m)			
	Internal length			
	Shelter height			
	Shelter floor area			
Open Site D	Dimensions (m)			
1	Total length of visible site			
1	Average width of visible site			
1	Estimated area of visible site			
	Length of assessed site area			

NPWS Aboriginal Site	Recording Form - Site Interpretation and Community Statement page 4
Aboriginal Community Inte	rpretation and Management Recommendations
Preliminary Site Asses	sment
Site Cultural & Scientific A	nalysis and Preliminary Management Recommendations
MTW-543 was an isolated f	lake of mudstone. This site was situated on an upper part of the south bank of the tributary.
MTW-543 has a north facin	g aspect and a haul road windrow is located to the south. The GSV was moderate due to the
heavy leaf litter in this area.	The area was populated with juvenile Casuarina trees. GSE was also moderate.
This section should only be f	lled in by the Endorsees
	wledge Holder Nominated Trustee Native Title Holder Community Consensus
Title	Surname First Name Initials
Organisation	
Address	
Phone number	Fax
	Comments
Attachments (No.)	Confinents
A4 location map	
B/W photographs	
Colour photographs	
Slides	
Aerial photographs	
Site plans, drawings	
Recording tables	
Other	
Feature inserts-No.	

NPWS FEATURE RECORDING FORM - ARTEFACT page 1				
Site I.D.	Site Name MTW 543 Importance			
First recorded date 24/07/2013	por autos			
No. of instances 1				
Recorded by JH				
Yes No Stone artefacts only Yes	Percentage of Non-stone Artefacts to Percentage of Stone	o Artofooto		
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone			
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100 %		
	tter No. Easting Northing			
Density	Dimensions	Yes No		
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ		
		Stratified		
Feature Condition General Cond	dition Recommended Action			
	. Boardwalk Reve	egetation		
Very good Weathere	Fencing Sign:	age		
Good Vehicle d	amage Closure to public Soil 6	erosion control		
Poor Surface v	vater wash	k closure/re-routing		
Fire dama	age — — · · · — —	tional recording		
Erosion		lional recording		
Stock dar	mage Expert assessment			
Exposed	archaeological material Meeting with land manager			
Feature Plan (Indicate scale, local				
W	diff	omplete when <i>feature</i> environment fers to <i>site</i> environment, use attributes		
	fro	om cover card, p. 2)		
	Land f	orm ·		
		form unit		
	Slope			
		ation		
	Vegeta			
w	N E Land t	use		
	Distance to permanent water s	source metres		
	Distance to temporary water so	ource metres		
	Name of nearest permanent w	ater source		
	Name of nearest temporary wa	ater		
sw	SE			

NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2									
			5	Stone Artefa	ict					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Mudstone	Flake							
Instance		A		ner Artefact –				를 (c)	도 🗢	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	Phick (m
Mater	ial		Artefact Desc	rintion		Platform Surfac	o Te	rminat	ion	
Basalt Chert	ained siliceous de one	Clear glass Ceramic Porcelain Tin can Wire Nail Button Shell	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller Nuclear tool	(F N F (Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar	Fea Hir scar Ste Ou	ather ige	1011	
Green g Amber g Amethy	glass glass	Bone Wood Resin	Distal fragment Eloura Flake	Pirri Proximal fragm Tula Other diagnosti Modified Unworked	c type	Platform Type W Focal Shattered	Hiç Hiç Lo	ross Se gh/strong gh/weak w/weak egular	ection	
						Bipolar				
Comm	Comments:									

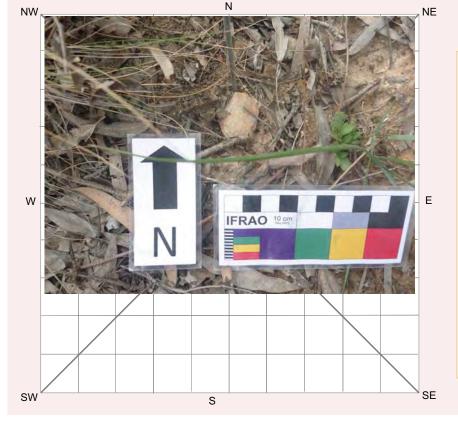




Office Use Only	
Site Number	
Date received/ Date entered into system/ Date catalogued/	
Entered by (I.D.)	
Information Access	a
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address	
Phone number Fax Fax	
Knowledge Holder	
Title Surname First Name Initials	
	Client on system
Organisation Organisation	
Address	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 4 4	
Easting 3 2 2 1 3 9 Northing 6 3 8 5 5 0 7 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Other Registration	
Duimony Doggandon	
Primary Recorder Title Surname First Name Initials	
MR HILL JEREMY	
Organisation R P S	Client on
Address PO BOX 428 HAMILTON NSW 2303	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Ш
Date recorded 24/07/2013	

General Site Information	Features	
Closed Site	Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder Boulder	N-S	3. Art
Wind erosion Sandstone platform	NE-SW	√ 4. Artefact
Water erosion Silica gloss	✓ E-W	5. Burial
Rock collapse Tessellated	SE-NW	6. Ceremonial Ring
Weathered	N/A	7. Conflict
Other platform		8. Earth Mound
Condition of Ceiling Shelter Aspect		9. Fish Trap
Boulder North		10. Grinding Groove
Sandstone platform North East		11. Habitation Structure
Silica gloss East		12. Hearth
Tessellated South East		13. Non Human Bone & Organic Material
Weathered South		14. Ochre quarry
Other platform South West		15. Potential Archaeological Deposit
West		16. Stone Quarry
North West		17. Shell
		18. Stone Arrangement
		19. Modified Tree
		20. Water Hole

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions				
Closed Site	Dimensions (m)			
	Internal length			
	Internal width			
	Shelter height			
	Shelter floor area			
Open Site D	imensions (m)			
5	Total length of visible site			
5	Average width of visible site			
25	Estimated area of visible site			
	Length of assessed site area			

NPWS Aboriginal Site R	Recording Form - Site Interpretation and Community Statement page 4
Aboriginal Community Intern	pretation and Management Recommendations
Aboriginal Community interp	retation and management recommendations
Preliminary Site Assess	sment
•	alysis and Preliminary Management Recommendations
	plated artefacts with a maximum density of four per square metre. The site was in an area tha
	on and the artefacts were not in situ being only on the surface of the disturbed soils.
This section should only be filled	ed in by the Endorsees
	ledge Holder Nominated Trustee Native Title Holder Community Consensus
Title	Surname First Name Initials
Organisation	
Address	
Phone number	Fax Fax
Attachments (No.)	Comments
A4 location map	
B/W photographs	
Colour photographs	
Slides	
Aerial photographs	
Site plans, drawings	
Recording tables	
Other	
Feature inserts-No.	

NPWS FEATURE RECORDING FORM - ARTEFACT page 1				
Site I.D.	Site Name MTW 544 Importance			
First recorded date 24/07/2013				
No. of instances 4				
Recorded by JH				
Yes No Stone artefacts only Yes	Development of New Stone Autofacts to Development of Stone	Autofooto		
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone			
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100%		
Feature Context & Condition Sca	tter No. Easting Northing			
Density	Dimensions	Yes No		
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ		
		Stratified		
Feature Condition General Cond	dition Recommended Action			
Very good Weathere	Boardwalk Reve	getation		
	Fencing	ige		
Good Vehicle d	Closure to public Soil e	rosion control		
	vater wash Continued inspection Track	closure/re-routing		
Fire dama	age — — — · — — — — — — — — — — — — — — —	ional recording		
Erosion	Expert assessment	ona. roonag		
Stock dar	nage ————————————————————————————————————			
Exposed	archaeological material Meeting with land manager			
Feature Plan (Indicate scale, locate	ion of instances)			
N N	NE Fortuna Fortuna and	mplete when <i>feature</i> environment		
" \	diffe	ers to site environment, use attributes a cover card, p. 2)		
	Land fo	orm		
		orm unit		
	Slope			
		tion		
	Vegeta			
w	N E Land us	se		
	/ Water			
	Distance to permanent water so	ource metres		
	Distance to temporary water so	ource metres		
	Name of nearest permanent wa	iter source		
	Name of nearest temporary wat	ter		
sw	SE			

NPWS FEATURE RECORDING TABLE - ARTEFACT page 2										
				Stone Arter	act					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	24/07/2013	Silcrete	Flake							
2-4	24/07/2013	Mudstone	Flake							
										(0
lt				her Artefac				ff (c	۲ 🦳	Thickness (mm)
Instance No.	Recordin Date	ig Artefa Matei		Туре	Des	scription		Length (mm)	Width (mm)	Ä Ē
										-
Mater Basalt	ial	Clear glass	Artefact Des Adze	cription Flake tool		Platform Surfac Cortex	-	erminat ather	ion	
Chert Fine ara	ained siliceous	Ceramic Porcelain	Anvil Axe	Flaked piece Hammerstone		Flake scar More than one flake		nge ep		
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab				utrepasse polar		
Quartzi		Nail Button	Core Core tool	Mortar Muller	1	Indeterminate Bipolar				
Silcrete		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri	·	Sipolai .				
Amber	Amber glass Wood		Eloura Flake	Proximal frag		Platform Type		ross Se		
Amethyst glass Resin		i lake	Other diagnos	diagnostic type Focal		Hiç	High/weak Low/weak			
			Modified Unworked	Andeterminate Bipolar			Irregular			
						Dipolai				
Comments:										
					·					





Date received	Office Use Only							
Information Access	Site Number							
Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Date received/ Date entered into system/ Date catalogued/							
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Entered by (I.D.)							
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials	Information Access	a						
Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 2 4 S Cother Registration Primary Recorder Title Surname First Name Initials Tother Registration Client on system Client on system Client on system Client on system Initials Client on system	Gender/male Gender/female Location restriction General restriction No access							
Title Surname First Name Initials Client on system Address Phone number Title Surname First Name Initials Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 5 5 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 5 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 5 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 5 6 AGD/GDA GDA Primary Recorder Title Surname First Name Initials Organisation R P S	For Further Information Contact:							
Client on system Client on system Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 S Zone 56 Location Method Differential GPS Other Registration Client on system Frist Name Initials M R H I L L J J E R M Y J H COMPAN S W 2 3 0 3 S S S S S S S S S S S S S S S S S								
Organisation Address Phone number Knowledge Holder Fax	Title Surname First Name Initials							
Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Other Registration Client on system Organisation R P S Other Registration Client on system Client on system Organisation R P S Other Registration Client on system Client on system Client on system Client on system Organisation R P S Phone number 2 4 9 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4								
Phone number Knowledge Holder Title Sumame First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Sumame First Name Initials M R H I L L J E R E M Y J H Organisation R P S I J E R E M Y J H Organisation Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Organisation	system						
Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA	Address							
Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 5 Easting 3 2 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y J H Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Phone number Fax Fax							
Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 5	Knowledge Holder							
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 5 Easting 3 2 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E E M Y J H Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4								
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 4 5 Easting 3 2 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY JH Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4								
Address	Organisation							
Phone number								
Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 5								
Client on system Client on s								
Site Name M T W 5 4 5	Aboriginal Heritage Unit or Cultural Heritage Division Contacts							
Site Name M T W 5 4 5								
Primary Recorder	Geographic Location							
Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y J H Organisation R P S Phone number P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4 Client on system Phone number P O B O X A D D D Fax D D D D D D D D D D D D D D D D D D D	Site Name M T W 5 4 5							
Client on system Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y J H Organisation R P S J J H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Easting 3 2 2 1 5 7 Northing 6 3 8 5 5 3 6 AGD/GDA GDA							
Client on system Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y J H Organisation R P S J J H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Mapsheet B U L G A 9 1 3 2 4 S							
Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y J H Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 0 Fax 2 4 9 6 1 6 7 9 4 Initials								
Primary Recorder Title Surname First Name Initials MR HILL JEREMY JH Organisation RPS JHAMILTON NSW 2303 Phone number POBOX 428 HAMILTON NSW 2303 Phone number Pax 249616794	Other Registration							
Title Surname First Name Initials M R H I L L J E R E M Y J H Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Other registration							
Title Surname First Name Initials M R H I L L J E R E M Y J H Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4								
Title Surname First Name Initials M R H I L L J E R E M Y J H Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Drimany Dogarday							
M R H I L L J E R E M Y J H Organisation R P S Image: Client on System Syst								
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4								
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Organisation R P S	Client on						
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4								
hard light of the state of the								
	husz (so a la l							

Site Plan Indicate scale, boundaries of site, features

Site Dimensions							
Closed Site Dimensions (m)							
	Internal length Internal width Shelter height Shelter floor area						
Open Site D	Dimensions (m)						
12 6 72	Total length of visible site Average width of visible site Estimated area of visible site Length of assessed site area						

19. Modified Tree

20. Water Hole

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement page								
Aboriginal Community Interpretation and Management Recommendations								
Preliminary Site Assessment								
Site Cultural & Scientific Analysis and Preliminary Management Recommendations								
MTW-545 was located on an upper bank of a first order tributary. The artefacts were eroding out from a small exposed								
area that had been subject to sheet wash and rill erosion into the creek bed. A fence line to the east separated MTW-54								
and MTW-546. This site consisted of 10 mudstone flakes and one silcrete flake and extended along an east to west axi								
for approximately 12 metres and was six metres wide. Fencing and erosion are the only disturbances in this area. The								
area was vegetated with Casuarinas, grasses and reeds to the south. Artefacts from this site may have been associate								
originally with #37-6-2715 which was a previously recorded PAD.								
This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus								
Title Surname First Name Initials								
Organisation								
Address Address								
Phone number Fax								
Attachments (No.) Comments								
A4 location map								
B/W photographs								
Colour photographs								
Slides								
Aerial photographs								
Site plans, drawings								
Recording tables								
Other								
Feature inserts-No.								

NPWS FEATURE RECORDING FORM - ARTEFACT page								
Site I.D. Site Name MTW 545 Importance								
First recorded date 24/07/2013								
No. of instances 11								
Recorded by JH								
Yes No Stone artefacts only Yes Percentage of Non-stone Artefacts to Percentage of Stone Artefacts								
Artefacts collected No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%								
Permit issued No 0-9%								
Feature Context & Condition Scatter No. Easting Northing								
Density Dimensions	res No							
(Artefact count per square metre) Length (m) Width (m) Depth (m) Stratified								
Feature Condition General Condition Recommended Action								
Very good Weathered Boardwalk Revegetation								
Good Vehicle damage Fencing Signage								
Poor Surface water wash Closure to public Soil erosion contr	ol							
Fire damage Continued inspection Track closure/re-	outing							
Erosion Fire hazard reduction Additional record	ng							
Expert assessment								
Stock damage Meeting with land manager								
Exposed archaeological material								
Feature Plan (Indicate scale, location of instances)								
N N Feature Environment (Complete when feature)	environment							
differs to site environme from cover card, p. 2)								
Land form								
Land form unit								
Slope								
Vegetation								
N Land use								
W E								
T Distance to permanent water source								
Distance to permanent water source	metres							
Distance to permanent water source Distance to temporary water source	metres							
Distance to temporary water source								
Distance to temporary water source								
Distance to temporary water source Name of nearest permanent water source								

NPWS FEATURE RECORDING TABLE - ARTEFACT page 2										
			5	Stone Artef	act					ssa
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-10	24/07/2013	Mudstone	Flake							
11	24/07/2013	Silcrete	Flake							
			Ot	har Artafaa	t Type					တ္တ
Instance	Recordin	ıg Artefa		her Artefac		scription		Length (mm)	분 근	Thickness (mm)
No.	Date	Matei		туре	Des	scription		Len (m	Width (mm)	Thicl (r
Mater	ial		Artefact Des	crintion		Platform Surfac	o Te	rminat	ion	
Basalt	ıaı	Clear glass	Adze	Flake tool		Cortex	Fe	eather		
Chert Fine gra	ained siliceous	Ceramic Porcelain	Anvil Axe	Flaked piece Hammerstone	: I	Flake scar More than one flake	scar Ste			
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab	(Ground Bip		utrepasse polar		
Quartzite Nail Core Sandstone Button Core tool				Mortar Muller		Indeterminate Bipolar				
Silcrete Green g		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri						
Amber	Amber glass Wood Amethyst glass Resin		Eloura Flake	Proximal fragr Tula		Platform Type W		ross Se gh/strong		
			Other diagnos Modified	tio type	Focal High/wea battered Low/weal		gh/weak			
				Unworked		ndeterminate Bipolar	Irre	egular		
	a a mate :									
Comments:										

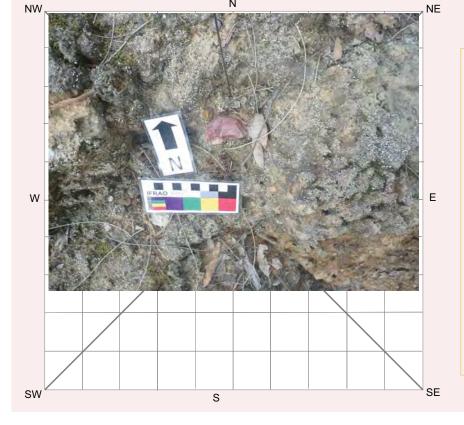




Office Use Only							
Site Number							
Date received/ Date entered into system/ Date catalogued/							
Entered by (I.D.)							
Information Access	055 11						
Gender/male Gender/female Location restriction General restriction No access	Office Use Only						
For Further Information Contact:							
Nominated Trustee							
Title Surname First Name Initials							
	Client on						
Organisation	system						
Address							
Phone number Fax Fax							
Knowledge Holder							
Title Surname First Name Initials							
	Client on system						
Organisation Organisation							
Address	_						
Aboriginal Heritage Unit or Cultural Heritage Division Contacts							
Geographic Location							
Site Name M T W 5 4 6							
Easting 3 2 2 1 7 4 Northing 6 3 8 5 5 3 1 AGD/GDA GDA							
Mapsheet B U L G A 9 1 3 2 4 S							
Zone 56 Location Method Differential GPS							
Other Registration							
Carol Regionation							
Primary Pocordor							
Primary Recorder Title Surname First Name Initials							
MR HILL JEREMY							
Organisation R P S							
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3							
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4							
Date recorded 24/07/2013							

SE

Site Plan Indicate scale, boundaries of site, features



Site Dimensions							
Closed Site Dimensions (m)							
	Internal length						
	Shelter height						
	Shelter floor area						
Open Site Dimensions (m)							
12	Total length of visible site						
5	Average width of visible site						
60	Estimated area of visible site						

Length of assessed site area

boriginal Community Interpretation and Management Recommendations
Bollyman Community interpretation and management recommendations
Preliminary Site Assessment
Site Cultural & Scientific Analysis and Preliminary Management Recommendations
MTW-546 was located to the west of a fence that separated it from MTW-545 and extended approximately 12 metres on a
north to south axis and was five metres wide. MTW-546 consisted of nine mudstone flakes, four silcrete flakes and one
dolerite hammer stone. There had been little disturbances in this area, which included fencing and erosion. Juvenile
Casuarina trees, grasses and reeds populated the area. The artefacts were eroding from a sheet washed and rill eroded
area. Artefacts from this site may have been associated originally with #37-6-2715 which was a previously recorded PAD.
This section should only be filled in by the Endorsees
Title Surname First Name Initials
Title Surname First Name Initials
Title Surname First Name Initials Organisation
Title Surname First Name Initials
Title Surname First Name Initials Organisation
Title Surname First Name Initials Organisation Address Phone number Title Surname First Name Initials First Name Initials First Name Initials First Name Initials
Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments
Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments A4 location map
Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs
Title Surname First Name Initials Organisation Address Phone number Attachments (No.) Address B/W photographs Colour photographs
Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs
Title Surname First Name Initials Organisation Address Phone number Attachments (No.) Address B/W photographs Colour photographs
Title Surname First Name Initials Organisation Address Phone number Attachments (No.) Comments A4 location map B/W photographs Colour photographs Slides
Title Surname First Name Initials Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs
Title Surname First Name Initials Organisation Address Phone number Attachments (No.) Attachments (No.) Ay location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables
Title Surname First Name Initials Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings

NPWS FEATURE RECORDING FORM - ARTEFACT page 1						
Site I.D. Site Name MTW 546 Importance						
First recorded date 24/07/2013						
No. of instances 14						
Recorded by JH						
Yes No Stone artefacts only Yes	Percentage of New Stone Artefacts to Percentage of Sto	no Artofooto				
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Sto					
Permit issued No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100% 0-9%						
Feature Context & Condition Sca	atter No. DEasting Northing					
Density	Dimensions	Yes No				
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ				
Feature Condition General Con	edition D	Stratified				
	Neconiniended Action					
Very good Weather	ed	vegetation				
Good Vehicle of	damage Fencing Sig	nage				
Poor Surface	water wash Closure to public Soi	I erosion control				
Fire dam	Continued inspection Tra	ck closure/re-routing				
Erosion		ditional recording				
Stock da	Expert assessment					
	Meeting with land manager					
Feature Plan (Indicate scale, local	ation of instances)					
W		(Complete when feature environment				
		differs to <i>site</i> environment, use attributes from cover card, p. 2)				
	Land	l form				
	Land	l form unit				
	Slope	A				
		etation				
	N Land					
w	E	use				
	Water					
	Distance to permanent water					
	Distance to temporary water	source metres				
	Name of nearest permanent	water source				
	Name of flearest permanent	Tatol Souloo				
	Name of nearest temporary v	vater				
	Traine of floarest temporary v					
SW	SE					
5						

NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2									
			8	tone Artef	act					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-9	24/07/2013	Mudstone	Flake							
10-13	24/07/2013		Flake							
14	24/07/2013	Volcanic	Hammerstone							
			041	A 4 . f	4 T					ဟ
Instance	Doordin	a Artofo		ner Artefac -				agth T	문 준	Thickness (mm)
No.	Recordin Date	g Artefa Matei		Туре	Des	scription		Length (mm)	Widt (mr	ž E
8.5			A 1 5 1 D			DI-15 0 6	T-	rminat	:	
Mater Basalt	iai	Clear glass	Artefact Desc Adze	Flake tool		Platform Surfac Cortex		erminat ather	ion	
Chert Fine gra	ained siliceous	Ceramic Porcelain	Anvil Axe	Flaked piece Hammerstone		Flake scar More than one flake	Hir scar Ste			
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground		trepasse olar		
Quartzii Sandsto		Nail Button	Core Core tool	Mortar Muller		Indeterminate Bipolar	·			
Silcrete Green		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri		·				
Amber of Amethy	glass	Wood Resin	Eloura Flake	Proximal fragn Tula		Platform Type W		ross Se gh/strong	ction	
Ametry	ot glass	1100111	riano	Other diagnos Modified	lio typo	Focal \$ hattered	Hiç	gh/weak w/weak		
				Unworked		Inductored Indeterminate Bipolar		egular		
Comn	nents:									



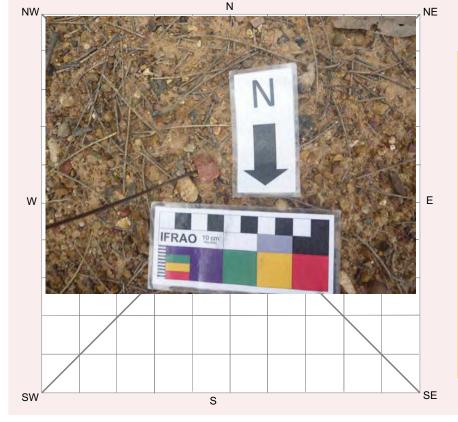


Date received	Office Use Only					
Entered by (I.D.) Information Access Gender/male	Site Number					
Information Access Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Date received/ Date entered into system/ Date catalogued/					
Gender/male Gender/female Location restriction General restriction No access For Further Information Contact: Nominated Trustee	Entered by (I.D.)					
Gender/male Cocation restriction General restriction No access For Further Information Contact: Nominated Trustee Title Surname First Name Initials Address	Information Access	a				
Nominated Trustee Title Surname First Name Initials Organisation Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 4 7 Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 2 4 S Cone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Other Registration Client on system	Gender/male Gender/female Location restriction General restriction No access					
Title Surname First Name Initials Client on system Address Phone number Title Surname First Name Initials Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 7 Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Other Registration Primary Recorder Title Surname First Name Initials Other Registration Client on system Address Client on system Client on system Frirst Name Initials Client on system Client on system Primary Recorder Title Surname First Name Initials Client on system Client on system Primary Recorder Title Surname First Name Initials Client on system Friest Name Initials Client on system Friest Name Initials Client on system Primary Recorder Title Surname First Name Initials Client on system Friest Name Initials Client on system Friest Name Initials Client on system Friest Name Initials Friest Name Initials Client on system Friest Name Initials Client on system Friest Name Initials Client on system	For Further Information Contact:					
Client on system Client on system Client on system Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 8 AGD/GDA GDA Client on system First Name Initials M R H I L L J J E R E M Y Organisation R P S Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4						
Organisation Address Phone number Knowledge Holder Fax	Title Surname First Name Initials					
Address Phone number Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 547 Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials Organisation R P S Other Registration Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4						
Phone number Knowledge Holder Title Sumame First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Sumame First Name Initials M R H I L L J E R E M Y Organisation R P S Other Registration Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Organisation	system				
Knowledge Holder Title Surname First Name Initials Organisation Address Phone number Fax Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Easting 3 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA	Address					
Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 4 7 Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Phone number Fax Fax					
Title Surname First Name Initials Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 7 Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E R E M Y Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Knowledge Holder					
Organisation Address Phone number Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 7 Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials M R H I L L J E E M Y Organisation R P S Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4		Oli t				
Organisation Address Phone number Fax Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name M T W 5 4 7 Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Other Registration Client on system Phone number 2 4 9 4 0 4 2 2 0 0 Fax 2 4 9 6 1 6 7 9 4						
Address	Organisation					
Phone number						
Aboriginal Heritage Unit or Cultural Heritage Division Contacts Geographic Location Site Name MTW 5 4 7 Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA Mapsheet BULGA 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder Title Surname First Name Initials MR HILL JEREMY Organisation RPS Address PO BOX 4 2 8 HAMILTON NSW 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4						
Client on system Client on s						
Site Name M T W 5 4 7	Aboriginal Heritage Unit or Cultural Heritage Division Contacts					
Site Name M T W 5 4 7						
Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8	Geographic Location					
Mapsheet B U L G A 9 1 3 2 4 S Zone 56 Location Method Differential GPS Other Registration Primary Recorder	Site Name M T W 5 4 7					
Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Easting 3 2 2 0 8 0 Northing 6 3 8 5 4 3 8 AGD/GDA GDA					
Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Mapsheet B U L G A 9 1 3 2 4 S					
Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 0 Fax 2 4 9 6 1 6 7 9 4 Initials						
Primary Recorder Title Surname First Name Initials MR H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 0 Fax 2 4 9 6 1 6 7 9 4 Initials	Other Registration					
Title Surname First Name Initials M R H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Other registration					
Title Surname First Name Initials M R H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4						
Title Surname First Name Initials M R H I L L J E R E M Y Initials Organisation R P S Initials Initials Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Client on system Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Drimany Dogarday					
MR HILL JEREMY Organisation RPS Client on system Address POBOX 428 HAMILTONNSW 2303 Phone number 249404200 Fax 249616794						
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4						
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3 Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	Organisation R P S	Client on				
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4						
hard light of the state of the						
	husz (so a l					

SE

Gene	eral Site Information	Features	
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation Rock Surface Condition		Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	✓ E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions					
Closed Site	Dimensions (m)				
	Internal length				
	Shelter height				
	Shelter floor area				
Open Site D	imensions (m)				
12	Total length of visible site				
3	Average width of visible site				
36	Estimated area of visible site				
	Length of assessed site area				

NPWS Aboriginal Site Re	ecording Form - Site Interpretation and Community Statement page	ge 4
Aboriginal Community Interpr	retation and Management Recommendations	
Preliminary Site Assessi	ment	
Site Cultural & Scientific Ana	llysis and Preliminary Management Recommendations	
MTW-547 was located on the	upper part of the north bank at the break in slope in an area that was severely eroded.	It
consisted of three mudstone a	and one silcrete flake and had an easterly facing aspect. The site extended 12 metres	
downslope, along an east to w	vest axis and was 3 metres wide. Rill erosion and sheet wash was noted in the area.	
Juvenile Casuarina trees, gras	sses and reeds populated the area. Disturbance from dam construction was identified t	to the
north, but had not impacted or	n this site.	
Title of Control of the City		
This section should only be filled		
-	edge Holder	ensus
Title	Surname First Name Initials	
		٦
Organisation		1
Address		
Phone number	Fax Fax	
Attachments (No.)	Comments	
A4 location map		
B/W photographs		
Colour photographs		
Slides		
Aerial photographs		
Site plans, drawings		
Recording tables		
Other		
Feature inserts-No.		

NPWS FEATURE RECORDING FORM - ARTEFACT page 1						
Site I.D.	Site Name MTW 547 Importance					
First recorded date 24/07/2013						
No. of instances 4						
Recorded by JH						
Yes No Stone artefacts only Yes	Developtions of New stone Autofasta to Developtions of Stone	Autofooto				
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone					
Permit issued No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100% 0-9%						
Feature Context & Condition Sca	itter No. Easting Northing					
Density	Dimensions	Yes No				
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ Stratified				
Feature Condition General Con-	dition Recommended Action	Cuatinoa				
Very good Weathere	Boardwalk	egetation				
Good Vehicle d	Fencing	age				
	Closure to public Soil 6	erosion control				
	water wash Continued inspection Track	k closure/re-routing				
Fire dam	age — — · · · — —	tional recording				
Erosion	Expert assessment	ŭ				
Stock da	mage Meeting with land manager					
Exposed	archaeological material					
Feature Plan (Indicate scale, loca	ition of instances)					
N W	NE Feature Environment (CA	omplete when feature environment				
	diff	fers to site environment, use attributes m cover card, p. 2)				
	Land for	orm				
	Land f	orm unit				
	Slope					
	Vegeta	ation				
W	Land u	ise				
	Water					
	Distance to permanent water s	ource metres				
	Distance to temporary water so	ource metres				
	Name of nearest permanent w	ater source				
	Name of nearest temporary wa	iter				
sw	SE					

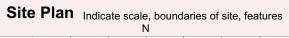
NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2									
			S	tone Artef	act					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-3	24/07/2013	Mudstone	Flake							
4	24/072013	Silcrete	Flake							
			Oth	ner Artefac	t Type			£ <u>~</u>		Thickness (mm)
Instance No.	Recordin Date	g Artefa Mate		Туре	Des	scription		Length (mm)	Width (mm)	ickr (mn
110.	Date	iviatei	iai						> =	È
Mater	ial	01	Artefact Desc	-		Platform Surfac	-	erminat	ion	
Basalt Chert		Clear glass Ceramic	Adze Anvil	Flake tool Flaked piece		Cortex Flake scar	Hir	ather nge		
Granite	ained siliceous	Tin can	Axe Backed blade	Hammerstone Manuport		More than one flake Faceted	Ou	itrepasse		
Quartz Quartzi	te	Wire Nail	Blade Core	Milling slab Mortar		Ground Indeterminate	Bip	oolar		
Sandsto Silcrete		Button Shell	Core tool Cyclon	Muller Nuclear tool		Bipolar				
Green of Amber		Bone Wood	Distal fragment Eloura	Pirri Proximal fragr		Platform Type	C	ross Se	ection	
Amethy		Resin	Flake	Tula Other diagnos		W Focal		gh/strong gh/weak		
				Modified Unworked		Shattered Indeterminate	Lo	w/weak egular		
				GHWOIKEU		Bipolar	1110	- 9 - 101		
Comn	nents:									
			·		·	·				

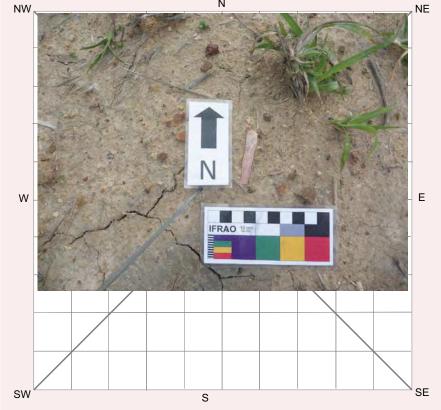




Office Use Only				
Site Number				
Date received / / Date entered into system / / Date catalogued / /				
Entered by (I.D.)				
Information Access				
Gender/male Gender/female Location restriction General restriction No access	Office Use Only			
For Further Information Contact:				
Nominated Trustee				
Title Surname First Name Initials				
This current in the real of the contract of th	Olianat an			
	Client on system			
Organisation Organisation				
Address				
Phone number Fax				
Knowledge Holder				
Title Surname First Name Initials	Client on			
	system			
Organisation				
Address				
Phone number Fax Fax				
Aboriginal Heritage Unit or Cultural Heritage Division Contacts				
Geographic Location				
Site Name M T W 5 4 8				
Easting 3 2 2 0 1 6 Northing 6 3 8 5 4 1 0 AGD/GDA GDA				
Mapsheet B U L G A 9 1 3 2 4 S				
Zone 56 Location Method Differential GPS				
Other Registration				
Other Registration				
Primary Recorder				
Title Surname First Name Initials				
MR HILL JEREMY JH				
Organisation R P S	Client on			
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system			
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4				
Date recorded 24/07/2013				

General Site Information	Features	
Closed Site	Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder Boulder	✓ N-S	3. Art
Wind erosion Sandstone platform	NE-SW	4. Artefact
Water erosion Silica gloss	E-W	5. Burial
Rock collapse Tessellated	SE-NW	6. Ceremonial Ring
Weathered	N/A	7. Conflict
Other platform		8. Earth Mound
Condition of Ceiling Shelter Aspect		9. Fish Trap
Boulder North		10. Grinding Groove
Sandstone platform North East		11. Habitation Structure
Silica gloss East		12. Hearth
Tessellated South East		13. Non Human Bone & Organic Material
Weathered South		14. Ochre quarry
Other platform South West		15. Potential Archaeological Deposit
West		16. Stone Quarry
North West		17. Shell
		18. Stone Arrangement
		19. Modified Tree
		20. Water Hole





Site Dime	Site Dimensions						
Closed Site	Dimensions (m)						
	Internal length						
	Internal width						
	Shelter height						
	Shelter floor area						
Open Site D	Dimensions (m)						
15	Total length of visible site						
4 0	Average width of visible site						
600	Estimated area of visible site						
	Length of assessed site area						

Aboriginal Community Interpretation and Management Recommendations
Aboriginal Community interpretation and management recommendations
Preliminary Site Assessment
Site Cultural & Scientific Analysis and Preliminary Management Recommendations
MTW-548 was located on an exposed area that had been previously disturbed area by the construction of a dam.
MTW-548 was situated at the edge of the upper north bank of the first order tributary of Loder Creek which runs through
the Survey Area. This site consisted of four mudstone flakes and had a north facing aspect. The artefacts at this site were
not in their original context due to the high amounts of construction disturbances. This site extended approximately 15
metres along a north south axis and was 40 metres wide. Pebble laterite was also noted in this area.
This section should only be filled in by the Endorsees
Title Surname First Name Initials
Organisation Organisation
Address
Address Phone number Fax
Phone number Fax Fax
Phone number Fax Attachments (No.) Comments
Attachments (No.) Ad location map
Attachments (No.) Ad location map B/W photographs Fax Fax B/W photographs
Attachments (No.) Ad location map
Attachments (No.) Ad location map B/W photographs Fax Fax
Attachments (No.) Attachments (No.) A4 location map B/W photographs Colour photographs
Attachments (No.) A4 location map B/W photographs Colour photographs Slides
Attachments (No.) Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings
Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables
Attachments (No.) Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings

NPWS FEATURE RECORDING FORM - ARTEFACT page 1						
Site I.D.	Site Name MTW 548 Importance					
First recorded date 24/07/2013						
No. of instances 4						
Recorded by JH						
Yes No Stone artefacts only Yes	Development of New Stone Autofacts to Development of Stone A	whofesto				
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone A					
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90 0-9%)-100%				
	tter No. Easting Northing					
Density	Dimensions	Yes No				
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ				
		Stratified				
Feature Condition General Cond	lition Recommended Action					
Very good Weathere	Boardwalk	tation				
	Fencing	9				
Good Vehicle d	Closure to public Soil ero	sion control				
	/ater wash Continued inspection Track c	osure/re-routing				
Fire dama	age · ·	nal recording				
Erosion	Expert assessment	9				
Stock dar	nage ————————————————————————————————————					
Exposed	archaeological material Meeting with land manager					
Feature Plan (Indicate scale, locate	ion of instances)					
N W	NE Footing Footing on the	ete when <i>feature</i> environment				
"	differs t	o <i>site</i> environment, use attributes ver card, p. 2)				
		,				
	Land form	n				
	Land form					
	Slope					
	Vegetation					
w	Land use					
	Water					
	Distance to permanent water sou	rce metres				
	Distance to temporary water sour	ce metres				
	Name of nearest permanent water	r source				
	Name of nearest temporary water	•				
sw	SE					

NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2									
	Stone Artefact %									
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1-3	24/07/2013	Mudstone	Flake							
4	24/07/2013	Mudstone	Flake Scraper							
					_					(0
lt				ner Artefact				#c	۲ ^	Thickness (mm)
Instance No.	Recordin Date	ig Artefa Matei		Туре	Des	scription		Length (mm)	Width (mm)	취 (T
								_		-
									-	
Mater Basalt	ial	Clear glass	Artefact Desc Adze	cription Flake tool		Platform Surfact Cortex	-	erminat ather	ion	
Chert Fine gra	ained siliceous	Ceramic	Anvil Axe	Flaked piece Hammerstone		Flake scar More than one flake	Hir scar Ste			
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground	Ou	trepasse olar		
Quartzi		Nail Button	Core Core tool	Mortar Muller	I	ndeterminate Bipolar				
Silcrete		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri	•	Sipolai				
Green of Amber	glass	Wood Resin	Eloura Flake	Proximal fragm		Platform Type		ross Se	ection	
Amethy	st glass	Resili	riake	Tula Other diagnost	ic type i	Focal \$hattered	Hiç	gh/weak w/weak		
				Modified Unworked	(ndeterminate		w/weak egular		
	Bipolar									
Comn	Comments:									





Office Use Only					
Site Number					
Date received/ Date entered into system/ Date catalogued/					
Entered by (I.D.)					
Information Access	055 11				
Gender/male Gender/female Location restriction General restriction No access	Office Use Only				
For Further Information Contact:					
Nominated Trustee					
Title Surname First Name Initials					
	Client on				
Organisation	system				
Address					
Phone number Fax					
Knowledge Holder					
Title Surname First Name Initials	Client on				
	system				
Organisation Organisation					
Address					
Phone number Fax					
Aboriginal Heritage Unit or Cultural Heritage Division Contacts					
Aboriginal Heritage Offic of Cultural Heritage Division Contacts					
Geographic Location					
Site Name M T W 5 4 9					
Easting 3 2 1 7 1 4 Northing 6 3 8 5 1 9 3 AGD/GDA GDA					
Mapsheet B U L G A 9 1 3 2 4 S					
Zone 56 Location Method Differential GPS					
Other Registration					
Curon regionation					
Primary Recorder					
Title Surname First Name Initials					
MS NELSON LARAINE					
Organisation R P S	Client on				
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system				
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4					
Date recorded 13/09/2013					

NPWS Aboriginal Site Recording Form - Site Information

page 3

Gener	al Site Information	Features	
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation Rock Surface Condition		Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	✓ N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling S	helter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions						
Closed Site	Dimensions (m)					
	Internal length Internal width Shelter height					
Shelter floor area						
Open Site D	imensions (m)					
	Total length of visible site					
1	Average width of visible site					
1	Estimated area of visible site					
	Length of assessed site area					

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement page 4
Aboriginal Community Interpretation and Management Recommendations
Preliminary Site Assessment
Site Cultural & Scientific Analysis and Preliminary Management Recommendations
MTW 549 is situated on a south facing slope in a highly rill eroded area. The site consisted of one tuff flake that was on the surface of B horizon soils with pebble laterite. The flake had washed down from the upper slope. Ground Surface Visibility
and Ground Surface Exposure was high. Native grasses populated the area. It is approximately 15 metres from MTW 529.
and Ground Surface Exposure was high. Native grasses populated the area. It is approximately 13 metres from with \$25.
This section should only be filled in by the Endorsees
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials
Title Surname First Name Initials
Ourseign
Organisation Address Address
Phone number Fax Fax
Attachments (No.) Comments
A4 location map
B/W photographs ————————————————————————————————————
Colour photographs
Slides
Aerial photographs
Site plans, drawings
Recording tables
Other
Feature inserts-No.

NPWS FEATURE RECORDING FORM - ARTEFACT page 1						
Site I.D.	Site Name MTW 549 Importance					
First recorded date 13/09/2013	·					
No. of instances						
Recorded by JH						
Yes No Stone artefacts only Yes	Percentage of Non-stone Artefacts to Percentage of Stone	Artofacts				
Artefacts collected No						
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100%				
	tter No. Easting Northing					
Density	Dimensions	Yes No				
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ				
		Stratified				
Feature Condition General Cond	dition Recommended Action					
Name and Nam	Boardwalk	egetation				
Very good Weathere	Fencing	age				
Good Vehicle d	amage Closure to public Soil e	erosion control				
	vater wash Continued inspection Track	k closure/re-routing				
Fire dam	age — — — · · · · · · · · · · · · · · · ·	tional recording				
Erosion		ional recording				
Stock da						
Exposed	archaeological material Meeting with land manager					
Feature Plan (Indicate scale, loca						
W		omplete when feature environment				
		ers to site environment, use attributes m cover card, p. 2)				
	Land for	orm				
	Land for	orm unit				
	Slope					
	Vegeta	ation				
	N Land u					
w	E Land u	196				
	Water					
	Distance to permanent water so	ource metres				
	Distance to temporary water so	ource metres				
	Name of nearest permanent wa	ater source				
	Name of nearest temporary wa	iter				
sw	SE					

NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2									
	Stone Artefact 8									
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	13/09/2013	Tuff	Flake							
Instance		A		ner Artefact –				# (c	도 🚍	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	Fhick (m
Mater	ial		Artefact Desc	crintion		Platform Surfac	·o Te	rminat	ion	
Basalt Chert	ained siliceous	Clear glass Ceramic Porcelain Tin can Wire Nail Button	Adze Anvil Axe Backed blade Blade Core Core tool	Flake tool Flaked piece Hammerstone Manuport Milling slab Mortar Muller	(F N F (I	Cortex Flake scar More than one flake Faceted Ground ndeterminate Bipolar	Fea Hin scar Ste Ou	ather ige		
Silcrete Green g	lass	Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri		Platform Type	Cı	oss Se	ction	
Amber of Amethy		Wood Resin	Eloura Flake	Proximal fragm Tula Other diagnosti	c type	W Focal	Hig Hig	gh/strong gh/weak	Ction	
				Modified Unworked	•	\$hattered Indeterminate Bipolar		w/weak egular		
Comm	nents:									





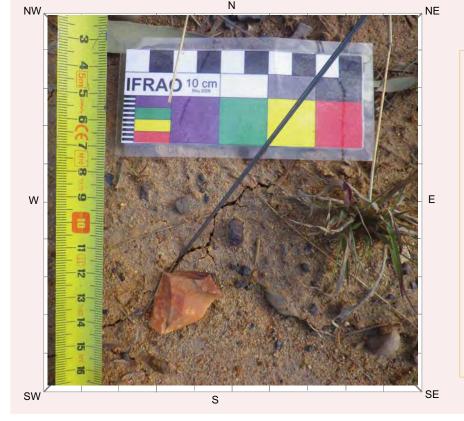
Office Use Only	
Site Number	
Date received// Date entered into system/_/ Date catalogued/_/_	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
	system
Address	Ш
Phone number Fax Fax	
Knowledge Holder	
Title Surname First Name Initials	
	Client on system
	System
Organisation Address Address	
Phone number Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 5 0	
Easting 3 2 1 9 4 6 Northing 6 3 8 5 3 2 7 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Other registration	
Duimany Daganday	
Primary Recorder Title Surname First Name Initials	
MS NELSON LARAINE	
Organisation R P S	Client on
	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	

NPWS Aboriginal Site Recording Form - Site Information

page 3

Gener	al Site Information	Features	
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation R	ock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling S	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions								
Closed Site	Dimensions (m)							
	Internal length Internal width Shelter height Shelter floor area							
Open Site D	imensions (m)							
1	Total length of visible site							
1	Average width of visible site							
1	Estimated area of visible site							
	Length of assessed site area							

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement page 4
Aboriginal Community Interpretation and Management Recommendations
Aboriginal Community interpretation and management recommendations
Preliminary Site Assessment
Site Cultural & Scientific Analysis and Preliminary Management Recommendations
The single mudstone flake at this site was situated on the surface of a contour bank which has been affected by sheet
wash. The contour bank was at the base of a haul road windrow used as erosion control and consisted of piled clay sandy
soils. There is no likelihood of in situ artefacts Ground Surface Visibility and Ground Surface Exposure was very high. The
landform in the area was highly modified.
This section should only be filled in by the Endorsees
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus
Title Surname First Name Initials
Organisation
Address
Phone number Fax Fax
Attachments (No.) Comments
A4 location map
B/W photographs ————————————————————————————————————
Colour photographs ————————————————————————————————————
Slides
Aerial photographs
Site plans, drawings
Recording tables
Other
Feature inserts-No.

NPWS FEATURE RECORDING FORM - ARTEFACT						
Site I.D. Site Name MTW 550						
First recorded date 13/09/2013	Importants					
No. of instances 1						
Recorded by LN						
Yes No Stone artefacts only Yes	Development of New Steve Autofasts to Development of Steve	Netofooto				
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone A					
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 9 0-9%	0-100%				
Feature Context & Condition Sca	tter No. Easting Northing					
Density	Dimensions	Yes No				
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ				
Feature Condition General Cond		Stratified				
	Boardwalk Revege	etation				
Very good Weathere	ed					
Good Vehicle d	amage					
Poor Surface v	vater wash '	osion control				
Fire dama	age	closure/re-routing				
Erosion	Fire hazard reduction Additio	nal recording				
Stock dar	mage Expert assessment					
	archaeological material Meeting with land manager					
Feature Plan (Indicate scale, locat						
w	differs	olete when feature environment to site environment, use attributes over card, p. 2)				
	Land for	m				
	Land for	m unit				
	Slope					
	Vegetation	on				
	N Land use					
W	E E E					
	Water Distance to permanent water sou	Irce				
		mease				
	Distance to temporary water sou	rcemetres				
	Name of nearest permanent water	er source				
	Name of nearest temporary water	er				
SWS	SE					

NPWS	S FEATUR	RE RECO	RDING TABI	LE - ART	EFACT				ра	ge 2
Stone Artefact S										
Instance No.	Recording Date	Artefact Material	Artefact Type	Platforn Surface		e Termination	Cross Section	Lengtl (mm)	Width (mm)	Thickness (mm)
1	13/09/2013	Mudstone	Flake							
			Ot	her Artef	act Type					SS
Instance	Recordin		act Artefact			scription		Length (mm)	dth m	Thickness (mm)
No.	Date	Mater	rial			·		Le G	ξ E	Ħ Ē
Mater Basalt	ial	Clear glass	Artefact Des	cription Flake tool		Platform Surfac		erminat ather	ion	
Chert	ained siliceous	Ceramic	Anvil Axe	Flaked pie Hammerst	ce	Flake scar More than one flake	Hir	nge		
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slat)	Faceted Ground		itrepasse oolar		
Quartzit Sandsto	one	Nail Button Shell	Core Core tool Cyclon	Mortar Muller	İ	Indeterminate Bipolar				
Silcrete Green g Amber g	glass	Bone Wood	Distal fragment Eloura	Nuclear to Pirri Proximal fi		Platform Type	С	ross Se	ection	
Amethy		Resin	Flake	Tula Other diag	nostic type	W Focal	Hi	gh/strong gh/weak		
				Modified Unworked		\$hattered Indeterminate		w/weak egular		
						Bipolar				
Comm	nents:									





Office Use Only Site Number	
Entered by (I.D.)	
Information Access	
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address	
Phone number Fax Fax	
Knowledge Holder	
Title Surname First Name Initials	Client on
	Client on system
Organisation	
Address	
Phone number Fax Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 5 1	
Easting 3 2 1 9 9 9 Northing 6 3 8 5 3 4 1 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Primary Recorder	
Title Surname First Name Initials	
MS NELSON LARAINE	
	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	

NPWS Aboriginal Site Recording Form - Site Information

page 3

Gene	ral Site Information	Features	
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation Rock Surface Condition		Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	VE-SW	4. Artefact
Water erosion	Silica gloss	E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions									
Closed Site Dimensions (m)									
	Internal length								
	Internal width								
	Shelter height								
	Shelter floor area								
Open Site D	dimensions (m)								
20	Total length of visible site								
5	Average width of visible site								
100	Estimated area of visible site								
	Length of assessed site area								

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Sta	atement page 4
Aboriginal Community Interpretation and Management Recommendations	
Preliminary Site Assessment	
Site Cultural & Scientific Analysis and Preliminary Management Recommendations	
The artefacts at this site was situated on the surface of a contour bank which has been affected by s	sheet wash. The
contour bank was at the base of a haul road windrow used as erosion control and consisted of piled	clay sandy soils with
pebble laterite. There is no likelihood of in situ artefacts. Ground Surface Visibility and Ground Surface	ace Exposure was very
high. The surrounding landform was highly modified.	
This section should only be filled in by the Endorsees	
	Community Consensus
Title Surname First Name	Initials
Organisation	
Address	
Phone number Fax	
Attachments (No.) Comments	
A4 location map	
B/W photographs ————————————————————————————————————	
Colour photographs ————————————————————————————————————	
Slides	
Aerial photographs	
Site plans, drawings	
Recording tables	
Other	
Feature inserts-No.	

NPWS FEATURE RECORDING FORM - ARTEFACT					
Site I.D.					
First recorded date 13/09/2013	Importance				
No. of instances 3					
Recorded by LN					
Yes No Stone artefacts only Yes	Development of New Stone Autofasts to Development of Stone	o Autofooto			
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Ston				
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	% 90-100% 			
Feature Context & Condition Sca	tter No. Easting Northing				
Density	Dimensions	Yes No			
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ Stratified			
Feature Condition General Cond	dition Recommended Action	Stratified			
	Boardwalk	egetation			
Very good Weathers	ed	nage			
Good Vehicle d	amage	erosion control			
Poor Surface v	vater wash				
Fire dama	age	ck closure/re-routing			
Erosion		itional recording			
Stock da	mage Expert assessment				
	archaeological material Meeting with land manager				
Feature Plan (Indicate scale, local	NE				
w	di	Complete when feature environment iffers to site environment, use attributes om cover card, p. 2)			
	Land	form			
	Land	form unit			
	Slope				
	Veget	tation			
	N Land				
W	Water				
	Distance to permanent water	source			
	Distance to temporary water s	mouse			
	Name of nearest permanent v	vater source			
	Table 5 House permanent				
	Name of nearest temporary w	ater			
	SE				
SWS	JL				

NPWS	S FEATUR	RE RECO	RDING TABL	E - ARTEF	ACT				pe	ige 2
	Stone Artefact %									
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	13/09/2013		Core							
2	13/09/2013		Flake							
3	13/09/2013	Silcrete	Core							
			Oti	oor Artofoo	t Type					υ
Instance	Recordin	g Artefa		ner Artefac		scription		gth m	= 근	knes im)
No.	Date	Mate		туре	Des	БСПРШОП		Length (mm)	Width (mm)	Thickness (mm)
Mater	ial		Artofact Door	rintian		Platform Surfac	o To	rminat	ion	
Basalt	ıaı	Clear glass	Artefact Des	Flake tool	(Cortex	Fe	ather	1011	
	ained siliceous	Ceramic Porcelain	Anvil Axe	Flaked piece Hammerstone		Flake scar More than one flake		р		
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground		trepasse olar		
Quartzit Sandsto		Nail Button	Core Core tool	Mortar Muller		Indeterminate Bipolar				
Silcrete Green g		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri						
Amber (glass	Wood Resin	Eloura Flake	Proximal fragr Tula		Platform Type W		ross Se gh/strong	ection	
,	or glaco			Other diagnos Modified	lio typo	Focal \$ hattered	Hiç	gh/weak w/weak		
				Unworked		Indeterminate Bipolar		egular		
0.5.77	aonte:									
Comm	nents:									





Office Use Only	
Site Number	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Information Access	055 11
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address Address	
Phone number Fax	
Knowledge Holder	
Title Surname First Name Initials	Client on
	system
Organisation	
Address	
Phone number Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Aboriginal Heritage Offic of Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 5 2	
Easting 3 2 2 0 4 7 Northing 6 3 8 5 3 5 3 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Curon regionation	
Primary Recorder	
Title Surname First Name Initials	
MS NELSON LARAINE	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 13/09/2013	

General Site Information							Features			
Closed Site	е			Op	en Site		1. Aboriginal Ceremony & Dreaming			
Shelter/Cave	Formation R	Roc	k Surface Condition	Site	Orientation		2. Aboriginal Resource & Gathering			
Boulder			Boulder		N-S		3. Art			
Wind ero	sion		Sandstone platform	✓	NE-SW	✓	4. Artefact			
Water er	osion		Silica gloss		E-W		5. Burial			
Rock coll	apse		Tessellated	Щ	SE-NW		6. Ceremonial Ring			
			Weathered		N/A		7. Conflict			
			Other platform				8. Earth Mound			
Condition of	Ceiling S	She	Iter Aspect				9. Fish Trap			
Boulder			North				10. Grinding Groove			
Sandstor	ne platform		North East				11. Habitation Structure			
Silica glo	ss		East				12. Hearth			
Tessellat	ed		South East				13. Non Human Bone & Organic Material			
Weather	ed		South				14. Ochre quarry			
Other pla	tform		South West				15. Potential Archaeological Deposit			
			West				16. Stone Quarry			
			North West				17. Shell			
							18. Stone Arrangement			
							19. Modified Tree			
							20. Water Hole			

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions									
Closed Site Dimensions (m)	Closed Site Dimensions (m)								
Internal length									
Internal width									
Shelter height									
Shelter floor area									
Open Site Dimensions (m)									
Total length of vis	ible site								
Average width of	visible site								
Estimated area of	visible site								
Length of assesse	ed site area								

NPWS Aboriginal Site Recording Form - Site Interpretation and Community Statement page 4
Aboriginal Community Interpretation and Management Recommendations
Preliminary Site Assessment
Site Cultural & Scientific Analysis and Preliminary Management Recommendations
The silcrete blade at this site was situated on the surface of a contour bank which has been affected by sheet wash. The
contour bank was at the base of a haul road windrow used as erosion control and consisted of piled clay sandy soils with
pebble laterite. There is no likelihood of in situ artefacts Ground Surface Visibility and Ground Surface Exposure was very
high. The surrounding landform was highly modified.
This confine that the fill of the factors are
This section should only be filled in by the Endorsees
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus
Title Surname First Name Initials
Organisation Organisation
Address
Phone number Fax Fax
Attachments (No.) Comments
A4 location map
B/W photographs
Colour photographs —
Slides
Aerial photographs
Site plans, drawings Recording tables
Recording tables
Other
Feature inserts-No.

NPWS FEATURE RECORD	DING FORM - ARTEFACT	page 1					
Site I.D.	Site Name MTW 552						
First recorded date 13/09/2013	importants.						
No. of instances 1							
Recorded by LN							
Yes No Stone artefacts only Yes	Development of New Stand Autofacts to Development of Stand	Autofooto					
Artefacts collected No	Percentage of Non-stone Artefacts to Percentage of Stone						
Permit issued No	0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 0-9%	90-100%					
Feature Context & Condition Sca	tter No. Easting Northing						
Density	Dimensions	Yes No					
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ					
		Stratified					
Feature Condition General Cond	dition Recommended Action						
	. Boardwalk Reve	getation					
Very good Weathere	Fencing	age					
Good Vehicle d	amage Closure to public Soil e	erosion control					
	Continued inspection Track closure/re-routing						
Fire dama	Fire hazard reduction Additional recording						
Erosion		onal rootraing					
Stock dar							
Exposed	archaeological material Meeting with land manager						
Feature Plan (Indicate scale, local	tion of instances)						
N W		implete when <i>feature</i> environment					
	diffe	ers to site environment, use attributes n cover card, p. 2)					
	Land for	orm					
	Land for	orm unit					
	Slope						
	Vegeta	ation					
	N Land u						
W	E	9 <u>C</u>					
	Water						
	Distance to permanent water so	mouse					
	Distance to temporary water so	ourcemetres					
	Name of account and account and account accoun	otor course					
	Name of nearest permanent wa	ater source					
	Name of nearest temporary wa	ter					
SW	SE						

NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2									
			5	Stone Artefa	ict					SS
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	13/09/2013	Silcrete	Flake							
Inotonoo		2		ner Artefact –				를 (c)	도 🗢	Thickness (mm)
Instance No.	Recordin Date	g Artefa Mater		Туре	Des	scription		Length (mm)	Width (mm)	Pick (m
Mater	ial		Artefact Desc	crintion		Platform Surfac	·a Te	rminat	ion	
Basalt Chert Fine gra Granite	ained siliceous	Tin can	Adze Anvil Axe Backed blade	Flake tool Flaked piece Hammerstone Manuport	(F ! F	Cortex Flake scar More than one flake Faceted	Fea Hir scar Ste Ou	ather ige ep trepasse	1011	
Quartz Quartzit Sandsto Silcrete	one	Wire Nail Button Shell	Blade Core Core tool Cyclon	Milling slab Mortar Muller Nuclear tool	I	Ground ndeterminate Bipolar	Вір	olar		
Green g Amber g Amethy	glass glass	Bone Wood Resin	Distal fragment Eloura Flake	Pirri Proximal fragm Tula	,	Platform Type	Hiç	ross Se	ection	
				Other diagnosti Modified Unworked	()	Focal Shattered Indeterminate Bipolar	Lo	gh/weak w/weak egular		
Comm	nents:									



Aboriginal Site Recording Form

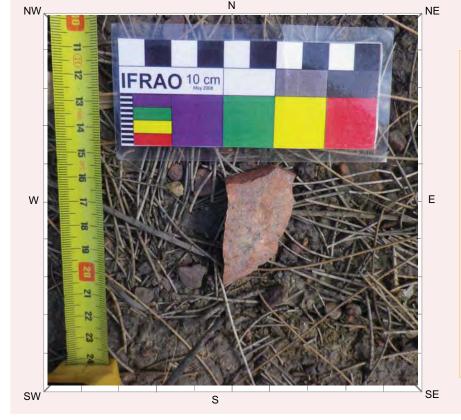


AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	
Site Number	
Date received Date entered into system Date catalogued	
Entered by (I.D.)	
Information Access	055
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation	system
Address	
Phone number Fax	
Knowledge Holder	
Title Surname First Name Initials	Client on
	system
Organisation	
Address	
Phone number Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Aboriginal Heritage Offic of Cultural Heritage Division Contacts	
Geographic Location	
Site Name M T W 5 5 3	
Easting 3 2 2 0 9 5 Northing 6 3 8 5 3 8 3 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Carlot regionation	
Primary Recorder	
Title Surname First Name Initials	
MS NELSON LARAINE	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 13/09/2013	

Gene	ral Site Information	Features			
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming		
Shelter/Cave Formation R	ock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering		
Boulder	Boulder	N-S	3. Art		
Wind erosion	Sandstone platform	✓ NE-SW	4. Artefact		
Water erosion	Silica gloss	E-W	5. Burial		
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring		
	Weathered	N/A	7. Conflict		
	Other platform		8. Earth Mound		
Condition of Ceiling	Shelter Aspect		9. Fish Trap		
Boulder	North		10. Grinding Groove		
Sandstone platform	North East		11. Habitation Structure		
Silica gloss	East		12. Hearth		
Tessellated	South East		13. Non Human Bone & Organic Material		
Weathered	South		14. Ochre quarry		
Other platform	South West		15. Potential Archaeological Deposit		
	West		16. Stone Quarry		
	North West		17. Shell		
			18. Stone Arrangement		
			19. Modified Tree		
			20. Water Hole		

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions									
Closed Site	Dimensions (m)								
	Internal length								
	Internal width								
	Shelter height								
	Shelter floor area								
Open Site D	dimensions (m)								
100	Total length of visible site								
5	Average width of visible site								
500	Estimated area of visible site								
	Length of assessed site area								

Aboriginal Community Interpretation and Management Recommendations Preliminary Site Assessment Site Cultural & Scientific Analysis and Preliminary Management Recommendations This site was situated at the end of a contour bank which gentle sloped to the north west. Disturbances at the site included previous fence construction, previous ontouring and previous farming practices. The contour bank consisted of clay sandy soils with pebble laterite. Ground surface visibility and exposure was moderate to high. The surrounding landform was highly modified. This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Initials Organisation Address Phone number Fax Attachments (No.) Comments Attachments (No.) Comments Attachments (No.) Comments Action photographs Sides Sides Aerial photographs Siste plans, drawings Recording tables Other Feature inserts-No.	NPWS Aboriginal Site I	Recording Form - Site Interpretation and Community Statem	ent page 4
Preliminary Site Assessment Site Cultural & Scientific Analysis and Preliminary Management Recommendations This site was situated at the end of a contour bank which gentle sloped to the north west. Disturbances at the site included previous fence construction, previous contouring and previous farming practices. The contour bank consisted of day sandy solls with pebble laterite. Ground surface visibility and exposure was moderate to high. The surrounding landform was highly modified. This section should only be filled in by the Endorsees Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Attachments (No.) Comments Attachments (No.) Comments Attachments (No.) Comments Site plans, drawings Recording tables Other	Aboriginal Community Inter	pretation and Management Recommendations	
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Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other			
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other			
Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other			
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Endorsed by: Knowledge Holder Nominated Trustee Native Title Holder Community Consensus Title Surname First Name Initials Organisation Address Phone number Fax Attachments (No.) Comments B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other			
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Title Surname First Name Initials Organisation Address Phone number Attachments (No.) Comments A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other	This section should only be fil	led in by the Endorsees	
Organisation Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other	Endorsed by: Know	ledge Holder Nominated Trustee Native Title Holder Comm	nunity Consensus
Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other	Title	Surname First Name	Initials
Address Phone number Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other			
Attachments (No.) Attachments (No.) A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other	Organisation		
Attachments (No.) Comments A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other	Address		
Attachments (No.) Comments A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other	Phone number	Fax Fax	
A4 location map B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other	Attachments (No.)	Comments	
B/W photographs Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other		Comments	
Colour photographs Slides Aerial photographs Site plans, drawings Recording tables Other			
Slides Aerial photographs Site plans, drawings Recording tables Other			
Aerial photographs Site plans, drawings Recording tables Other			
Site plans, drawings Recording tables Other	Slides		
Recording tables Other	Aerial photographs		
Other	Site plans, drawings		
	Recording tables		
Feature inserts-No.	Other		
	Feature inserts-No.		

NPWS FEATURE RECORDING FORM - ARTEFACT	page 1
Site I.D. Site Name MTW 553 Importance First recorded date 13/09/2013 No. of instances 9 Recorded by LN Yes No Stone artefacts only Artefacts collected No Permit issued No Permit issued No Scatter No. Easting Northing Density Dimensions	efacts
Feature Condition Very good Good Poor Weathered Surface water wash Weathered Closure to public Recommended Action Boardwalk Fencing Signage Closure to public Soil erosion	on control sure/re-routing
	e metres metres
SW SE	

NPWS	FEATUR	RE RECO	RDING TAI	BLE - A	RTEFA	CT				ре	ige 2
				Stone	Artefa	ct					SS
Instance No.	Recording Date	Artefact Material	Artefact Typ		tform rface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
	13/09/2013		Blade								
	13/09/2013		Flake								
	13/09/2013	Silcrete Fine Grained	Scraper								
	13/09/2013		Flake								
Instance No.	Recordin Date		(act Artefa	Other A	rtefact		scription		Length (mm)	Width (mm)	Thickness (mm)
Materi	ial		Artefact De	escriptio	n		Platform Surfac	се Тє	erminat	ion	
Basalt Chert Fine gra Granite Quartz Quartzit Sandsto Silcrete Green g Amber g	one glass	Clear glass Ceramic Porcelain Tin can Wire Nail Button Shell Bone Wood Resin	Adze Anvil Axe Backed blade Blade Core Core tool Cyclon Distal fragmen Eloura Flake	Flake Flake Flake Ham Manu Millin Morte Mulle Nucle t Pirri Prox Tula Othe Modi	e tool ed piece merstone uport g slab ar er ear tool imal fragme r diagnostic	ent to type	Cortex Flake scar More than one flake Faceted Ground Indeterminate Bipolar Platform Type W Focal Shattered Bipolar Bipolar	scar Ste Ou Bip CI Hig Hig Lo	ather nge tep trepasse toolar ross Se gh/strong gh/weak w/weak egular		
Comm	nents:										



Aboriginal Site Recording Form



AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only	
Site Number	
Date received/ Date entered into system/ Date catalogued/	
Entered by (I.D.)	
Information Access	055
Gender/male Gender/female Location restriction General restriction No access	Office Use Only
For Further Information Contact:	
Nominated Trustee	
Title Surname First Name Initials	
	Client on
Organisation Organisation	system
Address	
Phone number Fax	
Knowledge Holder	
Title Surpame First Name Initials	Client on
	system
Organisation Organisation	
Address	
Phone number Fax Fax	
Aboriginal Heritage Unit or Cultural Heritage Division Contacts	
Abonginal heritage offic of Cultural heritage Division Contacts	
Geographic Location	
Site Name M T W 5 5 4	
Easting 3 2 2 2 0 0 Northing 6 3 8 5 4 3 6 AGD/GDA GDA	
Mapsheet B U L G A 9 1 3 2 4 S	
Zone 56 Location Method Differential GPS	
Other Registration	
Carlot Proglotication	
Primary Recorder	
Title Surname First Name Initials	
MS NELSON LARAINE	
Organisation R P S	Client on
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4	
Date recorded 13/09/2013	

	Genei	ral	Site Information				Features			
Closed Sit	е			Op	en Site		1. Aboriginal Ceremony & Dreaming			
Shelter/Cave	Formation R	Roc	k Surface Condition	Site Orientation		2. Aboriginal Resource & Gathering				
Boulder			Boulder		N-S		3. Art			
Wind ero	sion		Sandstone platform	✓	NE-SW	✓	4. Artefact			
Water er	osion		Silica gloss		E-W		5. Burial			
Rock collapse Tessellated Weathered		Tessellated	SE-NW		6. Ceremonial Ring					
Rock collapse Tessellated Weathered Other platform Condition of Ceiling Boulder Sandstone platform North North East			N/A	7. Conflict						
			Other platform				8. Earth Mound			
Condition of	Ceiling S	She	Iter Aspect				9. Fish Trap			
Boulder			North				10. Grinding Groove			
				L	11. Habitation Structure					
Silica glo	ss		East			12. Hearth				
Tessellat	ed		South East			L	13. Non Human Bone & Organic Material			
Weather	ed		South			L	14. Ochre quarry			
Other pla	ıtform		South West			L	15. Potential Archaeological Deposit			
			West			L	16. Stone Quarry			
			North West			17. Shell				
							18. Stone Arrangement			
							19. Modified Tree			
							20. Water Hole			

Site Plan Indicate scale, boundaries of site, features N



Site Dimensions									
Closed Site	Dimensions (m)								
	Internal length								
	Internal width								
	Shelter height								
	Shelter floor area								
Open Site D	imensions (m)								
10	Total length of visible site								
5	Average width of visible site								
50	Estimated area of visible site								
	Length of assessed site area								

NPWS Aboriginal Site F	Recording Form - Site Interpretation and Community Statement page	ge 4
Aboriginal Community Interp	pretation and Management Recommendations	
, , , , , , , , , , , , , , , , , , ,		
Preliminary Site Asses	sment	
<u> </u>	nalysis and Preliminary Management Recommendations	
	e situated on cracking clays which was water logged from mine drainage control works. I	MTW
	facing gentle slope. The surroundings were highly disturbed from sheet wash, previous fe	
	The mudstone artefacts were situated on the B horizon soils in a modified landform. Grou	
_	d Surface Exposure was moderate.	
	·	
This section should only be fill	led in by the Endorsees	
Endorsed by: Know	rledge Holder Nominated Trustee Native Title Holder Community Conse	ensus
Title	Surname First Name Initials	
Organisation]
Address		
Phone number	Fax Fax	
Attachments (No.)	Comments	
A4 location map		
B/W photographs		
Colour photographs		
Slides		—
Aerial photographs		
Site plans, drawings		—
Recording tables		
Other		
Feature inserts-No.		—

NPWS FEATURE RECORD	DING FORM - ARTEFACT	page 1								
Site I.D.	Site Name MTW 554 Importance									
First recorded date 13/09/2013	importants.									
No. of instances ²										
Recorded by LN										
Yes No Stone artefacts only Yes Percentage of Non-stone Artefacts to Percentage of Stone Artefacts										
Artefacts collected N.										
Permit issued No 0-9% 10-19% 20-29% 30-39% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%										
Feature Context & Condition Scatter No. Easting Northing										
Density	Dimensions	Yes No								
(Artefact count per square metre)	Length (m) Width (m) Depth (m)	In situ								
		Stratified								
Feature Condition General Cond	dition Recommended Action									
	Boardwalk	getation								
Very good Weathere	Fencing Signs									
Good Vehicle d	amage	erosion control								
Poor Surface v	vater wash	k closure/re-routing								
Fire dama	age — — — · · · · · · · · · · · · · · · ·	tional recording								
Erosion		ional recording								
Stock dar	mage Expert assessment									
Exposed	archaeological material Meeting with land manager									
Feature Plan (Indicate scale, locate N										
w	diffe	omplete when <i>feature</i> environment fers to <i>site</i> environment, use attributes m cover card, p. 2)								
		n cover card, p. 2)								
	Land for	orm								
		orm unit								
	Slope	C Will								
	Vegeta									
W	N E Land u	ise								
	Water									
	Distance to permanent water s	ource metres								
	Distance to temporary water so	ource metres								
	Name of nearest permanent wa	ater source								
	Name of nearest temporary wa	iter								
sw	SE									

NPWS	NPWS FEATURE RECORDING TABLE - ARTEFACT page 2								age 2	
	Stone Artefact SS									
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Type	e Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
1	13/09/2013	Mudstone	Core							
1	13/09/2013	Mudstone	Flake							
			04	as Artafasi	t Tuno					ဟ
Instance	Recordin	ıg Artefa		her Artefac		arintian		ath m)	# ~	Thickness (mm)
No.	Date	Mate		туре	Des	scription		Length (mm)	Width (mm)	Pic T
Mater	ial		Artefact Dec	nuimti a m		Platform Surfac	. To	rminat	ion	
Basalt	ıaı	Clear glass	Artefact Des	Flake tool	(Cortex	Fe	ather	1011	
Chert Fine gra	ained siliceous	Ceramic Porcelain	Anvil Axe	Flaked piece Hammerstone		Flake scar More than one flake		р		
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground		trepasse olar		
Quartzii Sandsto		Nail Button	Core Core tool	Mortar Muller		Indeterminate Bipolar				
Silcrete Green g		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri						
Amber (glass	Wood Resin	Eloura Flake	Proximal fragm Tula		Platform Type W		ross Se gh/strong	ection	
,e,	or glass			Other diagnost Modified	iio typo	Focal \$ hattered	Hiç	gh/weak w/weak		
				Unworked		ndeterminate Bipolar		egular		
						•				
Comn	nents:									



Aboriginal Site Recording Form

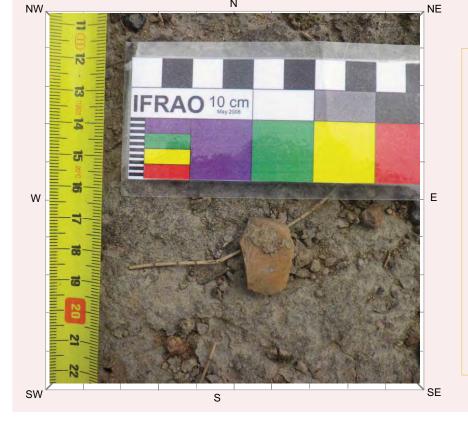


AHIMS Registrar PO Box 1967, Hurstville NSW 2220

Office Use Only							
Site Number							
Date received Date entered into system Date catalogued							
Entered by (I.D.)							
Information Access	055						
Gender/male Gender/female Location restriction General restriction No access	Office Use Only						
For Further Information Contact:							
Nominated Trustee							
Title Surname First Name Initials							
	Client on						
Organisation	system						
Address							
Phone number Fax							
Knowledge Holder							
Title Surname First Name Initials	Client on						
	system						
Organisation							
Address							
Phone number Fax							
Aboriginal Heritage Unit or Cultural Heritage Division Contacts							
Aboriginal heritage offic of Cultural Heritage Division Contacts							
Geographic Location							
Site Name M T W 5 5 5 5							
Easting 3 2 2 1 9 5 Northing 6 3 8 5 4 5 8 AGD/GDA GDA							
Mapsheet B U L G A 9 1 3 2 4 S							
Zone 56 Location Method Differential GPS							
Other Registration							
Primary Recorder							
Title Surname First Name Initials							
MS NELSON LARAINE							
Organisation R P S	Client on						
Address P O B O X 4 2 8 H A M I L T O N N S W 2 3 0 3	system						
Phone number 2 4 9 4 0 4 2 0 0 Fax 2 4 9 6 1 6 7 9 4							
Date recorded 13/09/2013							

Gene	eral Site Information		Features
Closed Site		Open Site	1. Aboriginal Ceremony & Dreaming
Shelter/Cave Formation	Rock Surface Condition	Site Orientation	2. Aboriginal Resource & Gathering
Boulder	Boulder	N-S	3. Art
Wind erosion	Sandstone platform	NE-SW	√ 4. Artefact
Water erosion	Silica gloss	✓ E-W	5. Burial
Rock collapse	Tessellated	SE-NW	6. Ceremonial Ring
	Weathered	N/A	7. Conflict
	Other platform		8. Earth Mound
Condition of Ceiling	Shelter Aspect		9. Fish Trap
Boulder	North		10. Grinding Groove
Sandstone platform	North East		11. Habitation Structure
Silica gloss	East		12. Hearth
Tessellated	South East		13. Non Human Bone & Organic Material
Weathered	South		14. Ochre quarry
Other platform	South West		15. Potential Archaeological Deposit
	West		16. Stone Quarry
	North West		17. Shell
			18. Stone Arrangement
			19. Modified Tree
			20. Water Hole

Site Plan Indicate scale, boundaries of site, features



Site Dimensions								
Closed Site	Dimensions (m)							
	Internal length							
Closed Site Dimensions (m)								
	Internal length Internal width Shelter height Shelter floor area Deen Site Dimensions (m) Total length of visible site Average width of visible site Estimated area of visible site							
Shelter floor area								
Open Site D	Dimensions (m)							
5	Total length of visible site							
5	Average width of visible site							
25	Estimated area of visible site							
	Length of assessed site area							

NPWS Aboriginal Site Record	ing Form - Site Inte	erpretation and Community State	ment page 4
Aboriginal Community Interpretation	n and Management Reg	commendations	
January market	g		
-			
			_
Preliminary Site Assessment			
Site Cultural & Scientific Analysis a			
		rroundings were highly disturbed from she ne B horizon soils in a modified landform.	
Visibility and Ground Surface Exposi		ie B norizon solis in a modilied landform. (Ground Surface
Visibility and Ground Surface Exposi	are was nign.		
This section should only be filled in by	the Endorsees		
Endorsed by: Knowledge He Title		rustee	mmunity Consensus Initials
riue	Surname	riist Name	
Organisation			
Address			
Phone number		Fax Fax	
` ,	nents		
A4 location map			
B/W photographs ——			
Colour photographs			
Slides			
Aerial photographs			
Site plans, drawings			
Recording tables			
Other			
Feature inserts-No.			

NPWS FEATURE RECORDING FORM - ARTEFACT page										
Site I.D. Site Name MTW 555										
First recorded date 13/09/2013										
No. of instances 2										
Recorded by LN										
Yes No Stone artefacts only Yes Percentage of Non-sto	ne Artefacts to Percentage of Stone Artefacts									
Artefacts collected No.	% 40-49% 50-59% 60-69% 70-79% 80-89% 90-100%									
Permit issued No 0-9% 10-19% 20-29% 30-39% 40-49% 50-39% 60-69% 70-79% 80-69% 90-100%										
Feature Context & Condition Scatter No. Easting Northing										
Density Dimensions	Yes No									
(Artefact count per square metre) Length (m)	Width (m) Depth (m) In situ Stratified									
Feature Condition General Condition Re	commended Action									
	Boardwalk Revegetation									
Very good Weathered	Fencing Signage									
Good Vehicle damage	Closure to public Soil erosion control									
Poor Surface water wash	·									
Fire damage	Continued inspection Track closure/re-routing									
Erosion	Fire hazard reduction Additional recording									
Stock damage	Expert assessment									
Exposed archaeological material	Meeting with land manager									
Feature Plan (Indicate scale, location of instances) N W IFRAO 10 cm	Feature Environment (Complete when feature environment differs to site environment, use attributes from cover card, p. 2) Land form Land form unit Slope Vegetation Land use Water Distance to permanent water source metres Distance to temporary water source Name of nearest permanent water source Name of nearest temporary water									
SW	SE									

NPWS FEATURE RECORDING TABLE - ARTEFACT page 2								age 2		
	Stone Artefact S									
Instance No.	Recording Date	Artefact Material	Artefact Type	Platform Surface	Platform Ty	pe Termination	Cross Section	Length (mm)	Width (mm)	Thickness (mm)
	13/09/2013		Flake							
2	13/09/2013	Mudstone	Flake							
			Oth	er Artefa	ct Type			-		ess)
Instance	Recordin			Туре	D	escription		Length (mm)	Width (mm)	Thickness (mm)
No.	Date	Mate	rial					ج الـ	≥ €	Ę)
Materi	ial		Artefact Desc	ription		Platform Surfa	ce Te	erminat	ion	
Basalt		Clear glass Ceramic	Adze Anvil	Flake tool		Cortex	Fe	ather		
	ained siliceous	Porcelain	Axe	Flaked piece Hammerstor		Flake scar More than one flake	scar Ste			
Granite Quartz		Tin can Wire	Backed blade Blade	Manuport Milling slab		Faceted Ground		itrepasse oolar		
Quartzit Sandsto		Nail Button	Core Core tool	Mortar Muller		Indeterminate Bipolar				
Silcrete Green g		Shell Bone	Cyclon Distal fragment	Nuclear tool Pirri		·				
Amber of Amethys	glass	Wood Resin	Eloura Flake	Proximal fra Tula	gment	Platform Type		ross Se gh/strong		
Ametry	si giass	I (CSIII	i lake	Other diagno	ostic type	Focal Shattered	Hi	gh/weak w/weak		
				Modified Unworked		#ndeterminate		egular		
						Bipolar				
Comm										
Please	see attache	ed information	on							