

GUJARAT NRE COKING COAL LIMITED
A.B.N. 28 111 244 896
NRE No 1 Colliery

NRE No.1 Colliery Wonga East – Longwalls 4 & 5 EP/SMP HERITAGE MANAGEMENT PLAN





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GLOSSARY OF ABBREVIATIONS

Abbreviations	
AHA	Aboriginal Heritage Assessment
DoP&I	Department of Planning & Infrastructure
DRE	NSW Department of Trade and Investment, Regional Infrastructure and Services, Division of Resources and Energy, Industry Co-ordination Unit
EP	Extraction Plan
EP&A Act	Environmental Planning & Assessment Act 1979
ERM	Environmental Resources Management Australia
HHA	Historical Heritage Assessment
HMP	Heritage Management Plan
ILALC	Illawarra Local Aboriginal Land Council
KWA	Kullila Welfare and Housing Aboriginal Corporation
LGA	Local Government Area
LW	Longwall
Mtpa	Million tonnes per annum
NIAC	Northern Illawarra Aboriginal Collective
NRE	Gujarat NRE Coking Coal Limited
OEH	Office of Environment and Heritage
RAP	Registered Aboriginal Party
ROM	Run of Mine
SMP	Subsidence Management Plan
TARP	Trigger Action Response Plan
WVEC	Wodi Wodi Elders Corporation

1 INTRODUCTION

1.1 Project Background

Gujarat NRE Coking Coal Ltd (NRE) operates the NRE No.1 Colliery in the Southern Coalfield of New South Wales (NSW). The mine is located at Russell Vale approximately 8 km north of Wollongong and 70 km south of Sydney, within the local government areas (LGAs) of Wollongong and Wollondilly in the Illawarra region of NSW.

On 13 October 2011, the Project Approval (MP 10_0046) for the No.1 Colliery Preliminary Works Project was granted by the Minister for Planning under Section 75(J) of the *Environmental Planning and Assessment Act 1979* (EP&A Act). This approval allows NRE to continue its operations at the mine including the extraction of coal up to 1 million tonnes per annum and upgrade of and improvements to surface facilities, in addition to first workings and transport of coal to the Port Kembla Coal Terminal for shipment as required.

NRE intends to expand its mining operations at No.1 Colliery and has submitted an application for a Underground Expansion Project (MP 09_0013) which is currently under assessment by the Department of Planning and Infrastructure (DoP&I). In order to ensure the ongoing viability of the mine while awaiting the necessary approvals, NRE lodged a concurrent Subsidence Management Plan (SMP) application for the extraction of Longwalls 4 and 5 to the Department of Trade and Investment, Division of Resources and Energy (referred to herein as DRE). The SMP approval for Longwall 4 was granted on 26 March 2012 by DRE, however, approval for Longwall 5 was not granted.

NRE lodged a section 75W (s75W) Modification Application to Project Approval (MP 10_0046), located within the approved Preliminary Works 'Application Area', to modify the Preliminary Works Approval (MP 10_0046) to include:

- Amending the reference to the use of maingates (MGs) 4 and 5 from exploratory driveages to operational gateroads;
- The extraction of coal using longwall mining techniques from Longwall (LW) 4 in accordance with the approved SMP;
- The extraction of coal using longwall mining techniques from Longwall (LW) 5; and
- Development of maingates (MGs) 6, 7 and 8.

The proposed longwalls are wholly contained within the Sydney Catchment Authority (SCA) controlled Metropolitan Catchment Area, which is used to provide drinking water to Sydney and Wollongong. The longwalls lie outside the Dam Safety Committee (DSC) Notification Area for Cataract reservoir, with the reservoir high water mark located approximately 600 m northwest of Longwall 5.

This Heritage Management Plan (HMP) has been prepared in support of an Extraction Plan (EP), as required by **Condition 7/Schedule 3** of Project Approval (MP 10_0046). This HMP builds on the LW4 HMP prepared in support of the SMP application for extraction of LW4 and the NRE No.1 Colliery HMP prepared for the overall No.1 Colliery Preliminary Works Project.

The initial environmental assessments for the overall Wonga Mains Project were completed in 2011 and included an Aboriginal Heritage Assessment (AHA) (ERM 2011a) and a Historic Heritage Assessment (HHA) (ERM 2011b) undertaken by Environmental Resources Management Australia (ERM). The 2011 AHA identified four Aboriginal sites within the Longwalls 4 & 5 study area (ERM 2011a: 74, **Error! Reference source not found.**), while no historical sites being identified (ERM 2011b).

1.2 Purpose and Scope

Condition 7/ Schedule 3 of the Project Approval requires the preparation of a HMP as a component of an Extraction Plan for second workings. The purpose and scope of this HMP is to:

- Outline statutory requirements, including any performance measures to be achieved;
- Present descriptions and significance assessments for Aboriginal and historical heritage sites within the SMP area;
- Detail the methodology for the subsidence monitoring program, including baseline recording;
- Detail management options for any sites that may be affected due to mining subsidence;
- Present protocols for ongoing consultation with registered Aboriginal parties (RAPs);
- Present contingency plans for the unexpected discovery of Aboriginal objects, sites and human remains; and,
- Present contingency plans for the unexpected discovery of historical relics and sites.

1.3 Distribution

This Plan has been prepared in consultation with, and copies will be distributed to:

- Department of Planning and Infrastructure (DoP&I);
- Division of Resources and Energy (DRE);
- The Office of Environment and Heritage (OEH);
- Illawarra Local Aboriginal Land Council (ILALC);
- Northern Illawarra Aboriginal Collective (NIAC);
- Wodi Wodi Elders Corporation (WWEC); and
- Kullila Welfare and Housing Aboriginal Corporation (KWA).

NRE will make this Plan publicly available on the NRE website and will be responsible for its maintenance. A hard copy will also be kept at the NRE No.1 Colliery Mine Site.

Any revisions undertaken will be the responsibility of NRE and any notifications sent accordingly. NRE will not be responsible for maintaining uncontrolled copies beyond ensuring the most recent version is maintained on NRE's computer system, website, and hard copy at the NRE No.1 Colliery Mine Site.

1.4 Consultation

Consultation in accordance with **Condition 38/Schedule 3** of the Project Approval has been undertaken as part of the NRE No.1 Colliery HMP prepared for the overall No.1 Colliery Preliminary Works Project. This HMP includes additional Aboriginal heritage sites that were not included in the NRE No.1 Colliery HMP and additional consultation is currently being undertaken with OEH and registered Aboriginal stakeholders in regards to these sites. Details of consultation are provided below. A consultation log and copies of correspondence are provided in **Appendix B**.

1.4.1 OEH

A copy of the Draft HMP was provided to the OEH Planning & Aboriginal Heritage Conservation and Regulation team for comment on the 04 August 2012. The Planning & Aboriginal Heritage Conservation and Regulation team responded by indicating that they provided extensive advice prior to the granting of the Project Approval and declined to provide further comment. A copy of the OEH Planning & Aboriginal Heritage Conservation and Regulation team response is provided in **Appendix B**.

1.4.2 Registered Aboriginal Parties

Consultation with Aboriginal stakeholders for the Project was initiated in 2008 by ERM. Five Aboriginal parties registered for consultation and include:

- Illawarra Local Aboriginal Land Council (ILALC);
- Peter Falk Consultancy (formerly D'harawal Knowledge Holders);
- Northern Illawarra Aboriginal Collective (NIAC);
- Wodi Wodi Elders Corporation (WVEC); and,
- Kullila Welfare and Housing Aboriginal Corporation (KWHAC).

The outcomes of consultation with Registered Aboriginal Parties (RAPs) is detailed below.

Illawarra Local Aboriginal Land Council

A copy of the Draft HMP was provided to ILALC for comment on the 04 December 2012.

Peter Falk Consultancy

A copy of the Draft HMP was provided to Peter Falk Consultancy for comment on the 04 December 2012.

Northern Illawarra Aboriginal Collective

A copy of the Draft HMP was provided to NIAC for comment on the 04 December 2012.

Wodi Wodi Elders Corporation

A copy of the Draft HMP was provided to WWEC for comment on the 04 December 2012.

Kullilia Welfare and Housing Aboriginal Corporation

A copy of the Draft HMP was provided to the KWHAC for comment on the 04 December 2012.

1.4.3 Ongoing RAP Consultation Procedures

Ongoing consultation with RAPs will be required:

- In the preparation of any subsequent revisions of the HMP;
- If unanticipated Aboriginal objects are encountered;
- If Aboriginal ancestral remains are encountered; and,
- To participate in the monitoring of 52-2-0322.

When consultation is required, RAPs must be provided verbal and written notification that includes:

- The purpose and expectation of consultation;
- Details of stakeholder responsibilities, including details of expected timings; and,
- Details of any OH&S requirements to participate in fieldwork or any other consultation activities.

Detailed records of consultation with RAPs must be kept in a consultation log and include:

- Date and time of consultation;
- Details of RAP responses and copies of any correspondence with RAPs; and,
- Details of RAP involvement in the development of any management strategies or actions.

A copy of the consultation log must be held at the NRE No. 1 main office. The relevant sections of this log should be published in any monitoring report, management strategy report or any other document reporting on Aboriginal heritage and has involved Aboriginal consultation.

1.5 Report Structure

The remainder of this Management Plan is structured as follows:

Section 2: Outlines the statutory requirements applicable to the Plan.

Section 3: Outlines the baseline data and impact assessments undertaken which support this Plan.

Section 4: Details the performance measures and indicators that will be used to assess the Project.

Section 5: Describes the monitoring program.

Section 6: Describes the management, remediation and mitigation measures that will be implemented to reduce potential impacts as well as the Contingency Plan to manage any unpredicted impacts and their consequences.

Section 7: Describes the protocols for the handling of incidents, complaints and non-conformances

Section 8: Details how the Plan will be implemented, managed, reviewed and updated and managed.

Figure 1 shows this Plan's position within the NRE Environmental Management Structure.

Environmental Management Structure

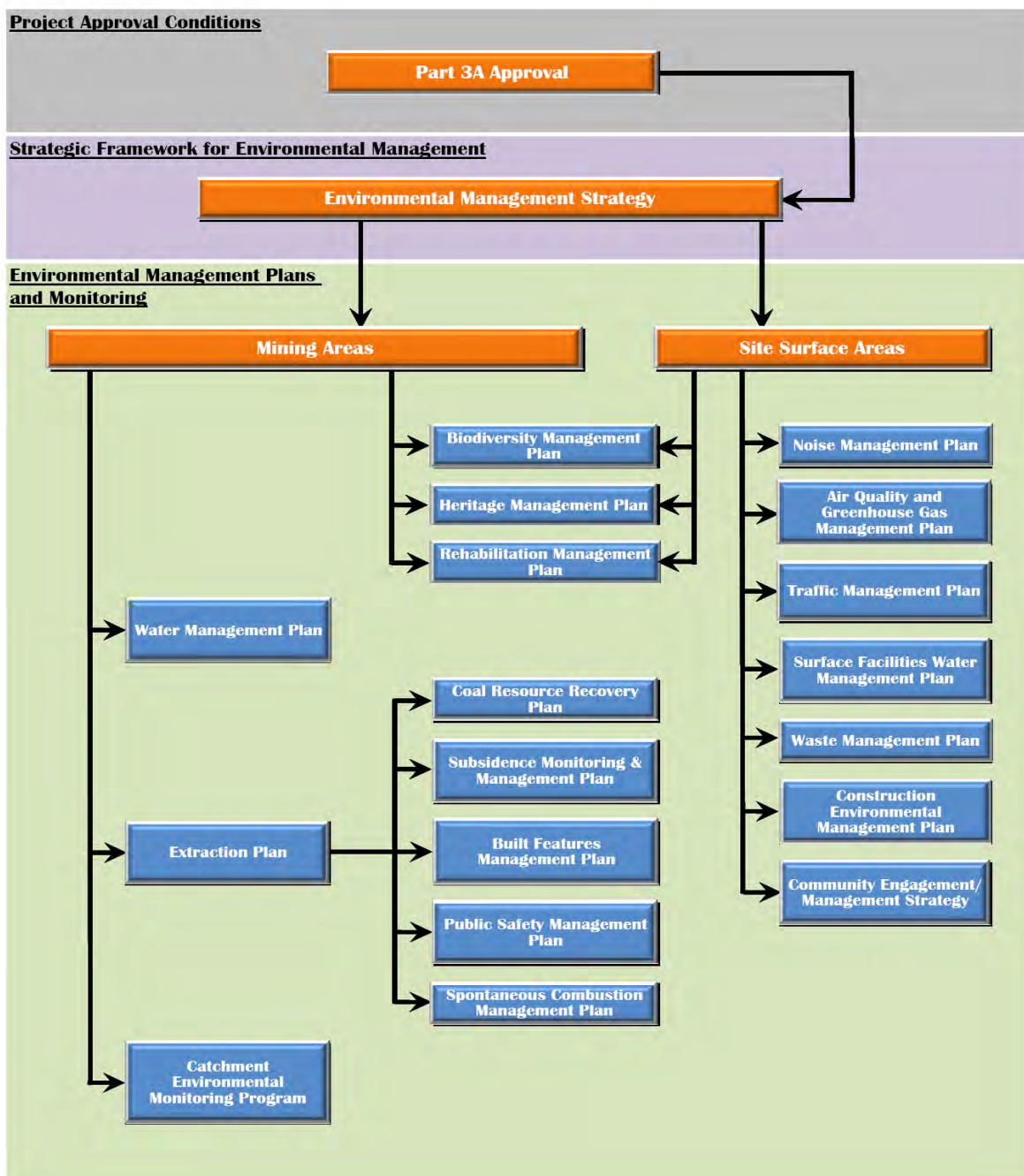


Figure 1 - Environmental Management Structure

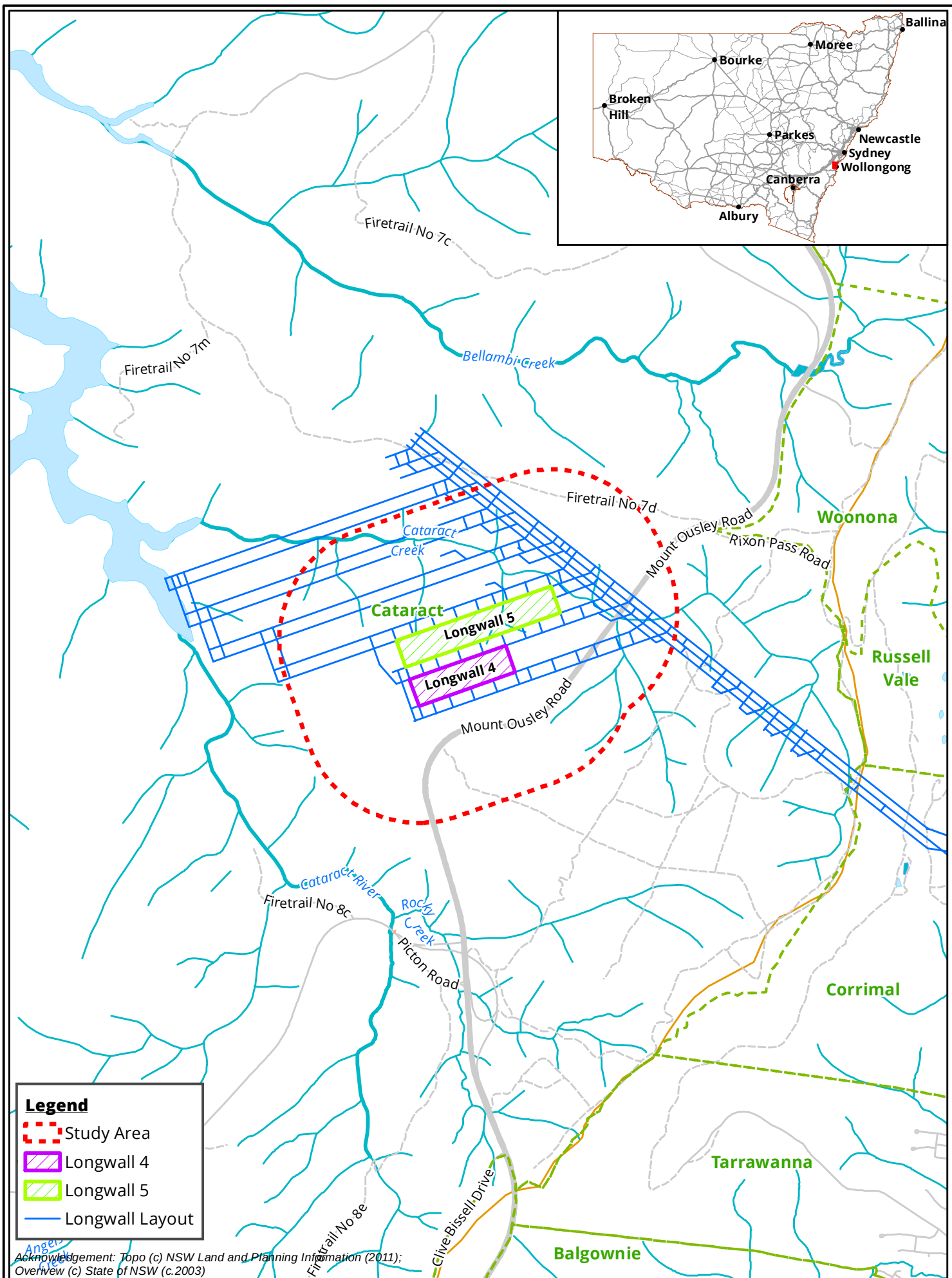
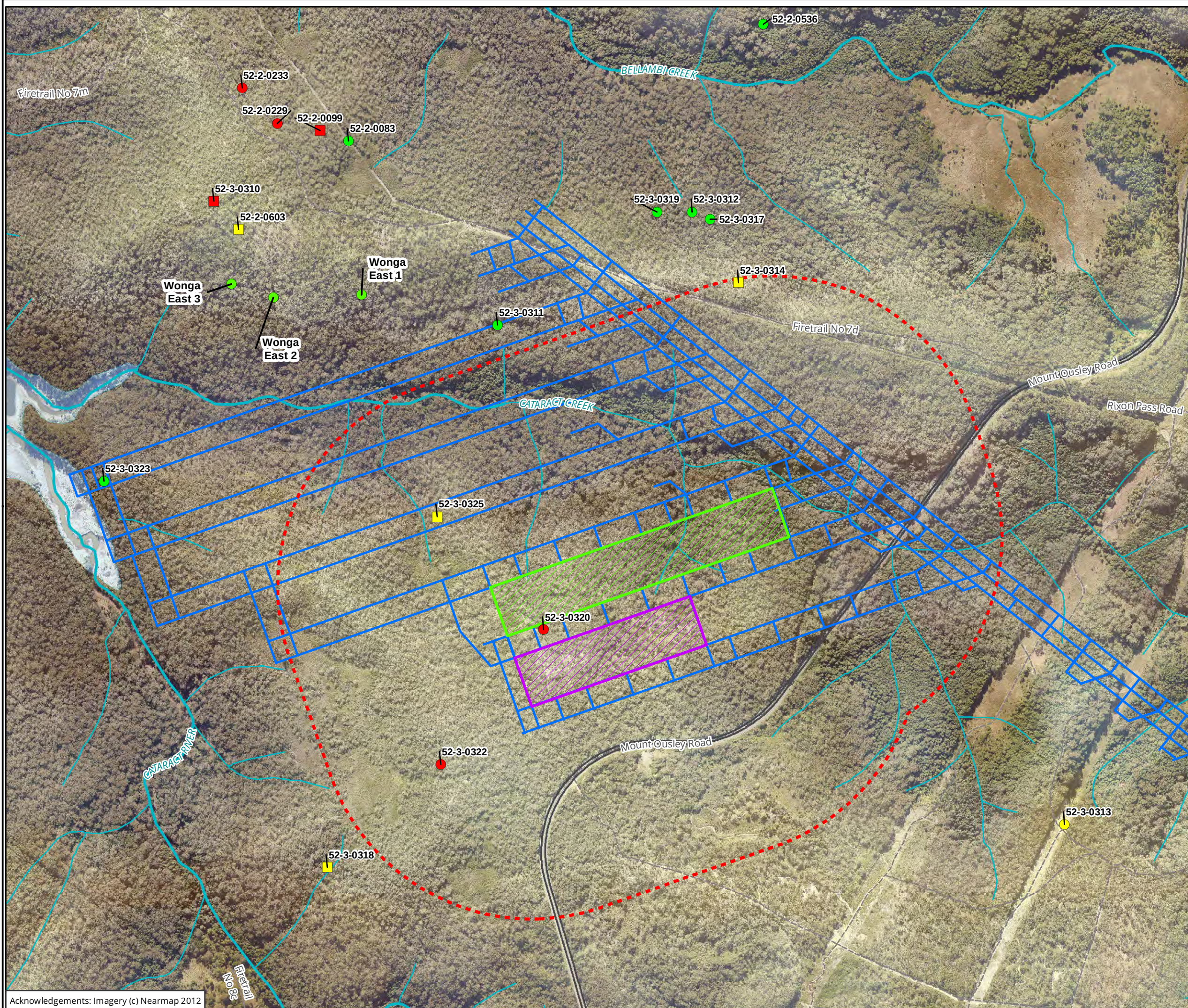


Figure 2: Location of the Survey Area in a regional context



Legend

AHIMS Site

- Axe Grinding Groove
- Axe Grinding Groove, Shelter with Art, Shelter with Deposit
- Open Camp Site
- Shelter with Art
- Shelter with Deposit

Survey Area

- Study Area
- Longwall 4
- Longwall 5
- Longwall Layout

Figure 3: Overview of the Study Area

0 100 200 300 400 500
Metres

Scale: 1:10,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

 **biosis**
Biosis Pty Ltd

Ballarat, Brisbane, Canberra, Melbourne,
Sydney, Wangaratta & Wollongong

Matter: 14516
Date: 07 December 2012,
Checked by: ASF, Drawn by: aford
Location: P:\15500s\15549\Mapping\14516 F2 Overview

2 STATUTORY REQUIREMENTS

2.1 Approval

Condition 7/ Schedule 3 of the Project Approval requires the preparation of a HMP as a component of an Extraction Plan for second workings. Approval condition 7(h1) states:

Extraction Plan

7. The Proponent shall prepare and implement an Extraction Plan for all second workings on site to the satisfaction of the Director-General. This plan must:

...

(h1) include appropriate references to:

- *water resources, biodiversity values and heritage values managed under the Water Management, Biodiversity and Heritage Management Plans required under Conditions 29,35 and 38 of Schedule 3 and;*
- *programs, procedures, management measures and the like required under those plans;*

Condition 38/ Schedule 3 of Project Approval outlines the requirements that are applicable to the preparation and performance of this HMP. **Table 2.1** indicates where each component of the condition is addressed within this Plan.

Table 2.1 - Heritage Management Plan Requirements

Project Approval Condition	Plan Section
Condition 38/Schedule 3 The Proponent shall prepare and implement a Heritage Management Plan for the project to the satisfaction of the Director-General. This Plan must: (a) be prepared in consultation with OEH, WCC, any relevant local historical organisations and any relevant Aboriginal stakeholders; (b) be submitted for approval to the Director-General within 6 months of this approval: (c) include consideration of the Aboriginal and non-Aboriginal cultural context and significance of the site; (d) detail the responsibilities of all stakeholders; and, (e) include programs/procedures and management measures for:	Section 1.4 Section 3 Section 8.1 and also NRE No.1 Colliery HMP

Project Approval Condition	Plan Section
dealing with previously unidentified Aboriginal objects (excluding human remains), including any need to halt works in the vicinity, assessment of significance, determination of appropriate mitigation measures (by a qualified archaeologist in consultation with Aboriginal stakeholders), re-commencement of works, notifying OEH, and registering the new site(s) in the OEH AHIMS register;	Section 6.3
dealing with any human remains which may be discovered, including halting of works in the vicinity; notifying NSW Police, OEH, the Department and Aboriginal stakeholders; and not recommencing any works in the vicinity unless authorised;	Section 6.3.4
heritage induction for construction personnel (including procedures for keeping records of inductions);	Section 8.3.2
ongoing Aboriginal consultation and involvement (including procedures for keeping records of this);	Section 1.4
the monitoring of site 52-2-0322 and 52-2-1223 by a qualified archaeologist and the Aboriginal community;	Section 5.1
appropriate identification, management, conservation and protection of non-Aboriginal heritage items identified on the site, particularly within the NRE No. 1 Colliery surface facilities site; and	See NRE No.1 Colliery HMP
dealing with previously unidentified non-Aboriginal heritage items which may be discovered during the project.	Section 6.3

In addition, **Condition 1/Schedule 3** and **Condition 2 to 4** and **6 to 9** of **/Schedule 5** of the Project Approval outlines the requirements that are applicable to the preparation and performance of this Management Plan. **Table 2.2** indicates where each component of the condition is addressed within this Plan.

Table 2.2 - Management Plan Requirements

Project Approval Condition	Plan Section
Condition 1/Schedule 3 The proponent shall ensure that the project does not cause any exceedance of the performance measures in Table 1, to the satisfaction of the Director General	Section 4
Condition 2/Schedule 5 2. The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include: (a) detailed baseline data; (b) a description of: the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Section 3 Section 2

Project Approval Condition	Plan Section
any relevant limits or performance measures/criteria;	Section 4
the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the project or any management measures;	Section 4
(c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Section 5
(d) a program to monitor and report on the:	
impacts and environmental performance of the project;	Section 5
effectiveness of any management measures (see c above);	Section 5
(e) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible;	Section 6.3
(f) a program to investigate and implement ways to improve the environmental performance of the project over time;	See NRE No.1 Colliery HMP
(g) a protocol for managing and reporting any:	
incidents;	Section 7.1
complaints;	Section 7.2
non-compliances with statutory requirements; and	Section 7.3
exceedances of the impact assessment criteria and/or performance criteria; and	Section 7.3
(h) a protocol for periodic review of the plan.	Section 8.5
Condition 3/Schedule 5 By the end of August 2012, and annually thereafter, the Proponent shall review the environmental performance of the project to the satisfaction of the Director-General. This review must: (a) describe the development (including any rehabilitation) that was carried out in the past calendar year, and the development that is proposed to be carried out over the next year; (b) include a comprehensive review of the monitoring results and complaints records of the project over the past calendar year, which includes a comparison of these results against the: - the relevant statutory requirements, limits or performance measures/criteria; - the monitoring results of the previous years; and, - the relevant predictions in the EA. (c) Identify any non-compliance over the past year, and describe what actions were (or are being) taken to ensure compliance; (d) Identify any trends in the monitoring data over the life of the project; (e) Identify any discrepancies between the predicted and actual impacts	Section 8.5.1

Project Approval Condition	Plan Section
of the project, and analyse the potential cause of any significant discrepancies; and, (f) Describe what measures will be implemented over the next year to improve the environmental performance of the project.	
Condition 4/Schedule 5 Within 3 months of: (a) The submission of an annual review under Condition 3 above; (b) The submission of an incident report under Condition 6 below; (c) The submission of an audit under Condition 8 below; and, (d) Any modification to the conditions of this approval (unless the conditions require otherwise), the Proponent shall review, and if necessary revise, the strategies, plans, and programs required under this approval to the satisfaction of the Director-general.	Section 8.5.3
Condition 6/Schedule 5 The proponent shall notify the director-General and any other relevant agencies of any incident that has caused, or has the potential to cause, significant risk of material harm to the environment, at the earliest opportunity. For any other incident associated with the project, the Proponent shall notify the director-General and any other relevant agencies as soon as practicable after the Proponent becomes aware of the incident. Within 7 days of the date of the incident, the Proponent shall provide the Director-general and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.	Section 7
Condition 7/Schedule 5 The Proponent shall provide regular reporting on the environmental performance of the project on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this approval, and to the satisfaction of the Director-General.	Section 5.2
Condition 8/Schedule 5 Within 12 months of this approval, and every 3 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project. This audit must: (a) Be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-general; (b) Include consultation with the relevant agencies; (c) Assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals); (d) Review the adequacy of strategies, plans or programs required under the abovementioned approvals; and, (e) Recommend appropriate measures or actions to improve the environmental performance of the project, and/or any assessment, plan or program required under the abovementioned approvals.	Section 8.5.2

Project Approval Condition	Plan Section
Condition 9/Schedule 5 Within 6 weeks of the completion of this audit, or as otherwise agreed by the director-general, the proponent shall submit a copy of the audit report to the Director-General, together with its response to any recommendations contained in the Audit Report.	Section 8.5.2

2.2 Licences and Leases

In addition to the requirements of the Project Approval, all activities at or in association with the Gujarat NRE No.1 Colliery will be undertaken in accordance with the following licences, permits and leases which have been issued or are pending.

Table 2.3 - Licences, Permits and Leases

Licence/Approval	Document No.	Issue Date/Expiry Date
Consolidated Coal Lease Renewal	745	27/12/1990 – 30/12/2023
Mining Purposes Lease	271	09/05/1991 – 09/05/2033
Mining Lease	1575	22/03/2012 – 22/03/2029
Pillar Extraction Approval T&W Mains	C90/0146(G) C91/0146(H) C01/009	31/10/2001 23/01/2002 28/06/2001
Approval to mine P&O Panels (first workings)	10.123.081	7/01/2005
DC for Thin Seam Mining P/L	D1096/01	19/09/2001
EPA Licence	12040	Current
EPA Approval for Storm Water Control Dam	90/6041 (280.021C/21)	10/08/1992
DC for Storm Water Control Dam and Water Treatment	D91/551	17/06/1992
Dangerous Goods Licence	35/021269	02/09/2008 – Renewal ongoing
SPCC Approval for Stage 3	90/4711 (280021C/20)	04/09/1992
DC for Russell Vale Waste Emplacement	D89/839	11/04/1990
DC for Demolition of Washery	D2004/32	14/12/2004
Mining operations Plan (MOP)		01/01/2008 – 31/12/2017
Preliminary Works Major Project	MP10_0046	13/10/2011 – 13/10/2014
Complying Development Certificate – Bath House	1091/11	07/11/2011
SMP Approval – Longwall 4	11/3941	26/03/2012 – 31/03/2015
Water Extraction Licence	To be determined	Submitted to NoW in January 2009

Licence/Approval	Document No.	Issue Date/Expiry Date
EPBC Act approval	EPBC 2011/5891	12/01/2012

2.3 Relevant Legislation and Guidelines

NRE will conduct the Project consistent with the Project Approval conditions and any other legislation that is applicable. The following Acts, planning instruments and guidelines that will inform the conduct of the Project include:

- *Mining Act, 1992*
- *Contaminated Land Management Act, 1997*
- *Dangerous Goods Act, 1975*
- *Mining Act, 1992*
- *Noxious Weeds Act, 1993*
- *Road and Rail Transport (Dangerous Goods) Act, 1997*
- *Roads Act, 1993*
- *Protection of the Environment Operations Act, 1997*
- *Threatened Species Conservation Act, 1995*
- *Sydney Water Catchment Management Act, 1998*
- *Coal Mine Health and Safety Act, 2002*
- *Crown Lands Act, 1989*
- *Dams Safety Act, 1978*
- *Energy and Utilities Administration Act, 1987*
- *Fisheries Management Act, 1994*
- *Water Act, 1912*
- *Water Management Act, 2000.*
- *Work Health and Safety Act, 2011*
- *Environmental Planning and Assessment Act 1979*
- *Environment Protection and Biodiversity Conservation Act 1999*
- *Aboriginal and Torres Strait Islander Heritage Protection Amendment Act 1987*
- *ICOMOS Australia Burra Charter 1999 (the Burra Charter)*
- *National Parks & Wildlife Act 1974 (NPW Act) (as amended 2010).*

Relevant licences or approvals required under these Acts will be obtained as required.

3 IMPACT ASSESSMENT

3.1 Description of Heritage Sites

There are four Aboriginal heritage sites that have been identified in the study area (ERM 2011a: 74), as listed in **Table 3.1**.

Table 3.1 - Subsidence Impact Performance Measures for Aboriginal heritage features

Site Name	AHIMS No.	Site Type
Bulli Mine Shaft Site 21	52-3-0314	Rock shelter with Art
Bulli Mine Shaft Site 25	52-3-0320	Axe Grinding Grooves
Bulli Mine Shaft Site 31	52-3-0322	Axe Grinding Grooves
Bulli Mine Shaft Site 27	52-3-0325	Rock shelter with Art

No historical sites were identified in the study area by the HHA (ERM 2011b).

Details for Aboriginal heritage sites are provided below.

3.1.1 52-3-0314 Bulli Mine Shaft Site 21

Description

This shelter with art site was first recorded in 1984 by the Illawarra Prehistory Group in a rock outcrop on top of a knoll directly north of Firetrail No. 7D. The site consists of a 6 m long by 3 m wide and 2.5m high shelter. The art was initially described as one indeterminate figure and one indeterminate motif on the ceiling of the shelter in 1984, but was reinterpreted in 2011 by ERM as one lizard and two figures overlapping. All motifs are charcoal drawings. The site coordinate was relocated during surveys for the 2011 AHA (ERM 2011a: 49).

Statement of Significance

52-3-0314 was assessed as having high scientific significance and high cultural significance (ERM 2011a: 67). The 2011 AHA (ERM 2011a) provides the following statement of significance for the site:

This site contains shallow archaeological deposit and therefore has some potential to yield further archaeological information and artefacts. The site also contains two figures, most likely lizards in the shelters. These art motifs are not common in the area and therefore this site has high archaeological significance. (ERM 2001a: 65)

3.1.2 52-3-0320 Bulli Mine Shaft Site 25

Description

This axe grinding groove site was recorded in 1985 by the Illawarra Prehistory Group. The site consists of a 22 m by 2.5 m sandstone platform acting as a bar across an upland swamp. One axe grinding groove is located in a water seepage area on the edge of the sandstone platform. At the

time of recording the site was in a reasonable condition but was unable to be re-located during surveys for the 2011 AHA (ERM 2011a:64-66).

Statement of Significance

The 2011 AHA (ERM 2011a) does not provide a statement of significance as the site was unable to be re-located.

3.1.3 52-3-0322 Bulli Mine Shaft Site 31

Description

This axe grinding groove site was recorded in 1984 by the Illawarra Prehistory Group. The site consists of an 11 m by 22 m sandstone platform located at the base of an upland swamp and dropping off into another upland swamp. Two axe grinding grooves were located on the sandstone platform.

The site was not re-located during surveys for the 2011 AHA (ERM 2011a:64-66).

Statement of Significance

The 2011 AHA (ERM 2011a) does not provide a statement of significance as the site was unable to be re-located.

3.1.4 52-3-0325 Bulli Mine Shaft Site 27

Description

52-3-0325 Bulli Mine Shaft Site 27 is a rock shelter with art and deposit site recorded in 1984 by the Illawarra Prehistory Group. The shelter was originally recorded as being under a large block of sandstone adjacent to an upland swamp located on north side of the ridgeline. The shelter dimensions were recorded as being 4.5m long, 1.7m wide and 1.7m high. The art consists of remnants of sprayed red ochre and five flaked stone artefacts were recorded on a slope leading out of the shelter. It was estimated that there was a possible archaeological deposit of 45 cm. The site was not re-located during surveys for the 2011 AHA (ERM 2011a: 55).

Statement of Significance

The 2011 AHA (ERM 2011a) does not provide a statement of significance as the site was unable to be re-located.

3.2 Potential Impacts

3.2.1 Potential Subsidence Impacts

There is only one Aboriginal site with potential to be impacted by subsidence effects associated with longwall 4 and 5, 52-3-0320 Bulli Mine Shaft Site 25, an axe grinding groove site. 52-3-0314, 52-3-

0322 and 52-3-0325 are located outside of the predicted subsidence effect radius (see **Figure 4**, **Figure 5** and **Figure 6**).

Changes to site conditions of axe grinding grooves and engraving sites due to subsidence effects could include cracking of sandstone platforms, tree fall and change in drainage patterns. It is possible that these changes in site conditions could result in impacts to axe grinding grooves and engravings if cracks directly impact grooves or engravings, tree fall obscures grooves or engravings and/or changes in drainage patterns alters the natural setting context of axe grinding grooves.

To date, 14 axe grinding grooves and engravings on sandstone rock platforms/outcrops have been monitored for changes in site conditions as a result of mine related subsidence effects. Changes in site conditions have been recorded at one site, 52-2-0258 Flat Rock Creek 57, an axe grinding groove and engraving site at the Metropolitan Colliery (Sefton 2003). A 25 m crack running east to west was observed on the northwest section of the rock outcrop on which the site was located, however no impacts were observed to either the axe grinding grooves or the engraving (ibid: 12-13).

For a site to incur a total loss of cultural heritage value, the complete destruction of axe grinding grooves or engravings in their entirety would have to occur. Subsidence monitoring to date indicates that this is highly unlikely to occur and changes in site conditions from subsidence effects are at most only likely to result in partial loss of cultural heritage values.

The development of impact prediction methodology has attempted to provide reasonable accurate subsidence impact predictions to Aboriginal sites which, in combination with a cultural heritage significance assessment, is then used to provide adequate management and mitigation recommendations (generally subsidence monitoring).

A subsidence risk assessment for 52-3-0320 Bulli Mine Shaft Site 25 incorporating site characteristics and maximum predictions for vertical movement, tilt and strains are based on predictions provided by Seedsman Geotechnics (2012) is shown in **Table 3.2** and **Error! Reference source not found.**, **Error! Reference source not found.** and **Error! Reference source not found.**.

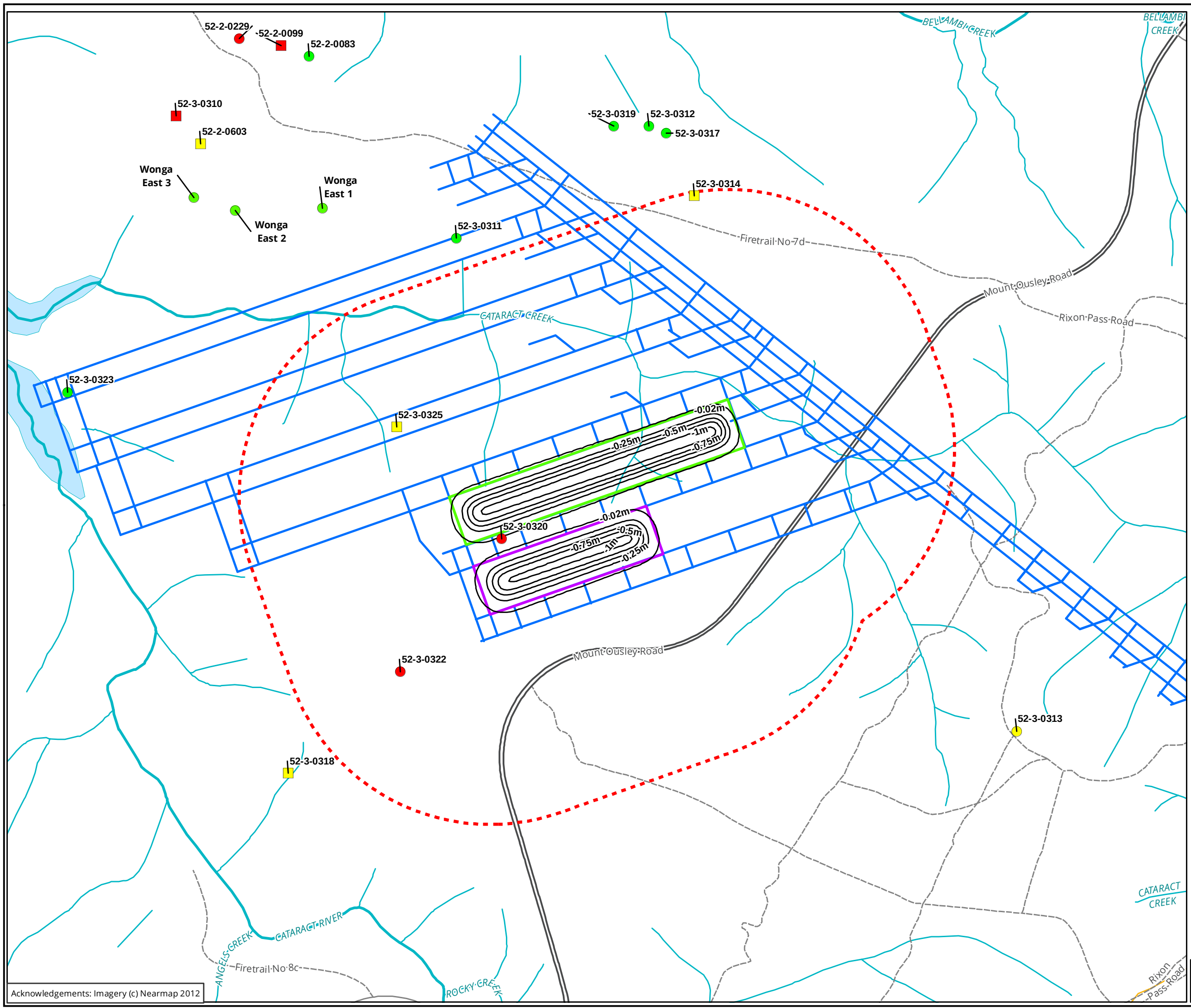
52-3-0320 Bulli Mine Shaft Site 25 has low maximum predicted systematic tensile strains and is located above a chain pillar. The risk of impact to this site is low.

Table 3.2 - Subsidence Risk Assessment

Site Name	Site Number	L (m)	W (m)	Area (m ²)	Location	Wet / DRY	Location End LW	Location in LW	DIR	SUBS	Tensile Strain	Comp Strain	Tilt	Risk Assessment
Bulli Mine Shaft Site 25	52-3-0320	22	2.5	55	VB	W	Y	CP	N	20	<0.5	0	2	Low

Abbreviations:

L	sandstone platform length
W	sandstone platform width
Area	in m ²
LOC	RT = ridge top
	UVS = upper valley slope
	LVS = lower valley slope
	VB = valley bottom (lowest cliff line)
Wet / dry	D = surfaces mainly not affected by water seepage
	W = surface mainly affected by water seepage
LOC END LW	Y = located within 100m of the end of a longwall, wither inside or outside the longwall
	N = not located within 100m of the end of a longwall, wither inside or outside the longwall
LOC IN LW	O = located outside the longwall and chain pillar
	CP = located under the longwall and chain pillar
	E = located closer to the edge of the longwall than the middle (centre)
	M = located closer to the centre of the longwall than the end
DIR LW	Direction of the nearest longwall
SUBS	Maximum predicted subsidence (mm)
Tensile Strain	Maximum predicted tensile strain (mm/m)
Comp. Strain	Maximum compressive strain (mm/m)
Tilt	Maximum tilt (mm/m)



Legend

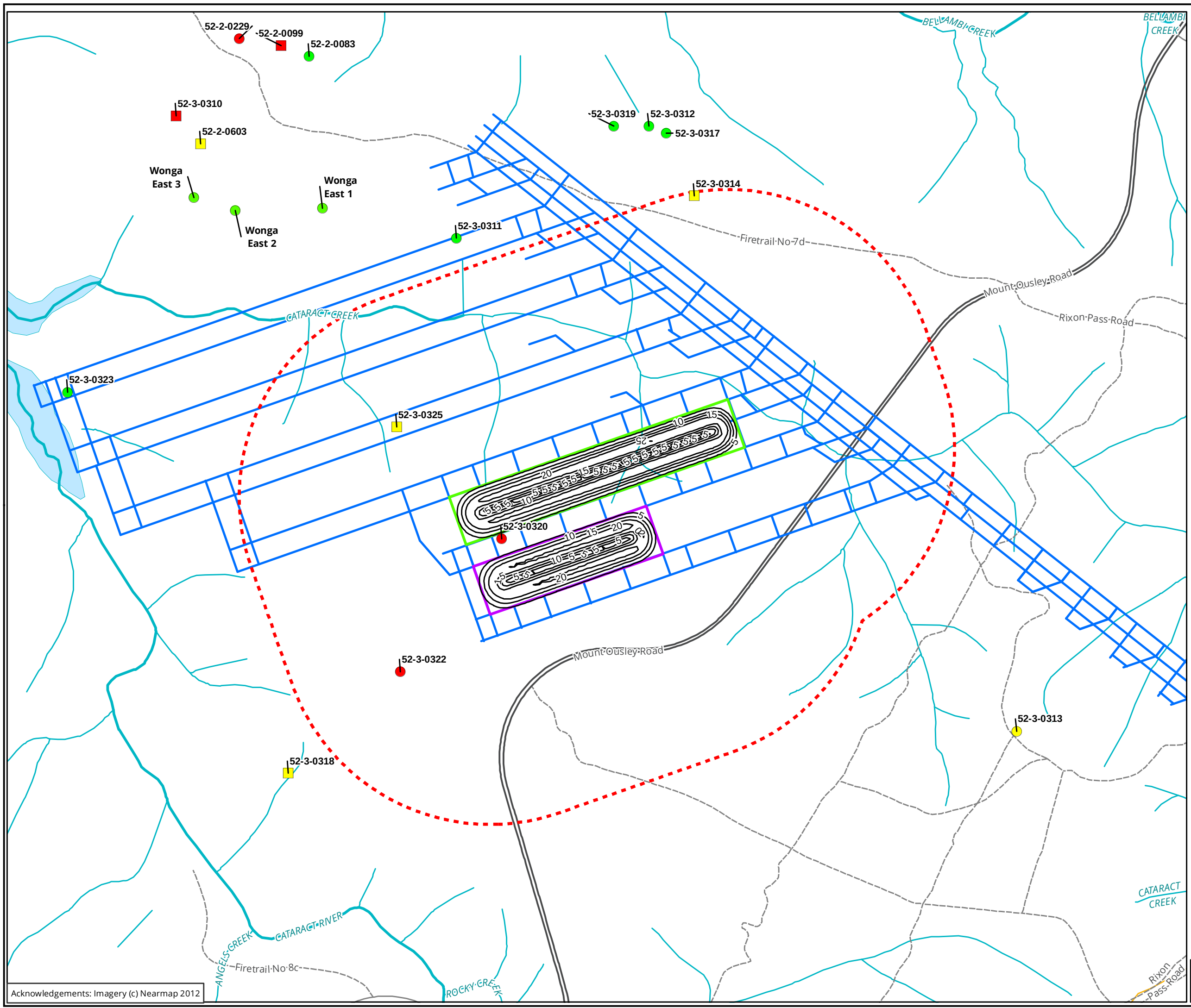
- Vertical Movements
- AHIMS Site
 - Axe Grinding Groove
 - Axe Grinding Groove, Shelter with Art, Shelter with Deposit
 - Open Camp Site
 - Shelter with Art
 - Shelter with Deposit
- Survey Area
 - Study Area
 - Longwall 4
 - Longwall 5
 - Longwall Layout

Figure 4: Anticipated distribution of vertical movements

0 100 200 300 400 500
Metres
Scale: 1:10,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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Matter: 14516
Date: 07 December 2012,
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Legend

— Tilt (mm/m)

AHIMS Site

- Axe Grinding Groove
- Axe Grinding Groove, Shelter with Art, Shelter with Deposit
- Open Camp Site
- Shelter with Art
- Shelter with Deposit

Survey Area

- ▭ Study Area
- ▭ Longwall 4
- ▭ Longwall 5
- Longwall Layout

Figure 5: Anticipated Distribution of Tilt

0 100 200 300 400 500

Metres

Scale: 1:10,000 @ A3

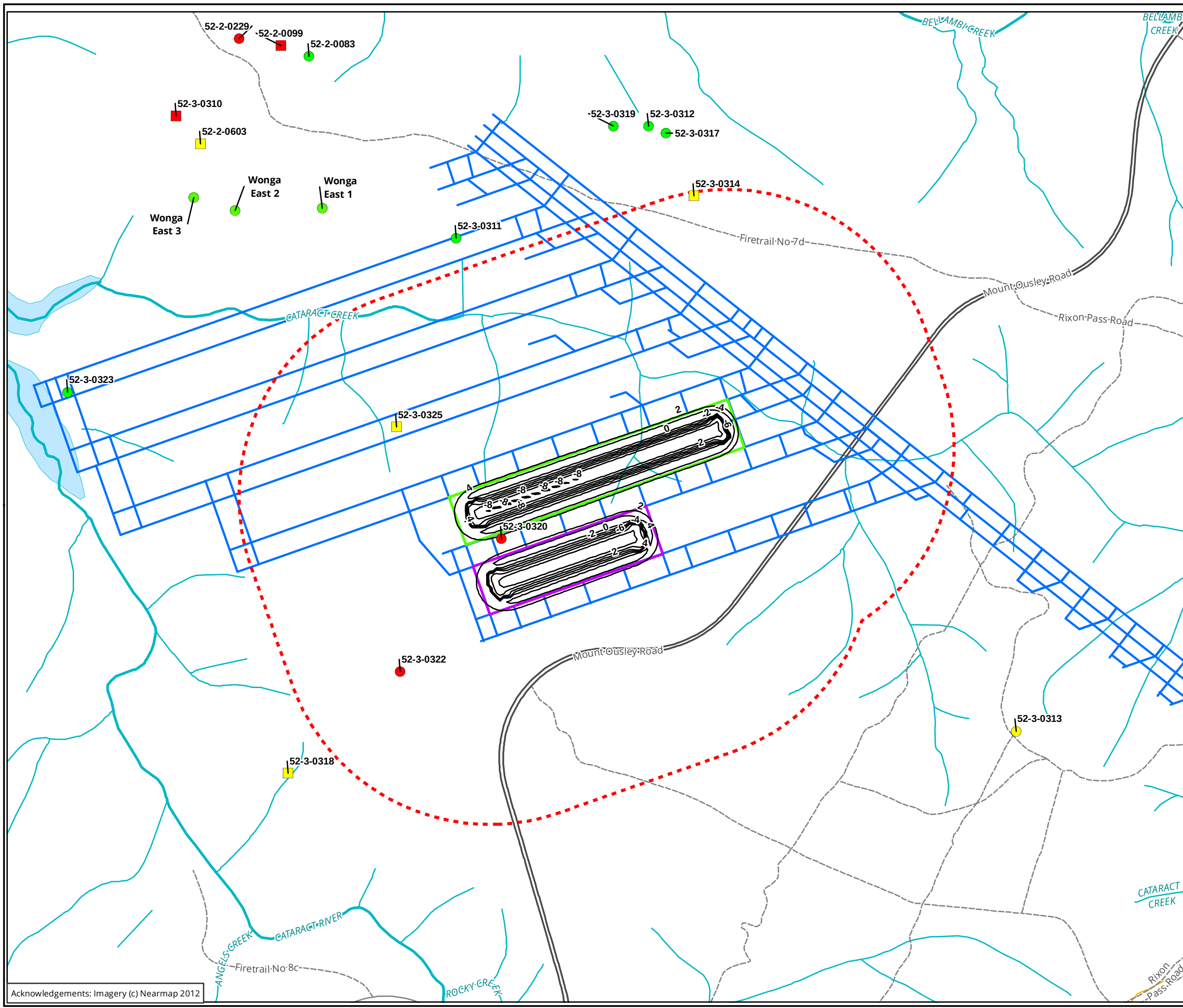
Coordinate System: GDA 1994 MGA Zone 56

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Legend

— Strain (mm/m)

AHIMS Site

- Axe Grinding Groove
- Axe Grinding Groove, Shelter with Art, Shelter with Deposit
- Open Camp Site
- Shelter with Art
- Shelter with Deposit

Survey Area

- ▭ Study Area
- ▭ Longwall 4
- ▭ Longwall 5
- Longwall Layout

Figure 6: Anticipated Distribution of Strain

0 100 200 300 400 500
Metres

Scale: 1:10,000 @ A3
Coordinate System: GDA 1994 MGA Zone 56

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Date: 07 December 2012,
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4 PERFORMANCE MEASURES AND CRITERIA

Performance Measures for Longwall 4 and 5 in MP10_0046 are outlined in Table 1 of **Condition 1/ Schedule 3**. These Performance Measures relevant to the HMP are outlined in **Table 4.1** below.

Table 4.1 - Subsidence Impact Performance Measures for Aboriginal heritage features

Aboriginal heritage features	
Aboriginal heritage site 52-2-1223 and 52-2-0322	Negligible impact or environmental consequence

Negligible is defined as: *Small and unimportant, such as to be not worth considering.*

In general, management of 52-3-0322 Bulli Mine Shaft Site 25 would aim to achieve negligible impacts or environmental consequences. Management of 52-2-1223 is addressed in the NRE No.1 Colliery HMP (NRE 2012).

Alternative performance measures are provided in **Section 5.1.3** in the event that grinding groove sites are unable to be re-located.

Environmental management will be undertaken in accordance with the process described in **Error! Reference source not found.** following.

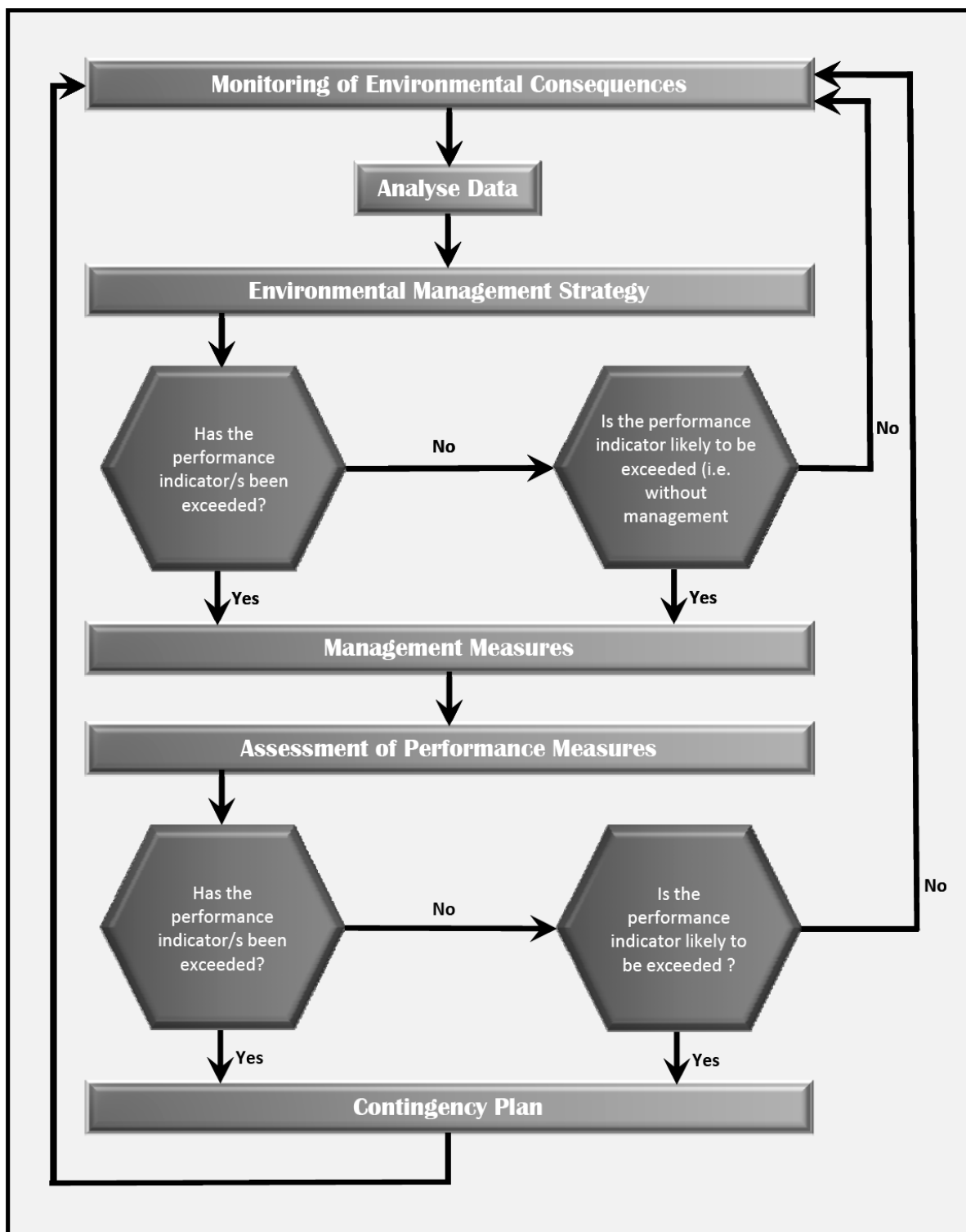


Figure 7- Management Process

5 MONITORING AND REPORTING

5.1 Monitoring

The proposed assessment methodology, strategies and timing of all activities in regards to Aboriginal sites in the study area are described below.

5.1.1 Baseline Recording of Aboriginal Archaeological Sites

All currently known Aboriginal archaeological sites within the study area have been subject to recording at the level appropriate for registration on the AHIMS register.

However, additional recording of site characteristics is required for the purpose of the detailed baseline recording for the monitoring program. A monitoring regime established by Sefton (2000) and amended and continued by Biosis Research, has proven effective in observing and detecting changes to Aboriginal sites due to subsidence effects. The following activities will be undertaken as a part of baseline recording for all Aboriginal sites in the study area:

- Comprehensive photographic coverage of axe grinding groove sites using high resolution digital photography, showing grinding grooves in their wider context and in relation to each other;
- Sites will be digitally photographed at scales appropriate to their size and complexity; and,
- Site plans recording structural and surface features including but not limited to axe grinding grooves, graffiti, joints, bedding planes, exfoliation scars, cracks, mineral and micro-organism growth, areas of running water and water seepage locations.

Upon completion of the baseline recording and prior to the commencement of mining in the study area a report and archival material will be submitted to OEH. The report will include a detailed description of each of the sites recorded. The archival material will consist of all digital photographs, and written records for each site transferred to archival quality CD-ROM in accordance with the NPWS Standards and Guidelines (NSW NPWS 1997).

5.1.2 Subsidence Monitoring

The results of the archival recording procedures will be used for ongoing comparisons to determine any actual impact from mining. The following general schedule in **Table 5.1** is proposed for the monitoring of the Aboriginal sites within the study area. .

Table 5.1 - General Schedule

Activity	Timing
Baseline archival recording	Prior to longwall mining beginning in the study area.
Impact assessment recording	Three to six months after each predicted subsidence movement at the site (that is when a longwall makes its closest traverse to the site), and/or (if the longwall is to finish mining within 6 months).
Final assessment recording	At the completion of all subsidence movements at the site. The results of the assessment to be reported in End of Panel Reports and/or Annual Environmental Management Reports.

Any impacts will be assessed by comparing the results of the impact recording stages with the baseline data. Movement at and within the site will be monitored by comparing observations of the monitoring points and general observations of the surrounding landscape for evidence of subsidence impact.

5.1.3 Inability to Re-locate

Axe-grinding grooves and engraving sites on sandstone platforms within creek lines and swamps within the catchment areas can be problematic in relocating. Cultural features, such as axe grinding grooves, can be obscured by vegetation growth and organic litter build-up over time and may only be revealed in specific conditions, i.e. after a bushfire event.

It is possible that 52-3-0320 Bulli Mine Shaft Site 25 or 52-3-0322 Bulli Mine Shaft Site 31 may not be able to be re-located and thus baseline recording unable to be undertaken. If 52-3-0320 Bulli Mine Shaft Site 25 or 52-3-0322 Bulli Mine Shaft Site 31 are unable to be re-located then comprehensive photographic coverage of sandstone platforms within 50 m of the site will be undertaken and monitored as per the steps outlined in **Section 5.1.1** and **Section 5.1.2** above. If subsidence effects are subsequently identified during the monitoring program at these locations, then vegetation clearance will be undertaken to re-locate cultural features and identify any potential impacts to cultural features.

5.1.4 Impact and Risk Management Schedule

In the event that there are subsidence impacts to any sites observed during monitoring, or impact to the immediate context surrounding sites, management strategies specific to the impact will be developed and implemented.

The management strategies will be implemented in accordance with current conservation practice and the conservation principles contained within the Australia International Council on Monuments and Sites (ICOMOS) Burra Charter, and industry best practice. RAPs would be consulted regarding appropriate management methodologies and any advice would be taken into consideration in the development of the management strategies. All contingent management strategies will be developed in consultation with the RAPs, NRE, and OEH.

In all cases monitoring will only be conducted when a site and condition specific risk assessment determines it is safe to do so.

The triggers and suggested management actions are detailed in **Appendix A**.

5.2 Reporting

Progress against the requirements of this Plan will be reported regularly to the DoP&I and other relevant agencies as required by the Project Approval.

Reporting will be made available in accordance with the requirements of **Condition 7/Schedule 3** of the Project Approval.

Reports will be produced and submitted to OEH and RAPs at the following project milestones:

- Completion of baseline recording; and,
- Completion of each monitoring activity, including End of Panel reporting.

The monitoring reports will include observations on any changes observed within the monitored shelters, and an interpretation of the mechanisms effecting those changes. Ongoing review of the factors influencing the preservation of shelters and the rock art within them will be included in each report where relevant observations and findings are made.

6 MITIGATION AND MANAGEMENT STRATEGIES

The following management options and mitigation measures for cultural heritage sites that may be impacted due to mining subsidence have been made to inform the EP/SMP. The heritage performance measures and indicators -Trigger Action Response Plan (TARP) is presented in **Appendix A**.

6.1 General

Within the study area, there is one recorded Aboriginal site that may be subject to subsidence effects. As discussed in **Section 3.2**, predicting subsidence impacts to Aboriginal sites is subject to some variability.

Notwithstanding, only minor changes in monitored Aboriginal site conditions as a result of subsidence have occurred to date and none of the impacts have directly affected art, engravings or grinding grooves. It is expected that any impacts to Aboriginal archaeological sites from subsidence effects in the study area will be low. Management responses for Aboriginal heritage in the study area need to be carefully considered so as to be commensurate with the level of risk of impact.

6.2 Trigger Action Response Plan

The Trigger Action Response Plan (TARP), as presented in **Appendix A**, has been designed specific for this HMP to illustrate how the various predicted subsidence impacts, monitoring components, performance measures, and responsibilities are structured to achieve compliance with the relevant statutory requirements, and the framework for management and contingency actions.

The TARP system provides a simple, transparent and useable reference of the monitoring of environmental performance and the implementation of management and/or contingency measures.

The TARP is designed with consideration of baseline conditions and predicted subsidence impacts and comprises the following:

- Trigger levels from monitoring to assess performance; and
- Triggers that flag implementation of contingency measures.

6.3 Contingency Plans

6.3.1 Exceeding Performance Measures

In the event that the observed parameters or impacts exceed or are considered likely to exceed the performance measures detailed in **Section 4** of the Plan, NRE will implement the following Contingency Plan:

- The observation will be reported to the Environment and Community Manager within 24 hours.
- The observation will be recorded.
- NRE will report any exceedance of the performance measure to the DoP&I and other relevant stakeholder as soon as practicable after NRE becomes aware of the exceedance.
- NRE will assess the exceedances referred to in the TARP (outlined in **Section 6.2** of this document) and where appropriate, implement safety measures in accordance with the appropriate Management Plan/s.
- The Environment and Community Manager will investigate any potential contributing factors and identify an appropriate action plan to manage the identified impact(s), in consultation with specialists and/or relevant agencies if necessary.
- NRE will identify an appropriate action plan to manage the identified impact(s), in consultation with other specialists and/or key stakeholders (RAPs).
- NRE will submit the proposed course of action to DoP&I for approval.
- NRE will implement the approved course of action to the satisfaction of DoP&I.
- NRE will continue to monitor performance with the new action plan in place and, if successful will formalise these actions as part of the Management Plan.

Contingency measures will be developed in consideration of the specific circumstances of the issue and the assessment of consequences.

6.3.2 Discovery of Unanticipated Aboriginal Cultural Material

The following contingency plan describes the actions that must be taken in instances where Aboriginal cultural material is discovered or unearthed:

- 1) Discovery: Should unanticipated Aboriginal cultural material be identified during any works, works must cease in the vicinity of the find.
- 2) Notification: OEH must be notified of the find.
- 3) Management: In consultation with OEH, registered Aboriginal parties and a qualified archaeologist, a subsidence impact assessment should be undertaken and management strategy developed to manage the identified Aboriginal cultural material. A subsidence monitoring program may be required for Aboriginal sites, using a methodology consistent with that outlined in **Section 4**.
- 4) Recording: The find will be recorded in accordance with the requirements of the *National Parks and Wildlife Act 1974* and OEH guidelines.

6.3.3 Discovery of Unanticipated Historical Cultural Material

The following contingency plan describes the actions that must be taken in instances where historical cultural material is discovered or unearthed:

- 1) Discovery: Should unanticipated historical material be identified during any works, works must cease in the vicinity of the find.
- 2) Notification: OEH must be notified of the find.
- 3) Management: In consultation with OEH and a qualified archaeologist, a subsidence impact assessment should be undertaken and management strategy developed to manage the identified historical cultural material. A subsidence monitoring program may be required for historical sites.
- 4) Recording: The find will be recorded in accordance with the requirements of Heritage Branch and OEH guidelines.

6.3.4 Discovery of Unanticipated Human Remains

The following contingency plan describes the actions that must be taken in instances where human remains or suspected human remains are discovered. Any such discovery at the activity area must follow these steps:

- 1) Discovery: If suspected human remains are discovered all activity in the vicinity of the human remains must stop (to ensure minimal damage is caused to the remains), and the remains must be left in place and protected from harm or damage.
- 2) Notification: Once suspected human skeletal remains have been found, the Coroners Office and the NSW Police must be notified immediately. Following this, the find must be reported to OEH and it is recommended that it is also reported to the Illawarra Local Aboriginal Land Council.
- 3) Management: If the human remains are of Aboriginal ancestral origin an appropriate management strategy will be developed in consultation with registered Aboriginal parties and OEH.
- 4) Recording: The find will be recorded in accordance with the requirements of the *National Parks and Wildlife Act 1974* and OEH guidelines.

7 INCIDENTS, COMPLAINTS AND NON-CONFORMANCES

7.1 Incident and Ongoing Management Reporting

The Project Approval defines an 'incident' to be *"a set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits or performance measures/criteria in this Approval."*

Incidents will be managed through established NRE procedures in as detailed the Project Environmental Management Strategy (PEMS).

In accordance with **Condition 6/Schedule 5** NRE will notify the Director-General and any other relevant agencies of any incident:

- At the earliest opportunity if the incident has caused, or has the potential to cause significant risk of material harm to the environment.
- As soon as practicable in all other cases.

A detailed report of the incident shall be provided to DoP&I within 7 days of the incident occurring.

7.2 Complaints Handling

Complaints will be managed through established NRE procedures as detailed in the PEMS.

As required by **Condition 10/Schedule 5** of the Project Approval a copy of a complaints register (updated on a Monthly basis) will be kept on the NRE website. A summary of complaints will be available to regulatory authorities on request and provided in the Annual Environmental Management Reports (AEMRs).

7.3 Non-Conformance Protocol

NRE will manage and report non-compliances against statutory requirements in accordance with an established protocol developed as a component of the EMS.

Compliance with all approvals, plans and procedures will be the responsibility of all personnel (staff and contractors) employed on or in association with NRE No.1 Colliery, and will be promoted through direct consultation and direction of the mines' Operations Manager.

Regular inspections and/or internal audits will be undertaken as required by suitably qualified personnel under the direction of the E&C Manager, to identify any remediation/rectification work required, and areas of actual or potential non-compliance.

A Compliance Register ***Compliance Register (EMS RV APP 003 & EMS WW APP 003)*** will be established to monitor compliance against development consent criteria, mining leases and licenses. Non-compliances identified through the Compliance Register are to be reported, with corrective actions implemented.



A review of NRE's compliance with all conditions of the Project Approval, mining leases and all other approvals and licences will be undertaken prior to (and included within) each Annual Review. The Annual Review will be made publicly available on NRE's website.

8 PLAN ADMINISTRATION

8.1 Roles and Responsibilities

Environment and community management is regarded as part of the responsibilities of all Colliery personnel. The roles and function of the main personnel responsible for the implementation of environmental and community management including the plans, procedures and action plans contained in this EMS are outlined in ***NREG EMS PRO005 Environmental Roles and Responsibilities***.

8.2 Resources Required

In accordance with the ***NRE 001NRE Environmental Policy*** Management shall ensure that the appropriate resources are made available to achieve the implementation of this Plan.

It is the role of the Environment and Community Manager to ensure that these requirements are communicated to NRE Management.

8.3 Training

All training and inductions conducted are to be undertaken as per the ***NRE 012 Training procedures***.

8.3.1 Staff Training

Staff training will be undertaken as detailed in the EMS. This consists of three levels of training applicable to different types of staff:

- Level 1 –High level training on environmental requirement – Management
- Level 2 – Operational level training – Project Managers, Supervisors, Surface Personnel
- Level 3 – Basic environmental awareness – Underground staff

8.3.2 Inductions

All contractors and associated subcontractors will be required to participate in site induction prior to the commencement of work. As a minimum, the induction is to include:

- An overview of the Cardinal Rules, Environment Policy and EMS requirements.
- Environmental incident and community compliant reporting requirements.
- Environmental emergency contact details.

In the event that there are specific environmental management requirements relating to a contractor's work activities, details of these requirements are to be issued to the contractor in writing as a part of the induction.

Records, which detail the attendees, content of the induction/training as well as any additional information provided, will be maintained.

In addition to the induction program, training will be provided as deemed necessary to contractors to provide them with the knowledge, skills and awareness to minimise environmental impact. At a minimum this should include:

- Contractors whose activities are not directly supervised by Colliery personnel.
- Contractors whose activities are ongoing and have the potential to result in an environmental incident (e.g. stockpile contractors).

8.4 Record Keeping and Control

Environmental records are to be managed in accordance with the ***NRE 010 Document and Data Control procedure***.

All records of the EMS will be stored so that they are readily retrievable and suitably protected from deterioration or loss. Archiving will be managed in accordance with the ***NRE 010 Document and Data Control procedure***.

A master copy of each EMS document including all appendices and supporting information is to be held in the office of the E&C Department.

8.5 Plan Revision

8.5.1 Annual Review

In accordance with ***Condition 3/Schedule 5*** of the Project Approval, an Annual Review of the environmental performance of the Project will be undertaken and annually thereafter.

The Annual Review will:

- Describe the works carried out in the past year, and the works proposed to be carried out over the next year.
- Include a comprehensive review of the monitoring results and complaints records of the Project over the past year, including a comparison of these results against the:
 - relevant statutory requirements, limits or performance measures/criteria;
 - monitoring results of previous year/s; and
 - relevant predictions in the EA.
- Identify any non-compliance over the last year, and describe what actions were (or are being) taken to ensure compliance.
- Identify any trends in the monitoring data over the life of the Project.
- Identify any discrepancies between the predicted and actual impacts of the Project, and analyse the potential cause of any significant discrepancies.
- Describe what measures will be implemented over the next year to improve the environmental performance of the Project.

8.5.2 Auditing

In accordance with **Condition 8/ Schedule 5** of the Project Approval an Independent Environmental Audit will be undertaken by a suitably qualified auditor and include experts in any field specified by the Director-General within 12 months of the approval and every three years after that.

This audit must:

- Be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Director-General.
- Include consultation with the relevant agencies.
- Assess the environmental performance of the project and assess whether it is complying with the requirements in this approval and any relevant EPL or Mining Lease (including any assessment, plan or program required under these approvals).
- Review the adequacy of strategies, plans or programs required under the abovementioned approvals.
- Recommend measures or actions to improve the environmental performance of the project, and/or any strategy, plan or program required under these approvals.

8.5.3 Plan Revision

In accordance with **Condition 4/ Schedule 5** of Project Approval, this Plan will be reviewed within three months of the submission of:

- The submission of an annual review
- The submission of an incident report
- The submission of an audit
- Any modification to the conditions of approval (unless the conditions require otherwise)

The revision status of this plan is indicated on the title page of each copy. Revisions to any documents listed within this Plan will not necessarily constitute a revision of this document. The distribution of controlled copies is described in **Section 1.3**.

9 REFERENCES

ERM, (2011a). *NRE No.1 Colliery Aboriginal Heritage Assessment*. An unpublished report for Gujarat NRE Coking Coal Pty Ltd.

ERM, (2011b). *NRE No.1 Colliery Historical Heritage Assessment*. An unpublished report for Gujarat NRE Coking Coal Pty Ltd.

MSEC, (2007). *Introduction to Longwall Mining and Subsidence*. MSEC, Chatswood.

National Resources Environment (2012). *NRE No.1 Colliery: Heritage Management Plan*. An unpublished report for Gujarat NRE Coking Coal Pty Ltd.

Seedsman Geotechnics Pty Ltd (2012). Management of Subsidence Risks associated with Wongawilli Seam Extraction with particular focus on Wongawilli East – Area 2. Report to Gujarat NRE Colliery. As included in Olsen Environmental Consulting, (2012). Review of Environmental Factors. NRE No. 1 Colliery Longwalls 4 & 5.

Seedsman Geotechnics Pty Ltd (2011) Gujarat NRE No1 Colliery: Management of Subsidence Risks associated with Wongawilli Seam Extraction. Report to Gujarat NRE Minerals. As included in NRE, (2011). Subsidence Management Plan for NRE No. 1 Colliery Russell Vale Longwall Panels 4 & 5 in 'Wonga East'.

Sefton, C. (2000). *Overview of the Monitoring of Sandstone Overhangs for the Effects of Mining Subsidence: Illawarra Coal Measures*. An unpublished report for Illawarra Coal BHP Minerals.

Sefton, C. (2003). *Monitoring of Sandstone Overhangs and Engraving Sites on Longwalls 4-7 Metropolitan Colliery*. An unpublished report for Illawarra Coal BHP Minerals.

APPENDIX A - TRIGGER ACTION RESPONSE PLAN

ASPECT	MONITORING				TRIGGER			
	SITES	PARAMETERS	FREQUENCY	PURPOSE	LEVEL	ACTION / REPORTING	RESPONSIBILITY	TIMING
Aboriginal Heritage – Impacts associated with predicted LW 4 subsidence effects	52-3-0320 Bulli Mine Shaft Site 25.	<u>Field analysis:</u> Baseline recording and comparative photograph monitoring regime.	- Baseline archival recording prior to longwall mining beginning in the SMP area. - Impact assessment recording, three to six months after each predicted subsidence movement at the site (that is when a longwall makes its closest traverse to the site), and/or (if the longwall is to finish mining within 6 months) - Final assessment recording at the completion of all subsidence movements at the site. The results of the assessment to be reported in End of Panel Reports and/or Annual Environmental Management Reports.	- Mitigate the risk of potential impact through more detailed archival recording of all shelter sites; and, - Provide a set of baseline records for the monitoring program. - To identify changes to Aboriginal sites related to mining and enact management strategies to minimize impacts to heritage values. - Inform stakeholders of baseline assessment and monitoring Identify, investigate and report on impacts to Aboriginal sites.	<u>No Change in Site Condition Observed</u>	• No further mitigation or management required.	NRE No.1 Colliery (Environmental Manager)	• EoP Report within 6 months of longwall panel completion and/or Annual Environmental Management Reports.
					<u>Change in Site Condition Observed Within Performance Criteria:</u> If a change is observed but no threat to heritage values is identified then the monitoring program should continue.	• Site inspection with registered Aboriginal parties to document and photograph any observed changes / impacts. • Inform RAP and OEH in writing.	NRE No.1 Colliery (Environmental Manager)	• EoP Report within 6 months of longwall panel completion and/or Annual Environmental Management Reports.
					<u>Change in Site Condition Observed That Exceeds Performance Criteria:</u> If a change is observed then an appropriate mitigation strategy should be developed in consultation with a heritage specialist, registered Aboriginal parties, and the landowner to avoid or minimize impacts to heritage values.	• Site inspection with registered Aboriginal parties to document and photograph any observed changes / impacts. • Discussion of potential remediation / mitigation. Consultation with OEH will be required if remediation or mitigation measures affect the archaeological values at individual sites • Use appropriate specialists to undertake physical remediation activities • Inform Director Environmental Sustainability and Land Use, Principal Subsidence Engineer RAPs and OEH in writing.	NRE No.1 Colliery (Environmental Manager)	• Investigation initiated within 1 week. • Results of investigation reported to SCA, OEH and DRE within 1 week of completion. • Commence preparation of mitigation/action plan within 1 week if required. • Monthly updates of investigation progress, if required by SCA / OEH. • EoP Report within 6 months of Longwall 4& 5 completion and/or Annual Environmental Management Reports.

APPENDIX B – CONSULTATION LOG

Organisation	Contact and date	Contact Description	Response	Response Description
Office of Environment and Heritage Planning & Aboriginal Heritage Conservation and Regulation	Email – 04 December 2012	Discussion of HMP amendments		
Illawarra Local Aboriginal Land Council	Letter – 04 December 2012	Provision of Draft HMP for Review		
Peter Fa k Consultancy	Letter – 04 December 2012	Provision of Draft HMP for Review		
Northern Illawarra Aboriginal Collective	Letter – 04 December 2012	Provision of Draft HMP for Review		
Wodi Wodi Elders Corporation	Letter – 04 December 2012	Provision of Draft HMP for Review		
Kullilia Welfare and Housing Aboriginal Corporation	Letter – 04 December 2012	Provision of Draft HMP for Review		