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<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

# NARRABRI MINE

## EXTRACTION PLAN HERITAGE MANAGEMENT PLAN

LW 203 – LW 206

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## Acronyms and abbreviations

Acronym	Description
ACHMP	Aboriginal Cultural Heritage Management Plan
AHIMS	Aboriginal Heritage Information Management System
AHIP	Aboriginal Heritage Impact Permit
ATSIHP Act	<i>Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwlth)</i>
CF	Cut and flit
Cwlth	Commonwealth
DECCW	NSW Department of Environment Climate Change & Water
DGS	Ditton Geotechnical Services
DPE	NSW Department of Planning and Environment
EP 203-206	Extraction Plan for LW 203 to LW 206
EP-HMP	Extraction Plan - Heritage Management Plan (this document)
EP&A Act	<i>Environmental Planning and Assessment Act 1979</i>
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)</i>
GNAC	Gomeroi Narrabri Aboriginal Corporation
ha	hectare
IEA	Independent Environmental Audit
km	kilometre
km <sup>2</sup>	square kilometre
LW	longwall panel
m	metre
ML	Mining Lease
mm	millimetre
mm/m	millimetre per meter
Mtpa	million tonnes per annum
NCOPL	Narrabri Coal Operations Pty Ltd
NLALC	Narrabri Local Aboriginal Land Council
NP&W Act	<i>National Parks and Wildlife Act 1974</i>
NNTT	National Native Title Tribunal
NSW	New South Wales
RAP	Registered Aboriginal Party
ROM	run of mine
SoC	Statement of Commitments
U95%CL	upper 95 % confidence level
WHC	Whitehaven Coal
XL	Cross section cross-line across the longwall panels

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<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## Table of contents

<b>1. Introduction.....</b>	<b>1</b>
1.1 Background .....	1
1.2 Purpose and scope .....	1
1.3 Objectives.....	4
1.4 Statutory requirements.....	4
1.4.1 Relevant legislation .....	4
1.4.2 Statutory approvals .....	6
1.5 Risk assessment.....	6
1.6 Preparation and consultation.....	6
1.7 Access to information.....	7
<b>2. Cultural heritage sites .....</b>	<b>8</b>
2.1 Known Aboriginal cultural heritage sites .....	8
2.2 Potential for additional sites.....	12
<b>3. Subsidence predictions and environmental consequences .....</b>	<b>13</b>
3.1 Subsidence predictions .....	13
3.1.1 Surface cracking .....	15
3.1.2 Ponding .....	16
3.2 Potential impacts to Aboriginal cultural heritage sites .....	16
3.2.1 Artefact sites.....	16
3.2.2 Axe grinding grooves .....	17
3.3 Site fencing.....	18
<b>4. Management measures.....</b>	<b>20</b>
4.1 Objectives.....	20
4.2 Performance measures and indicators .....	20
4.3 General mitigation measures.....	21
4.4 Fencing of sites.....	22
4.5 Mayfield GG1 investigations.....	22
4.6 Remediation of surface cracks and ponding .....	22
4.6.1 Surface cracking .....	22
4.6.2 Ponding .....	23
4.7 Site salvage .....	23
4.8 Keeping place.....	24
<b>5. Subsidence impact monitoring .....</b>	<b>25</b>

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

<b>6. Contingency response</b> .....	<b>26</b>
<b>7. Incidents and non-compliance</b> .....	<b>29</b>
7.1 Incident notification .....	29
7.2 Non-compliance .....	29
<b>8. Reporting, evaluation and review</b> .....	<b>30</b>
8.1 Annual review .....	30
8.2 Independent environmental audits.....	30
8.3 Management plan review and evaluation.....	30
8.4 Improvement measures .....	31
<b>9. Complaints management</b> .....	<b>32</b>
<b>10. Plan implementation</b> .....	<b>33</b>
10.1 Roles and responsibilities .....	33
10.2 Inductions and training.....	34
<b>11. References</b> .....	<b>35</b>
<b>12. Glossary</b> .....	<b>37</b>
<b>13. Review history</b> .....	<b>39</b>
<b>Attachment 1 Compliance conditions relevant to this Plan</b> .....	<b>40</b>
<b>Attachment 2 Consultation records</b> .....	<b>46</b>

## Tables

Table 2-1 Identified Aboriginal heritage sites within the Extraction Plan Area .....	9
Table 3-1 Maximum final subsidence effect predictions .....	13
Table 3-2 Predicted maximum crack width in flat terrain .....	15
Table 3-3 Impact potential criteria for Mayfield GG1 .....	17
Table 3-4 Predicted subsidence effects for Mayfield GG1 .....	17
Table 3-5 Predicted subsidence impact for Mayfield GG1 .....	18
Table 5-1 Aboriginal cultural heritage subsidence monitoring program.....	25
Table 6-1 Trigger Action Response Plan .....	27
Table 10-1 Roles and responsibilities .....	33

## Figures

Figure 1-1 Extraction Plan Area and underground mining layout for LW 203 to LW 206.....	3
Figure 2-1 Aboriginal cultural heritage sites within the Extraction Plan Area.....	11
Figure 3-1 Predicted subsidence contours for LW 203 to LW 206.....	14
Figure 3-2 Context of Mayfield GG1 .....	19

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 1. Introduction

### 1.1 Background

The Narrabri Mine is an existing underground coal mining operation situated in the Gunnedah Coalfield. It is located approximately 25 kilometres (km) south-east of Narrabri and approximately 60 km north-west of Gunnedah, within the Narrabri Shire Council Local Government Area in New South Wales (NSW). The Narrabri Mine includes an underground coal mine, a coal handling and preparation plant and associated rail siding and surface infrastructure.

The Narrabri Mine is operated by Narrabri Coal Operations Pty Ltd (NCOPL), on behalf of the Narrabri Mine Joint Venture, which consists of two Whitehaven Coal Limited (WHC) wholly owned subsidiaries, and other joint-venture partners<sup>1</sup>. The underground mine is covered by Mining Lease (ML) 1609 which covers an area of 5,298 hectares (ha) for the predominant purpose of mining for coal from the Hoskissons Coal Seam.

Stage 1 of the Narrabri Mine was approved in November 2007 under Part 3A of the *Environmental Planning and Assessment Act 1979 (EP&A Act)*. Construction of the mine and supporting infrastructure commenced in 2008, with production using a continuous miner commencing in 2010. Following the approval of the Stage 2 Environmental Assessment (R.W Corkery & Co., 2009) (the **EA**) and the issue of the Stage 2 Project Approval 08\_0144 (**Project Approval**) in July 2010, and *Environmental Protection and Biodiversity Conservation Act 1999 (EPBC Act)* approval (**2009/5003**) in January 2011, the Narrabri Mine was converted to an 8 million tonnes per annum (Mtpa) run of mine (ROM) longwall mining operation, which commenced in 2012.

The Project Approval has subsequently been modified on a number of occasions. The environmental assessment for Modification 5 (Resource Strategies, 2015) (**MOD 5**), approved in December 2015, changed the mine geometry by reducing the number of longwall (LW) panels from 26 to 20, increased some LW panel widths and increased the production to 11 Mtpa of ROM coal until July 2031.

Modification 7, the most recent modification of the Project Approval, was approved on 23 November 2021. The environmental assessment for Modification 7 (Resource Strategies, 2021) (**MOD 7**) describes the change in mining method within the extent of the previously approved LW 201 and LW 202 and allows for up to 0.7 Mtpa via bord and pillar extraction at pillar reduction panels Cut and Flit (CF) 201 to CF 205. There is no change to the previously approved longwall panels LW 203 to LW 209. The bord and pillar mining will occur concurrently with existing longwall operations for a period of approximately five years, with the maximum ROM coal production rate remaining within the approved limit of 11 Mtpa.

### 1.2 Purpose and scope

This Extraction Plan - Heritage Management Plan (**EP-HMP** or **Plan**) for LW 203 to LW 206 has been prepared in accordance with Schedule 3 Condition 4(h) of the Project Approval and the Department of Planning and Environment (**DPE**) *Draft Extraction Plan Guideline* (DPE 2022).

The EP-HMP sets out the objectives, performance measures and management actions required to manage and monitor the potential impacts from subsidence on Aboriginal cultural heritage sites above LW 203 to LW 206 (the **Extraction Plan Area**<sup>2</sup>). This Plan forms Appendix D of the Extraction Plan for LW 203 to LW 206 (**EP 203-206**).

<sup>1</sup> For full details on the joint venture ownership, refer to the introduction of the Extraction Plan.

<sup>2</sup> The area located within the 45° Angle of Draw as shown on Figure 1-1.

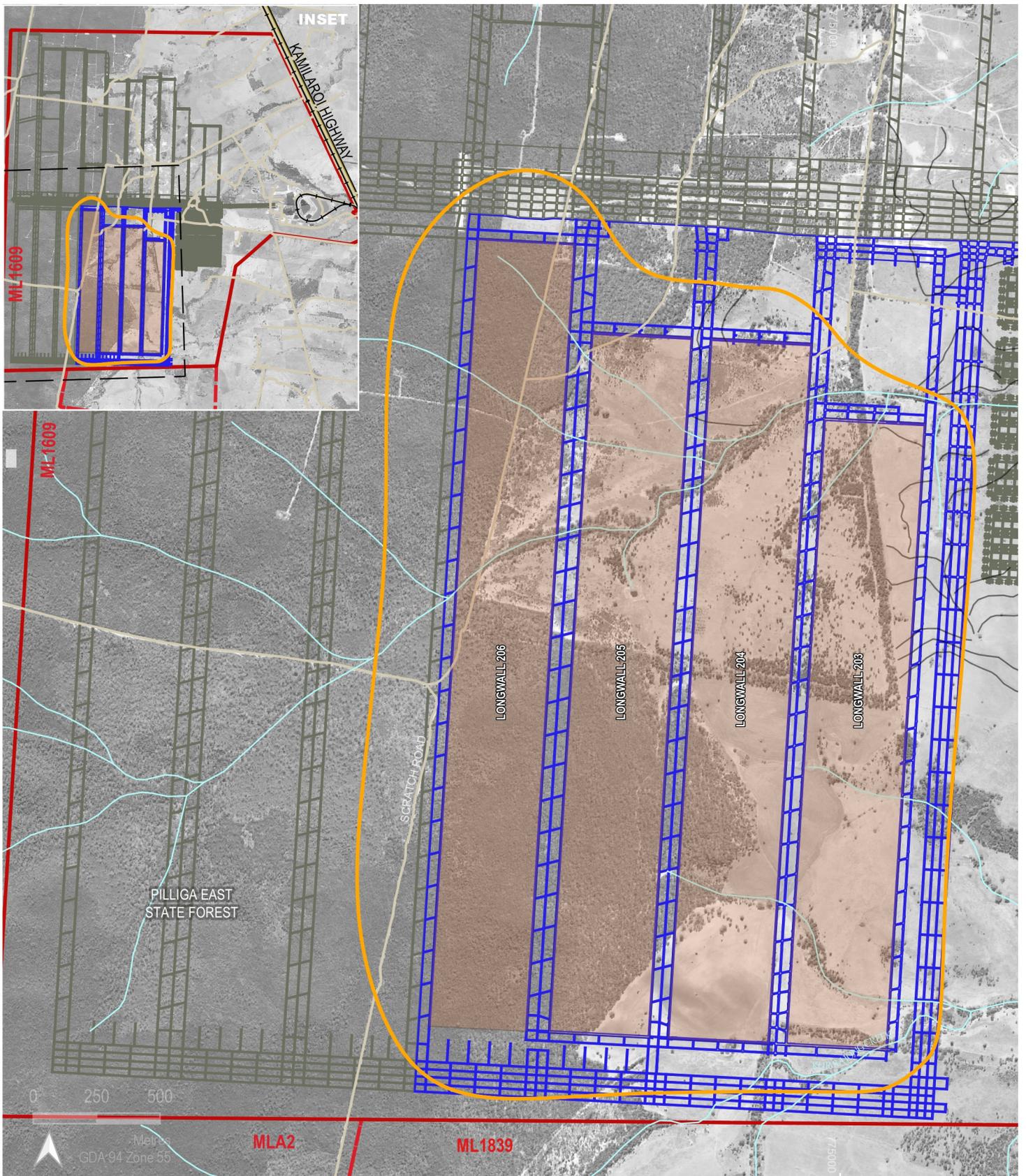
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		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

The Ditton Geotechnical Services Pty Ltd (**DGS**) *Mine Subsidence Assessment Report for LW 203 to LW 206* (DGS 2022) (**Mine Subsidence Assessment Report**) has been used as a basis for developing the performance measures and management actions in response to the predicted impacts on Aboriginal cultural heritage sites within the Extraction Plan Area. The Mine Subsidence Assessment Report is presented in full as Appendix J to EP 203-206. Management and monitoring measures have also been developed based on previous Archaeological surveys and current management plans implemented at the Narrabri Mine (refer to section 11).

The purpose of this EP-HMP is to ensure that impacts to the identified Aboriginal cultural heritage sites are managed in accordance with the Project Approval and aims to:

1. Provide a precise set of procedures to enable the identification and conservation of Aboriginal cultural heritage places, objects, and artefacts within the Extraction Plan Area.
2. Ensure all personnel are aware of their obligations, responsibilities and the procedures under the *NSW National Parks and Wildlife Act 1974 (NP&W Act)* and the *NSW Heritage Act 1977*.
3. Establish a consultation protocol with the Registered Aboriginal Parties (**RAPs**), who are representatives of the local Aboriginal community.

The Extraction Plan Area and underground mining layout for LW 203 to LW 206 is presented in Figure 1-1. A detailed description of the underground mining method is provided within the EP 203-206.



**LEGEND**

- ▬ ML1609
- ▬ ML1839
- ▬ MLA2
- ▬ Underground mining layout
- ▬ Longwalls 203 to 206
- Proposed longwall voids (LW203-206)
- ▬ 45 degree angle of draw
- ▬ Road
- ▬ Watercourse
- ▬ Contour bank

**NARRABRI MINE**

**FIGURE 1-1**

Extraction Plan Area and Underground Mining Layout for LW 203 to LW 206

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

### 1.3 Objectives

The objectives of this EP-HMP are to:

- provide details of the relevant statutory requirements, including any relevant approval, licence or lease conditions;
- identify Aboriginal cultural heritage sites within the Extraction Plan Area predicted to be impacted by subsidence;
- detail the management actions required to manage the predicted impacts and/or environmental consequences of subsidence on the identified Aboriginal cultural heritage sites;
- provide triggers to inform additional and/or adaptive management actions;
- describe the protocol for managing and reporting any incident, non-compliance or exceedance of any impact assessment criteria or performance criteria, complaint, or failure to comply with other statutory requirements;
- detail the regulatory reporting requirements;
- describe the protocol for periodic review of this Plan; and
- identify the roles and responsibilities for implementation of this Plan.

### 1.4 Statutory requirements

#### 1.4.1 Relevant legislation

##### **Environmental Planning and Assessment Act 1979 (NSW)**

The EP&A Act requires that environmental and heritage impacts are considered by consent authorities prior to granting development approval. The original approvals for the Narrabri Mine were obtained under the Part 3A, 'Major Projects' provisions of the EP&A Act. While Part 3A has since been repealed, it remains applicable to NCOPL under transitional provisions. Under Section 75U(d) of these provisions, an Aboriginal Heritage Impact Permit (**AHIP**) under the NP&W Act (NSW) is not required for a project approved under Part 3A. In such instances, management of Aboriginal heritage follows the applicable Aboriginal assessment guidelines and any relevant Statement of Commitments (**SoC**) included in the Project Approval, which usually requires the development of a regulator-approved Aboriginal Cultural Heritage Management Plan.

##### **Environmental Protection and Biodiversity Conversation Act 1999 (Cwlth)**

The EPBC Act (Commonwealth [**Cwlth**]) establishes the National Heritage List, which includes natural, Indigenous, and historic places that are of outstanding heritage value to the nation. Under the EPBC Act, there are penalties for anyone who takes an action that has or will have a significant impact on the Indigenous heritage values of a place that is recognised on the National Heritage List.

The Act also establishes the Commonwealth Heritage List, which includes places on Commonwealth lands and waters or under Australian Government control that have Indigenous heritage significance. In addition, the Act protects heritage on Commonwealth land and from actions undertaken by the Commonwealth.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

### **Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (Cwlth)**

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984 (ATSHP Act)* protects areas and objects that are of particular significance to Indigenous people. The ATSHP Act allows the Environment Minister, on the application of an Aboriginal person or group of persons, to make a declaration to protect an area, object or class of objects from a threat of injury or desecration.

There are no areas, objects or class of objects within or adjacent to the Narrabri Mine that are protected under the ATSHP Act.

### **Native Title Act 1993 (Cwlth)**

The *Native Title Act 1993* provides recognition and protection for native title by establishing the National Native Title Tribunal (NNTT) to administer native title claims to rights and interests over lands and waters by Aboriginal people. The NNTT also administers the future act processes that attract the right to negotiate under the *Native Title Act 1993*.

The Native Title Act 1993, where applicable, will be complied with in relation to the mining lease.

### **National Parks and Wildlife Act 1974 (NSW)**

The NP&W Act provides blanket protection for Aboriginal objects (material evidence of Indigenous occupation) and Aboriginal places (areas of cultural significance to the Aboriginal community) across NSW. An Aboriginal place is any place declared to be an Aboriginal place by the Minister for the Environment, under section 84 of the Act. An Aboriginal object is defined as:

*Any deposit, object or material evidence (not being a handicraft made for sale) relating to the Aboriginal habitation of the area that comprises New South Wales, being habitation before or concurrent with (or both) the occupation of that area by persons of non-Aboriginal extraction and includes Aboriginal remains.*

It is an offence to disturb Aboriginal objects or places without an AHIP administered under section 90 of the Act. In addition, anyone who discovers an Aboriginal object is obliged to report the discovery to the relevant authorities. Part 6 of the NP&W Act is administered by Heritage NSW.

NCOPL is committed to avoiding destruction, damage or defacement of any known Aboriginal objects as defined under the NP&W Act.

### **Aboriginal Land Rights Act 1983 (NSW)**

The *Aboriginal Land Rights Act 1983* allows for the transfer of ownership to a Local Aboriginal Land Council of vacant Crown Land not required for an essential purpose or for residential land. These lands are then managed and maintained by the Local Aboriginal Land Council.

Consultation throughout all stages of mine development has been conducted with the Narrabri Local Aboriginal Land Council (NLALC). The NLALC will be actively consulted regarding mine operations and rehabilitation activities that may have an impact on Aboriginal cultural heritage values.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 1.4.2 Statutory approvals

### Project Approval

This Plan has been developed in accordance with Schedule 3 Condition 4 of the Project Approval which requires NCOPL to prepare an Extraction Plan for all second workings within the area of the Approved Mine Plan (Appendix H of EP 203-206) to the satisfaction of the Secretary.

In accordance with Schedule 3 Condition 4(h), the Extraction Plan must include a Heritage Management Plan which has been prepared in consultation with Heritage NSW and the relevant stakeholders for Aboriginal heritage (section 1.6), and which provides for the management of potential environmental consequences of the proposed second workings on Aboriginal heritage sites or values.

Schedule 3 Condition 4(b) of the Project Approval requires the Extraction Plan and its sub plans to be approved by the Secretary prior to NCOPL carrying out any of the second workings covered by EP 203-206.

Project Approval Schedule 6 Condition 2 lists the requirements for the preparation of management plans which must be prepared in accordance with any relevant guidelines (section 1.2 and section 1.6) and include details of the relevant approval, licence or lease conditions. Attachment 1, Table A1-1 provides a summary of the Project Approval conditions relevant to this Plan and outlines the section of the EP-HMP in which each of these conditions have been addressed. Table A1-2 provides the relevant SoCs and a cross reference table to where these commitments have been addressed.

### EPBC Act Approval

The Narrabri Mine was granted EPBC 2009/5003 in 2011 issued under the EPBC Act (last varied on 24 March 2021).

### Mining lease

NCOPL are the holder of ML 1609 issued under the *Mining Act 1992* in January 2008. As the holder of a mining lease, NCOPL must take all reasonable measures to prevent, or if that is not reasonably practicable, to minimise, harm to the environment caused by activities under the mining lease.

## 1.5 Risk assessment

A subsidence risk assessment has been undertaken to identify the risks associated with subsidence at the Narrabri Mine. It builds on previous risk assessments completed for LW 101 to LW 110 and Panels 201 to 202 and is presented as Appendix I to EP 203-206. The updated risk assessment for LW 203 to LW 206 identified one high-risk item (i.e. Mayfield GG1) above LW 205. All other risks within the Extraction Plan Area have been assessed as low to moderate.

The potential environmental impacts and consequences relevant to Aboriginal cultural heritage are further discussed in section 3 and section 4.

## 1.6 Preparation and consultation

Aboriginal stakeholder consultation undertaken for the preparation of this EP-HMP was conducted in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents* (NSW Department of Environment Climate Change & Water [DECCW] 2010), and Schedule 3 Condition 4(h) of the

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
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		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

Project Approval. The draft EP-HMP (Revision A) was provided to the RAPs (i.e. the Narrabri Local Aboriginal Land Council [**NLALC**] and the Gomeri Narrabri Aboriginal Council [**GNAC**]) on 26 October 2022. The draft EP-HMP (Revision A) was also provided to Heritage NSW as Appendix D to EP 203-206 on 8 November 2022.

The NLALC provided a response with key issues raised regarding salvaging artefacts, NCOPLs keeping place and the protection of the Grinding Groove site (Mayfield GG1). NCOPL did not receive a response from the GNAC.

Heritage NSW provided a consultation response email (dated 20 November 2022) which states that Heritage NSW have no additional comments on the draft EP-HMP.

Attachment 2 provides evidence of the consultation process including a cross reference table addressing the comments received and detailing the section of the Plan where these comments have been addressed (Table A2-1).

## 1.7 Access to information

In accordance with Schedule 6 Condition 10 of the Project Approval, the approved EP 203-206, audits and reports, and summaries of all monitoring data (where relevant) will be made publicly available on the WHC website. All information will be kept up to date.

Note that any printed copies of this EP-HMP are uncontrolled.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
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<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 2. Cultural heritage sites

### 2.1 Known Aboriginal cultural heritage sites

Previous Archaeological surveys have identified 37 Aboriginal cultural heritage sites within the Extraction Plan Area (Figure 2-1). The 37 sites comprise of 29 artefact scatters, seven isolated artefacts, and one grinding grooves site (Table 2-1).

Most of the 37 sites have been assessed as being of low scientific significance due to disturbed contexts and low artefact densities (<10 artefacts). Mayfield GG1 (AHIMS 19-6-0191) has been assessed as being of medium scientific significance due to the regional rarity of this site type (i.e. grinding grooves). Eight artefact scatters have also been assessed as being of medium scientific significance due to higher artefact numbers and the potential for in-situ subsurface deposits. Mayfield AS13 (19-6-0192) incorporates five other artefact scatters. All 37 sites are considered to be of high cultural significance to the RAPs.

Predictions of subsidence impacts and potential consequences to the identified Aboriginal cultural heritage sites are described in section 3.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
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<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

**Table 2-2-1 Identified Aboriginal heritage sites within the Extraction Plan Area**

AHIMS ID	Site name	Easting Zone 55	Northing Zone 55	Type	Contents	Scientific significance	LW
19-6-0120	Kurrajong T1/ISO 81	774687	6619444	IA <sup>1</sup>	1	Low	204
19-6-0121	Kurrajong T1/OS 82	774400	6619174	AS <sup>2</sup>	9	Low	205
19-6-0122	Kurrajong T1/OS 83	774312	6619099	AS	7	Low	205
19-6-0123	Kurrajong T1/OS 84	774282	6619053	AS	5	Low	205
19-6-0124	Kurrajong T1/OS 85	774250	6619003	AS	3	Low	205
19-6-0125	Kurrajong T1/OS 86	774230	6618998	AS	2	Low	205
19-6-0126	Kurrajong T1/ISO 87	774166	6618811	IA	1	Low	205
19-6-0127	Kurrajong T1/OS 88	773570	6618800	AS	2	Low	206
19-6-0128	Kurrajong T1/ISO 89	773971	6619030	IA	1	Low	205
19-6-0129	Kurrajong T1/OS 90	774221	6619181	AS	5	Low	205
19-6-0130	Kurrajong T1/OS 91	774975	6619298	AS	2	Low	203
19-6-0131	Kurrajong T1/ISO 92	774954	6619212	IA	1	Low	203
19-6-0132	Kurrajong T1/OS 93	774958	6619354	AS	2	Low	203
19-6-0133	Kurrajong T1/OS 94	774955	6619330	AS	6	Low	203
19-6-0134	Kurrajong T1/OS 95	774977	6619291	AS	7	Low	203
19-6-0135	Kurrajong T1/OS 96	774877	6619178	AS	3	Low	203
19-6-0136	Kurrajong T1/ISO 97	774783	6619064	IA	1	Low	204
19-6-0137	Kurrajong T1/OS 98	774742	6618977	AS	2	Low	204
19-6-0138	Kurrajong T1/OS 99	774697	6618941	AS	2	Low	204



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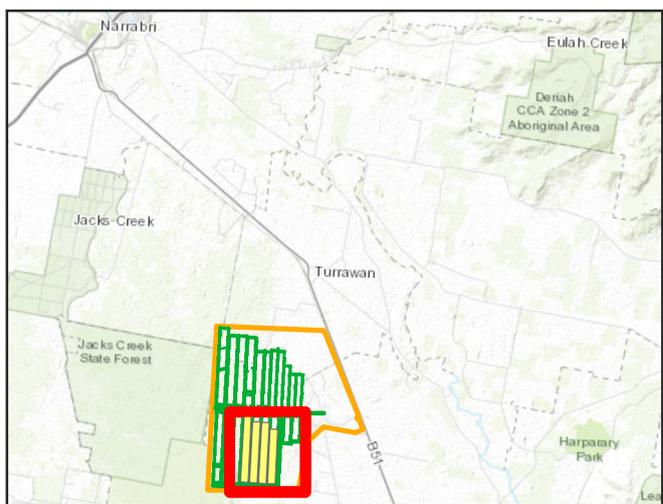
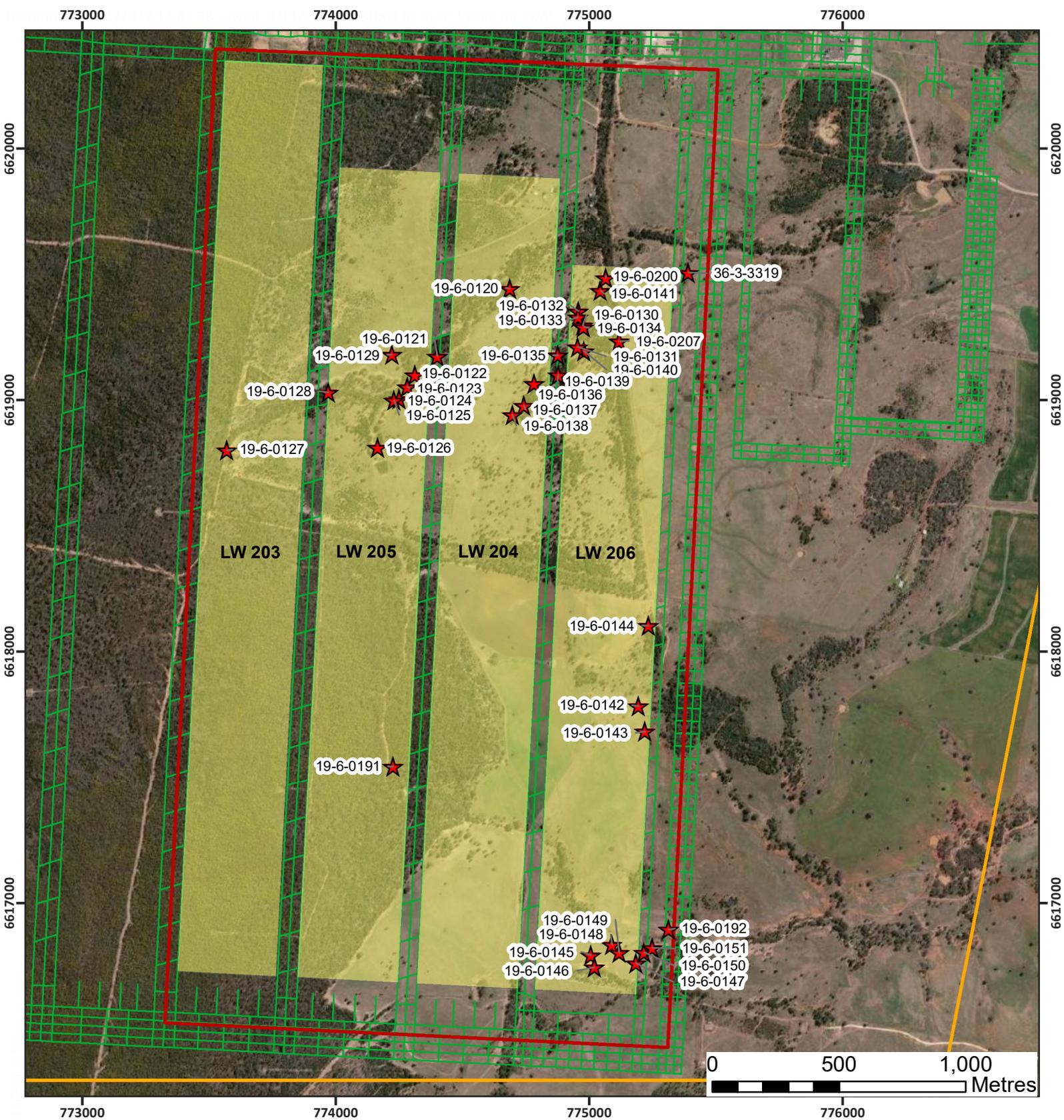
**WHC\_PLN\_NAR\_HERITAGE MANAGEMENT PLAN LW 203 – LW 206**

AHIMS ID	Site name	Easting Zone 55	Northing Zone 55	Type	Contents	Scientific significance	LW
19-6-0139	Kurrajong T1/OS 100	774878	6619099	AS	4	Low	203
19-6-0140	Kurrajong T1/ISO 101	774980	6619194	IA	1	Low	203
19-6-0141	Kurrajong T1/OS 102	775044	6619434	AS	3	Low	203
19-6-0142	Kurrajong CR/OS 103	775195	6617782	AS	3	Low	203
19-6-0143	Kurrajong CR/OS 104	775220	6617682	AS	2	Low	203
19-6-0144	Kurrajong CR/OS 105	775233	6618102	AS	3	Low	203
19-6-0145	Kurrajong CR/OS 106	775007	6616792	AS	3	Medium	203
19-6-0146	Kurrajong CR/OS 107	775020	6616744	AS	34	Medium	203
19-6-0147	Kurrajong CR/OS 108	775185	6616760	AS	12*	Medium*	203
19-6-0148	Kurrajong CR/OS 109	775089	6616834	AS	4*	Medium*	203
19-6-0149	Kurrajong CR/OS 110	775119	6616801	AS	3*	Medium*	203
19-6-0150	Kurrajong CR/OS 111	775217	6616803	AS	36*	Medium*	203
19-6-0151	Kurrajong CR/OS 112	775248	6616821	AS	50*	Medium*	203
19-6-0191	Mayfield GG1	774227	6617543	GG <sup>3</sup>	48	Medium	205
19-6-0192	Mayfield AS13	775312	6616894	AS	130	Medium	203
19-6-0200	Westhaven AS1	775066	6619486	AS	4	Low	203
19-6-0207	Westhaven IA1	775119	6619486	IA	1	Low	203
36-3-3319	Kurrajong T1 OS 136	775391	6619507	AS	11*	Low	203

**Note:**

\* Has been subsumed into (is part of) the much larger Mayfield AS13.

<sup>1</sup> Individual artefact, <sup>2</sup> Artefact scatter, <sup>3</sup> Grinding groove.



**FIGURE 2-1:** Aboriginal Cultural Heritage Sites Within the Extraction Plan Area

- AHIMS Search Area
- LW Panel
- Mine Plan
- ML 1609
- ★ AHIMS Site



K. Whincop, 3 Nov 2022  
 GDA 1994 MGA Zone 55  
**Drawn by:** Heritage NSW, Whitehaven Coal Group,  
**Projection:** WHINCOP  
**Data sources:** Whitehaven Aerial Image 28/4/2019  
 ARCHAEOLOGY

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		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 2.2 Potential for additional sites

The eastern half of the Extraction Plan Area is located on land that has been cleared and used for pastoral activities for more than 100 years. As a result, Aboriginal objects located within this area will likely not be in their original depositional context, having been impacted by a combination of land clearing, harrowing, ploughing, and the construction of contour banks and dams. The western half of the Extraction Plan Area is located within the regenerating scrub of the Pilliga East State Forest. While the ground surface in these areas has not been subject to significant disturbance, the nature of the thick scrub is considered a suboptimal landscape for occupation sites. It is unlikely that Aboriginal camp sites will occur in these areas, although resource acquisition sites (e.g. scarred trees) and burials (e.g. due to the sandy soils) remain possible.

Previous archaeological surveys have noted that the potential for larger unidentified sites is relatively low, given the lack of reliable water sources, few exposures of sandstone bedrock, and no rock overhangs. Archaeological surveys have identified a concentration of artefact sites along Kurrajong Creek and one of its tributaries, with little identified beyond these watercourses.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
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		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

### 3. Subsidence predictions and environmental consequences

#### 3.1 Subsidence predictions

Subsidence predictions for the Extraction Plan Area were assessed and are presented in the Mine Subsidence Assessment Report (DGS 2022). The Mine Subsidence Assessment Report details the potential impacts to natural, man-made and Aboriginal heritage features within the Extraction Plan Area based on the predictions of conventional and non-conventional subsidence. The predictions include a review of the subsidence effects measured above previously undermined LW 101 to LW 109.

The predicted maximum subsidence estimates for the Extraction Plan Area are summarised in Table 3-1 and shown in Figure 3-1.

**Table 3-1 Maximum final subsidence effect predictions**

LW	Cover depth (m)	Subsidence (m)	Tilt (mm/m)	Tensile strain (mm/m)	Compressive strain (mm/m)
203	200-208	2.63 - 2.80	34 - 54	15 - 32	16 - 35
204	230-242	2.72 - 2.80	29 - 47	11 - 26	12 - 27
205	248-282	2.75 - 2.80	24 - 39	9 - 19	9 - 21
206	280-311	2.75 - 2.80	20 - 33	7 - 15	7 - 16

Source: adapted from Table 4 (DGS 2022)



**LEGEND**

- ML1609
- ML1839
- MLA2
- Underground mining layout
- Longwalls 203 to 206
- Proposed longwall voids (LW203-206)
- 45 degree angle of draw
- Roads
- Watercourse
- Contour bank

**Subsidence contours (m)**

- 0.02
- 0.2
- 0.6
- 1
- 1.4
- 1.8
- 2.2
- 2.6

**NARRABRI MINE**

**FIGURE 3-1**

Predicted Subsidence Contours  
for LW 203 to LW 206

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		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

### 3.1.1 Surface cracking

Based on the predicted range of maximum transverse tensile strains for the proposed longwall panels (i.e. 7 mm/m to 32 mm/m), surface crack widths are estimated to range from approximately 210 mm to 330 mm in cohesionless soils and from approximately 420 mm to 650 mm in cohesive soils or shallow rock (Table 3-2). Cracks usually develop within several days after a longwall face has retreated beneath a given location, with some of the cracks closing in the compression zone in the middle of the fully developed subsidence trough, together with new cracks developing in the tensile zones along and inside the panel sides approximately two to three weeks later.

Surface crack widths are upper 95 % confidence level (**U95%CL**) values (to the nearest 10 millimetre [mm]), which means they may be exceeded 5% of the time (by definition) due to adverse topographic or geological conditions. Whilst this effect is unlikely to occur within the Extraction Plan Area, crack widths may exceed the predicted range near the crests of steep creek banks or elevated ridges. The steep rocky slopes above LW 204 and LW 205 are considered likely to be impacted by surface cracking more than 300 mm wide. Based on the above, it is estimated that approximately 0.02 kilometres squared (**km<sup>2</sup>**) to 0.04 km<sup>2</sup> of the surface will be crack affected. This represents 0.13% to 0.27% of the extracted longwall area.

Based on reference to the Australian Coal Industry's Research Program (2003), surface cracks will likely develop by the time the longwall face has retreated past a given location for a distance equal to one to two times the cover depth (i.e. ranging from 170 m to 840 m, based on cover depths at the Narrabri Mine).

Further detail on steep slopes and sub surface cracking relevant to the Extraction Plan Area is presented in the Extraction Plan – Land Management Plan (appendix B to EP 203-206).

**Table 3-2 Predicted maximum crack width in flat terrain**

LW	Cross section cross-line (XL)	Panel width [W] (m)	Cover depth [H] (m)	Panel W/H	Effective bay length* (m)	Predicted maximum tensile strain (mm/m)		Predicted U95%CL crack width (mm)	
						Mean	U95%	Sand or Loam	Clay or Rock
203	6	402.8	208	1.94	10.4	15	29	300	600
	7	402.8	200	2.01	10.0	15	31	310	620
	8	402.8	204	1.97	10.2	16	32	330	650
204	6	402.8	232	1.74	11.6	12	24	280	560
	7	402.8	242	1.66	12.1	11	23	280	560
	8	402.8	230	1.75	11.5	13	26	300	600
205	6	399.7	248	1.61	12.4	10	20	250	500
	7	399.7	282	1.42	14.1	9	17	240	480
	8	399.7	275	1.45	13.8	9	19	260	520
206	6	395.3	280	1.41	14.0	8	15	210	420
	7	395.3	311	1.27	15.6	7	14	220	440
	8	395.3	304	1.3	15.2	8	15	230	460

Source: DGS 2022 (Table 7)

\* - max (H/20, 10m)

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

### 3.1.2 Ponding

The Mine Subsidence Assessment Report predicts a maximum panel subsidence of up to 2.8 m, which may result in closed form depressions forming in some of the central areas of the longwall panels with flatter surface gradients and disrupt natural drainage pathways to watercourses and farm dams. Analysis of the pre and post-mining surface levels suggests that ponding (if it occurs) is likely to develop along Kurradjong Creek and its tributaries.

A total of six potential ponding locations have been assessed within the Extraction Plan Area. Five of the potential ponding areas already exist along the watercourses and dams. Existing (pre-mining) and post-mining pond depths are estimated to range from 0.1 m to 4.7 m. Pond depths are estimated to increase by up to 1.3 m or decrease by up to 0.04 m.

The maximum changes in pond area (where positive represents an increase in pond area) are estimated to range from -0.42 ha to 2.92 ha. The maximum changes in pond volume (where positive represents an increase in pond volume) are estimated to range from -0.23 ML to 20.6 ML<sup>3</sup>. The largest ponding increases are estimated over LW 203 and LW 205.

Overall, the existing ponds are expected to extend laterally from the watercourses for distances ranging from 50 m to 410 m. Existing ponded areas extend up to 270 m, indicating a potential lateral increase of up to 140 m.

## 3.2 Potential impacts to Aboriginal cultural heritage sites

Subsidence effects on Aboriginal cultural heritage sites within the Extraction Plan Area may include:

- vertical displacement;
- cracking;
- ponding;
- erosion; and
- subsidence remediation works.

### 3.2.1 Artefact sites

The majority of artefact scatters and isolated artefacts occur on actively degrading surfaces, and it is assumed that most of the artefacts have already been displaced by slope-wash, stock movement, land clearance, ploughing, harrowing and vehicular traffic. There will be few artefacts in their original depositional context or provenance, and the direct impact of subsidence (vertical or horizontal displacement) is likely to be minimal. As a result, subsidence impacts on these sites will be minimal and therefore negligible. Significant subsidence events (cracks larger than 50 mm in width) and subsequent site remediation works, such as the ripping of large surface cracks or channel earthworks, have the potential to impact artefact scatters. It is unlikely that cracking alone will impact surface artefacts, although they may be displaced through related surface erosional processes.

<sup>3</sup> The actual ponding depths, areas and volumes will also depend upon several other factors, such as rain duration, surface cracking and effective percolation rates of the surface soils along the creeks/drainage lines.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

### 3.2.2 Axe grinding grooves

One axe grinding grooves site, Mayfield GG1 (AHIMS 19-6-0191), has been identified as occurring above LW 205 (Figure 3-2). It appears that the 48 grinding grooves associated with this site are located on outcrops of sandstone bedrock.

The likelihood of damage occurring at Mayfield GG1 was assessed based on the impact parameter criteria detailed in Table 3-3. The criteria consider the theoretical cracking limits of rock of 0.3 mm/m to 0.5 mm/m and the 'system' slackness or strain 'absorbing' properties of a jointed, thinly bedded and highly weathered rock mass during subsidence deformation. The lack of measured observed impact (i.e. surface cracking) due to measured strains of up to 3 mm/m at several Newcastle Coalfield mines is an example of the difference between theoretical and in-situ rock mass cracking behaviour.

**Table 3-3 Impact potential criteria for Mayfield GG1**

Cracking damage potential - indicative probabilities of occurrence	Predicted 'smooth profile' horizontal strain (mm/m)	
	Tensile	Compressive
Very Unlikely (<5%)	< 1	< 2
Unlikely (5 - 10%)	1 - 3	2 - 4
Possible (10 - 50%)	3 - 5	4 - 6
Likely (>50%)	> 5	> 6

Erosion damage potential - indicative probabilities of occurrence	Predicted surface gradient change or tilt increase
	Very Unlikely (<5%)
Unlikely (5 - 10%)	0.3-1% (3 - 10 mm/m)
Possible (10 - 50%)	1-3% (10 - 30 mm/m)
Likely (>50%)	>3% (>30 mm/m)

Source: Table 20 (DGS 2022)

The results of the subsidence impact assessment for Mayfield GG1 suggest that the site is expected to be subject to transient tensile strains of up to 5 mm/m and final compressive strains of 5 mm/m. Therefore, it is 'possible' to 'likely' that the grooves may be impacted by cracking in their current location. Table 3-4 details the predicted subsidence effects and Table 3-5 details the predicted subsidence impacts associated with Mayfield GG1.

**Table 3-4 Predicted subsidence effects for Mayfield GG1**

Site name	Site type	Panel	Final subsidence (m)	Final tilt (mm/m)	Transient & final horizontal ground strain (mm/m) <sup>^</sup>	
					Transient	Final
Mayfield GG1	Grinding Grooves	LW 205	1.16	37	2 (3)	3 (5)

Source: Table 19 (DGS 2022)

<sup>^</sup> - Tensile strain is positive; (brackets) - Discontinuous strains due to tensile cracking or compressive shearing.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

**Table 3-5 Predicted subsidence impact for Mayfield GG1**

Site name	Site type	Location	Horizontal strain (mm/m) <sup>^</sup>	Cracking damage potential*	Tilt (mm/m)	Erosion damage potential
Mayfield GG1	Grinding Grooves	Sandstone Bedrock	-5 (+5)	Possible to Likely	37	Possible

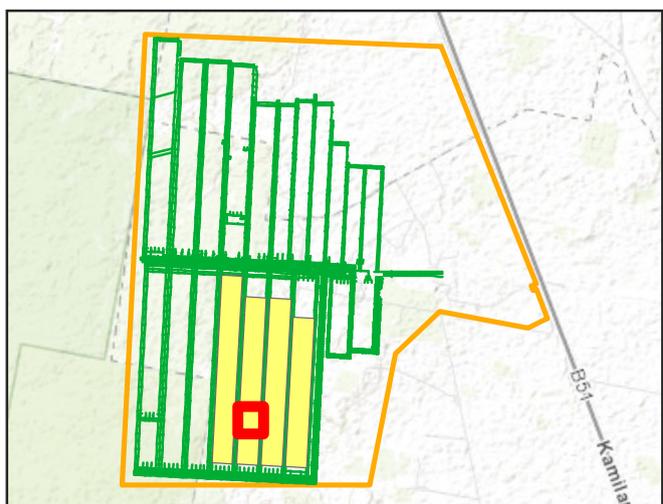
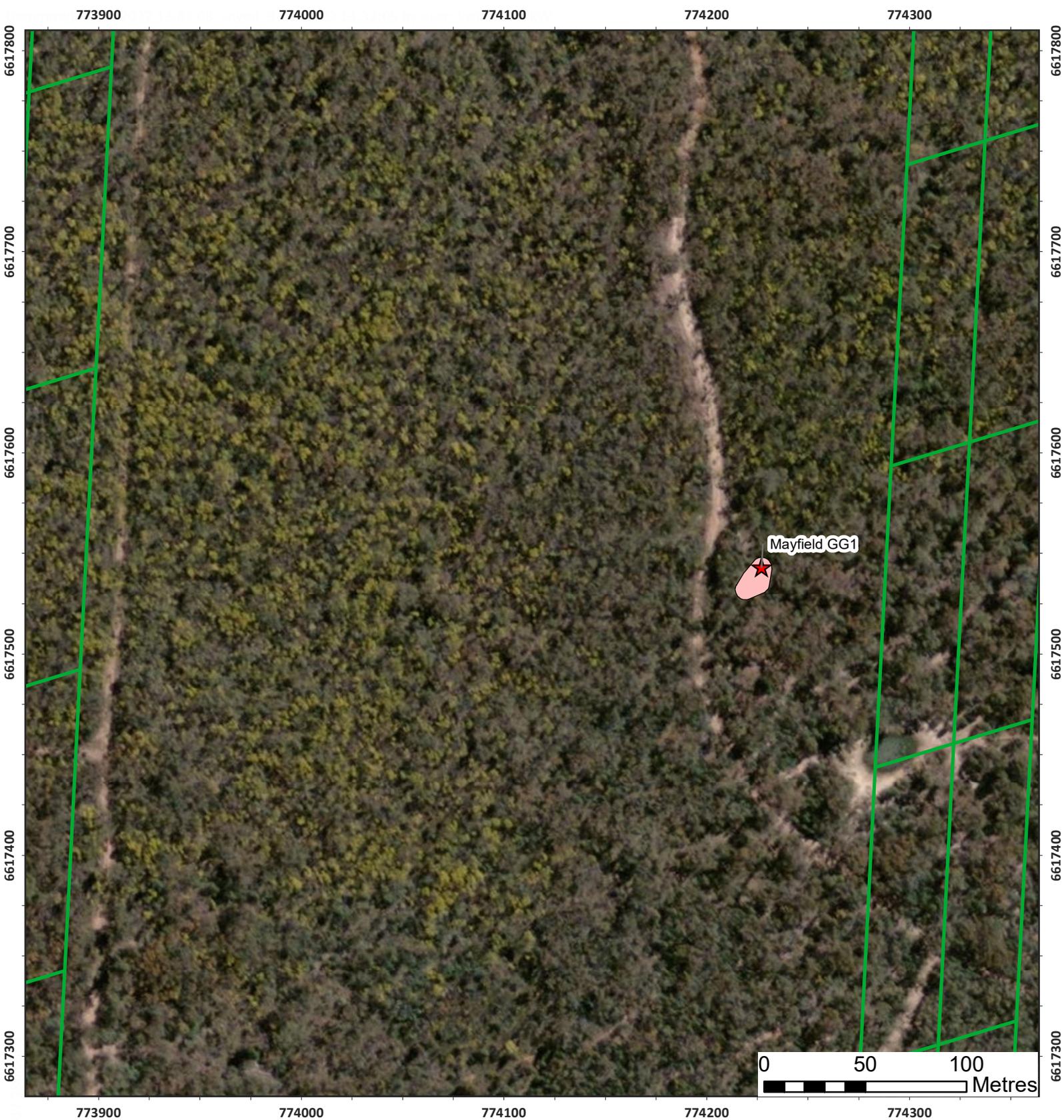
Source: Table 21 (DGS 2022)

<sup>^</sup> - Tensile strain is positive; (brackets) - transient strain.

# - grinding grooves are located on separate sandstone 'slabs' which may mitigate strain transfer. Partial excavation around the 'slabs' may further alleviate cracking potential.

### 3.3 Site fencing

Fences around the Aboriginal cultural heritage sites may be damaged and require repair after mining. Impact to fences may include straining and possibly tensile failure of fencing wire strands in tensile strain zones and/or sagging of fencing wire strands and possibly loss of fence serviceability in compressive strain zones.



**FIGURE 3-2: Context of Mayfield GG1**

- ★ AHIMS Site
- ACH Site Extent
- LW Panel
- Mine Plan
- ML 1609



**Drawn by:** K. Whincop, 3 Nov 2022  
**Projection:** GDA 1994 MGA Zone 55  
**Data sources:** Heritage NSW, Whitehaven Coal Group, Whitehaven Aerial Image 28/4/2019



	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206			

## 4. Management measures

In accordance with Schedule 2 Condition 1 of the Project Approval, NCOPL will implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation activities at the Narrabri Mine.

The objectives, performance measures and management actions detailed in the following sections have been developed in consultation with the RAPs, in consideration of the scientific and cultural significance of sites identified within the Extraction Plan Area.

### 4.1 Objectives

The objectives for the management of Aboriginal cultural heritage sites within the Extraction Plan Area are to:

- identify, as far as practical, all Aboriginal cultural heritage sites and objects;
- consult and actively involve the RAPs in the management of Aboriginal cultural heritage sites and objects;
- advise mine staff and contractors of their personal responsibility in avoiding, managing and mitigating impacts on Aboriginal cultural heritage sites, objects and resources;
- provide a process for mine staff and contractors to follow in managing Aboriginal cultural heritage during the carrying out of their day-to-day operational activities at the Narrabri Mine;
- salvage archaeological and cultural values at sites where impacts are unavoidable;
- provide suitable conservation measures to ensure on-going protection to those Aboriginal sites and objects not impacted;
- ensure NCOPLs commitment to best practice in the management and mitigation of Aboriginal cultural heritage is reflected in its environmental management policies and protocols; and
- meet the conditions of the Project Approval.

These objectives will be achieved by:

- implementing the proposed monitoring and management measures to reduce the likelihood of impacts caused by subsidence; and
- implementing a review, reporting, and auditing process to provide feedback on the proposed monitoring and management measures and to allow for continual improvement.

### 4.2 Performance measures and indicators

Specific performance measures and indicators have been developed for the protection of Aboriginal cultural heritage values at the Narrabri Mine and are presented in Table 4-1.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

**Table 4-1 Aboriginal cultural heritage performance measures**

Performance measure	Indicator of success	Key assessment considerations
Surface cracking, vertical displacement or erosion does not compromise Aboriginal objects or cultural heritage values	Existing sites and any new sites identified are assessed for impacts and management measures implemented consistent with the site Aboriginal Cultural Heritage Management Plan ( <b>ACHMP</b> ).	<ol style="list-style-type: none"> <li>1. Does the monitoring and assessment indicate a non-compliance against a performance measure or Project Approval condition, or is likely to be a non-compliance?</li> <li>2. Does the non-compliance or likely non-compliance increase the risk of any sites being impacted?</li> <li>3. What is the nature of the risk? <ul style="list-style-type: none"> <li>• vertical displacement</li> <li>• cracking</li> <li>• ponding</li> <li>• erosion</li> <li>• subsidence remediation works</li> </ul> </li> <li>4. What are the potential factors that may have contributed to the risk i.e. subsidence, inadequate management measure or natural processes?</li> </ol> <p>What actions, if any, are required to mitigate and/or minimise the potential for future impacts and monitor the long-term impacts of the non-compliance?</p>
Site remediation works do not compromise Aboriginal objects or cultural heritage values.	Works are undertaken in accordance with this EP-HMP, the EP 203-206 Land Management Plan, and the site ACHMP	
Aboriginal cultural heritage values have been salvaged to contemporary best practice standards.	Salvage of Aboriginal objects undertaken prior to impact in accordance with the approved EP-HMP and with approval of the Secretary.	

Monitoring will be used to assess the impact of the mining operations against the performance measures and indicators presented in Table 4-1. If monitoring and assessment indicates a non-compliance against a performance indicator, or there is the possibility that a non-compliance will occur, NCOPL will implement the contingency measures outlined in section 6.

### 4.3 General mitigation measures

The site ACHMP requires NCOPL to implement a range of management measures developed in consultation with the RAPs, in consideration of the cultural and scientific significance of Aboriginal cultural heritage sites identified across the Narrabri Mine. In summary, these measures cover the:

- management of potential impacts of surface disturbance;
- requirements for site protection;
- requirements for ongoing RAP consultation;
- requirements of the Permit to Work system; and
- protocols and procedures such as the:
  - Site Salvage Procedure;
  - Discovery of Possible Human Remains Procedure;
  - Salvage and Curation of Scarred Trees Procedure;

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

- Accidental Damage to Known Sites Procedure;
- Unidentified Aboriginal Cultural Heritage Sites Procedure; and
- Consultation and Communication Protocol.

#### 4.4 Fencing of sites

All known Aboriginal cultural heritage sites will be fenced and appropriately signed to avoid accidental damage. Fencing will fully enclose the extent of each site, to be determined according to the Aboriginal Cultural Heritage Sites Database and in consultation with a qualified archaeologist and the RAPs.

Subsidence impacts to fencing will be determined via monitoring (refer to section 5). If impacts are observed, NCOPL or nominated contractor will rectify any damage as required.

#### 4.5 Mayfield GG1 investigations

Mayfield GG1 is subject to indirect impacts associated with the effects of subsidence or, if connected to bedrock, may be subject to potential cracking and/or possible erosion damage. NCOPL will undertake further investigation within 6 months of approval of this EP-HMP (and prior to the commencement of secondary workings) to determine the potential connection to bedrock with an appropriately qualified specialist (e.g. archaeologist, geologist, geomorphologist) and the RAPs.

If the investigations determine that the site is connected to bedrock, additional management measures will be determined in consultation with the appropriately qualified specialist and the RAPs. These measures may include electronic monitoring equipment, regular inspections by the RAPs, and/or potential relocation of the grinding grooves to a suitable location. The Mine Subsidence Assessment Report suggests that partial soil excavation around each slab with hand tools may reduce strain transfer into the slabs during subsidence and reduce the potential for cracking.

An action plan will be developed for the management of this site within 6 months of approval of this EP-HMP which will include the outcomes of the investigation and will outline the mitigation options determined in consultation with the RAPs.

During active subsidence, NCOPL will monitor Mayfield GG1 on a monthly basis to assess potential cracking and subsidence impacts. Monitoring for cracking will cease once monitoring indicates that subsidence movement has ceased.

#### 4.6 Remediation of surface cracks and ponding

##### 4.6.1 Surface cracking

NCOPL will conduct remediation of surface cracking over the life of mine. A preliminary assessment will be undertaken to minimise the environmental impact of remediation actions. Prior to any remediation, NCOPL will undertake a review of environmental impacts (including impacts to Aboriginal cultural heritage) that may result from the remediation at the specific location and consider whether remediation will create an increased impact (e.g. due to clearing of native vegetation to enable machinery access to repair the crack or major drainage works that will cause a greater impact from excavation etc.). If the assessment concludes that there may be

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

the potential to increase the impact, alternative methods of remediating the crack are warranted (e.g. without machinery).

A procedure for subsidence repair within a known Aboriginal cultural heritage site or, within 10 m of a site, the *Narrabri Mine Subsidence Repair in ACH sites* (WHC-PRO-NAR-SUBSIDENCE REPAIR IN ACH SITES) will be implemented. The procedure aims to enable remediation activities which avoid and/or minimise any potential adverse impacts to Aboriginal cultural heritage values. Once surface cracks are remediated, NCOPL will conduct an inspection within three months, and then annually thereafter until no visible cracking is evident.

#### 4.6.2 Ponding

The standard management measures for the remediation of subsidence induced ponding include:

- ponding located in areas where vegetation is not affected, will be allowed to self-correct;
- ponding located in areas with affected vegetation, or if ponding significantly alters or affects flows, will be assessed and remedial actions (that present the lowest environmental impact) developed in consultation with a geomorphologist; and
- if Aboriginal sites or objects are impacted, the ponding will be assessed, and remediation options will be developed in consultation with the RAPs to afford the maximum practical protection to the affected feature.

Remediation of surface cracking and ponding is further detailed in the Extraction Plan - Land Management Plan (Appendix B to EP 203-206).

#### 4.7 Site salvage

Any soil disturbance works within 100 m of a watercourse or drainage line, or in areas not previously inspected by RAPs for cultural heritage purposes, require the presence of the RAPs to monitor the works and minimise the risk of Aboriginal objects being disturbed by the activities.

In addition, both prior to and during mining, and if requested by the RAPs, those sites identified within 50 m of surface cracking larger than 50 mm width, or in the event that subsidence remediation works will result in impacts becoming unavoidable (subject to reasonable efforts to avoid such sites), the sites will be collected in accordance with the procedure outlined below:

1. Seek the written approval from the Secretary prior to commencing any salvaging works and apply for a 'Transfer of Aboriginal Objects' permit required by section 85A of the NP&W Act.
2. Peg the location of the site to be salvaged.
3. Commission an archaeologist and invite representatives from the RAPs to salvage all visible artefacts by hand collection or excavation if warranted (e.g. undisturbed subsurface deposits are likely to exist).
4. The archaeologist will provide a Salvage Report outlining the results of the salvage activity, including a list and basic description of artefacts collected. The report will also provide recommendations for further detailed analysis, if warranted by the nature of the salvage activity (e.g., if artefacts were excavated from an undisturbed subsurface deposit associated with a rare or unusual cultural feature or object). When undertaken, artefact analysis will be completed within 6 months of the salvage program, and a short report outlining the results of the analysis prepared upon completion of the analysis.
5. Place the salvaged material in the care and control, requiring authorisation under a Care Agreement,

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206			

of the Aboriginal organisation agreed by the RAPs. Narrabri Mine has agreed to provide a 'Keeping Place' within the Mining Leases.

6. Provide copies of the Salvage Report to DPE, the RAPs and Heritage NSW within 12 months of completing the salvage.

## 4.8 Keeping place

Consultation with the RAPs to identify a culturally appropriate keeping place for all salvaged material from the Narrabri Mine has begun. Although a final Keeping Place has not yet been determined, a Care Agreement (as required under the NP&W Act), will be required for all salvaged artefacts. An Interim Keeping Place has been established for the storage of salvaged Aboriginal objects from the salvage program. This Interim Keeping Place consists of a locked cupboard within the NCOPL offices at the mine site.

Consultation regarding the final Keeping Place is ongoing and will be discussed with all RAPs at the biennial RAP consultation meetings.

Following closure of the mine, RAPs will be consulted to determine whether and, if so, where previously salvaged artefacts will be repatriated back to Country.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 5. Subsidence impact monitoring

NCOPL will perform documented visual inspections (including photographs) to record the current condition of each site above a given longwall panel prior to, and within six months following, the cessation of mining. This monitoring will be undertaken by a suitably qualified archaeologist in consultation with the RAPs.

NCOPL will also conduct monthly visual subsidence inspections to identify areas of surface cracking following longwall mining. These inspections will document crack locations, depth, width and length using GPS, identify erosion/potential erosion, and determine the appropriate management response. Inspections will also be conducted following a significant rain event (i.e. >38.4mm over 5 consecutive days). Identification of ponded areas will also be performed during the visual inspections to determine the location and extent (i.e. size) of the ponded area.

Surface cracking and/or ponding identified within the boundary of an existing Aboriginal cultural heritage site of medium or high scientific significance will be inspected by representatives of the RAPs and an appropriately qualified specialist (e.g. archaeologist, geologist, geomorphologist) to determine the nature and extent of impacts, and to provide advice on whether mitigation is required or feasible. Mitigation measures may include further monitoring, surface collection, or open area salvage excavation (if warranted). Remediation will be conducted in accordance with the *Narrabri Mine Subsidence Repair in ACH sites*. Once surface cracks are remediated, NCOPL will conduct an inspection of the site within three months, and then annually thereafter until no visible cracking is evident.

Table 5-1 summarises the EP-HMP monitoring program for LW 203 to LW 206.

**Table 5-1 Aboriginal cultural heritage subsidence monitoring program**

Aspect	Monitoring requirement	Timing
Aboriginal cultural heritage sites	Monitoring of Mayfield GG1 (AHIMS 19-6-0191) above LW 205 to detect potential cracking or damage from erosion.	Monthly during mining and monthly following mining for a period of 12 months.
	Inspections (including photographs) of all sites above a given longwall panel to record condition of each site. These inspections will be undertaken by a qualified archaeologist in consultation with RAPs.	Prior to, and within six months of the cessation of mining.
	Audit of existing site fences to ensure fencing is maintained and in good condition.	Annually.
Subsidence	Visual inspections to determine surface cracking, ponding, and erosion. Monitoring to determine if remediation works and/or salvage is required and if repairs to Aboriginal cultural heritage site fencing is needed. Subsidence monitoring conducted in accordance with the Subsidence Monitoring Program (Appendix K to EP 203-206).	Monthly during mining, directly behind the longwall face.
	Inspection of remediated surface cracks.	Within three months of remediation.
Surface disturbance	Any soil disturbance work within 100 m of a watercourse or drainage line is to be monitored by representatives of the RAPs (i.e. Cultural Heritage Monitors).	During disturbance activities within 100 m of watercourse or drainage line.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 6. Contingency response

In the event that a non-compliance against a performance measure detailed in section 4.2 has occurred, or is likely to occur, NCOPL will:

1. Report the non-compliance as soon as practicable to the relevant agencies as required under the Project Approval and relevant legislation in accordance with section 7.
2. Identify and implement an appropriate course of action with respect to the non-compliance in consultation with a suitably qualified person/s, relevant agencies and the RAPs.
3. Review the effectiveness of the EP-HMP management measures in accordance with section 8.3.

A Trigger Action Response Plan (Table 6-1) has been developed to identify, assess, and respond to triggers and manage risks associated with meeting the Aboriginal cultural heritage performance measures.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

**Table 6-1 Trigger Action Response Plan**

Aspect	Performance measure	Response	
		Trigger	Action
Surface cracking, vertical displacement, or erosion	Surface cracking, vertical displacement or erosion does not compromise Aboriginal objects or cultural heritage values.	<b>Level 1</b> Surface cracks <50 mm present within 50 m of a cultural heritage site, and no erosion identified.	<b>Level 1</b> <ul style="list-style-type: none"> <li>Document occurrence of surface cracks.</li> <li>Continue monitoring.</li> <li>Summarise occurrence in relevant reports.</li> </ul>
		<b>Level 2</b> Surface cracks >50 mm present within 50 m of a cultural heritage site.  and/or  Erosion as a result of cracking identified.	<b>Level 2</b> <ul style="list-style-type: none"> <li>As for Level 1</li> <li>Provide safety fencing and signage if required.</li> <li>Advise relevant stakeholders.</li> <li>Implement remediation measures as appropriate. These may include salvage of cultural heritage (section 4.7), ripping of surface cracks, filling of cracks with grout, spoil or other suitable material (section 4.6).</li> </ul>
Ponding	Ponding does not compromise Aboriginal objects or cultural heritage values.	<b>Level 1</b> No ponding areas identified, or ponding occurs in areas with no cultural heritage present.	<b>Level 1</b> Continue monitoring.
		<b>Level 2</b> Ponding areas identified in proximity to areas with cultural heritage present.	<b>Level 2</b> <ul style="list-style-type: none"> <li>Advise relevant stakeholders.</li> <li>Implement remediation measures as appropriate. These may include salvage of cultural heritage (section 4.7) or channel earthworks to mitigate ponding.</li> </ul>

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

Aspect	Performance measure	Response	
		Trigger	Action
Remediation of surface cracking or ponding	Remediation works do not compromise Aboriginal objects or cultural heritage values.	<b>Level 1</b> Preliminary assessment of proposed remediation works concludes that works will not impact cultural heritage.	<b>Level 1</b> Implement repair in accordance with the Permit to Work procedure <sup>^</sup> .
		<b>Level 2</b> Preliminary assessment of proposed remediation works concludes that works have the potential impact to cultural heritage.	<b>Level 2</b> <ul style="list-style-type: none"> <li>As for Level 1</li> <li>Implement procedure for subsidence repair*.</li> <li>Consider appropriate remediation methods (section 4.6) to mitigate impacts.</li> <li>Salvage cultural heritage in accordance with section 4.7 if impacts cannot be avoided.</li> </ul>

**Notes:**

<sup>^</sup>WHC-PRO-NAR- PTW – SURFACE DISTURBANCE/PENTRATION WORK.

\* WHC-PRO-NAR-SUBSIDENCE REPAIR IN ACH SITES.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206			

## 7. Incidents and non-compliance

### 7.1 Incident notification

An incident is defined under the Project Approval as *a set of circumstances that causes or threatens to cause material harm, and/or breaches or exceeds the limits of performance measures/criteria*. Material harm to the environment is defined under the Project Approval as *involving actual or potential harm to the health or safety of human beings or to the environment that is not trivial*. This definition excludes “harm” that is authorised under the Project Approval or any other statutory approval (e.g., the Environmental Protection License).

In the event of any exceedance of the performance criteria, NCOPL will advise the Secretary and any other relevant agencies as soon as practicable after becoming aware of the incident, in accordance with Schedule 6 Condition 4. Within 7 days of the event, NCOPL will also provide the Secretary and any relevant agencies a detailed report which will:

- describe the date, time and nature of the exceedance/incident;
- identify the cause (or likely cause) of the exceedance/incident;
- describe what action has been taken to date; and
- describe the proposed measures to address the exceedance/incident.

Notifications to the NSW Environment Protection Authority will be made by contacting the Environment Line on 131 555 and written details of the notification will be provided within 7 days of the date on which the incident occurred.

Incident reporting and emergency response is further described in NCOPLs Environmental Management Strategy.

### 7.2 Non-compliance

In accordance with Schedule 6 Condition 2, where a non-compliance with a statutory requirement/s or an exceedance of the relevant criteria or performance measures has occurred, NCOPL will, at the earliest opportunity, take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur. Once this has been achieved, all reasonable and feasible options for remediation (where relevant) will be considered.

In accordance with Schedule 6 Condition 4, within seven days of becoming aware of a non-compliance, NCOPL will notify DPE of the non-compliance<sup>4</sup>. The notification will be made in writing via the Major Projects website and identify the development (including the development application number and name), set out the condition or requirement that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance.

NCOPL will implement any reasonable remediation measures as directed by the Secretary, to the satisfaction of the Secretary.

<sup>4</sup> A non-compliance which has been notified as an incident under section 7.1 does not need to also be notified as a non-compliance under section 7.2.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 8. Reporting, evaluation and review

### 8.1 Annual review

In accordance with Schedule 6 Condition 6, NCOPL will review the performance of its environmental management for the previous calendar year and report the relevant results within the Annual Review, to the satisfaction of the Secretary. The Annual Review will at minimum provide information regarding the effectiveness of the management measures to prevent, and if prevention is not reasonable and feasible, to minimise any impact on Aboriginal cultural heritage values.

Further, the Annual Review requires a number of items to be reviewed or assessed. In summary these are:

- monitoring results and complaints;
- non-compliances and incidents;
- compliance with performance measures;
- discrepancies between predicted and actual impacts; and
- measures to be implemented to improve environmental performance.

The Annual Review may also make recommendations for any additions, changes, or improvements to NCOPLs environmental management procedures.

The Annual Review will be made available on the WHC website.

### 8.2 Independent environmental audits

Prior to 13 September 2010, and every 3 years thereafter, unless the Secretary directs otherwise, NCOPL will commission and pay the full cost of an Independent Environmental Audit (**IEA**) of the development (Stages 1 and 2), to be conducted in accordance with the requirements of Schedule 6 Condition 7.

The audit team will be led by a suitably qualified auditor and the IEA will be conducted by suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary.

### 8.3 Management plan review and evaluation

As required by Schedule 6 Condition 3 of the Project Approval, within three months of any of the following:

- completion of an IEA (as required by Schedule 6 Condition 7);
- submission of an Incident Report (as required by Schedule 6 Condition 4);
- submission of an Annual Review (as required by Schedule 6 Condition 6); and
- any modification to the conditions of the Project Approval (unless the conditions require otherwise).

NCOPL will then review, and if necessary, revise this EP-HMP. This is to ensure that the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Narrabri Mine operations.

Condition 3 of Schedule 6 further states that if the review determines that this EP-HMP requires revision, then this will be completed to the satisfaction of the Secretary. A dedicated review register will be maintained which will provide the details of the review of all relevant strategies, plans and programs that need to be reviewed as

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206			

required by Schedule 6 Condition 3 of the Project Approval. The revision status of this EP-HMP is indicated in section 13.

## 8.4 Improvement measures

Project Approval Schedule 6 Condition 2(f) requires this Plan to include a program to investigate and implement ways to improve the environmental performance of the development over time. Improvement measures may be investigated through review of the following:

- monitoring data, and any assessment of trends;
- audit outcomes, including audits of Aboriginal cultural heritage management measures; and
- incident reports, including any community complaints.

Reasonable and feasible improvement measures will be implemented and documented as a management measure in a revision to the Plan as described in section 8.3.

In accordance with Schedule 6 Condition 2(g) a protocol for periodic review of this Plan has been addressed under section 8.3.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 9. Complaints management

Any complaints received in relation to aboriginal heritage will be managed in accordance with the complaints management protocol as follows:

- Publicly advertised telephone complaints line, 1800WHAVEN, will be in place to receive complaints.
- Each complaint received will be recorded in a Complaints Register, which will include the following details:
  - date and time of complaint;
  - method by which a complaint was made;
  - personal details the complainant wishes to provide or, if no such details are provided, a note to that effect;
  - nature of the incident that led to the complaint;
  - action taken by NCOPL in relation to the complaint (i.e., any required remedial actions), including any follow-up contact with the complainant; and
  - if no action was taken, the reason why no action was taken.
- The Environmental Superintendent will be responsible for ensuring that an initial response is provided within 24 hours of receipt of a complaint (except in the event of complaints recorded when the mine is not operational or outside of usual business hours).
- Once the identified measures are undertaken, the Environmental Superintendent will sign off on the relevant complaint within the Complaints Register.
- If necessary, follow-up monitoring will take place to confirm the source of the complaint is adequately mitigated.
- A summary of the complaints will be maintained by NCOPL and made available to the Community Consultative Committee, the complainant (on request) and on the WHC website. A summary of complaints received every 12 months will be provided in the Annual Review.

In the event that any complainant considers that NCOPL has not adequately addressed their concerns, the NCOPL representative will convene additional meetings with the complainant.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 10. Plan implementation

### 10.1 Roles and responsibilities

During the operational phases of the development, the Narrabri Mine will be managed by the General Manager who will have overall responsibility for ensuring contractors, employees and service providers comply with all laws, regulations, licences, and approvals. Table 10-1 outlines the roles and responsibilities applicable to this EP-HMP.

**Table 10-1 Roles and responsibilities**

Roles	Responsibilities
General Manager	<ul style="list-style-type: none"> <li>Ensure that adequate resources are available to NCOPL personnel to facilitate the completion of their responsibilities under this EP-HMP.</li> </ul>
Mine Manager	<ul style="list-style-type: none"> <li>Ensure all contractors, sub-contractors and service-personnel are appropriately qualified, competent, and licensed to undertake the required work under this EP-HMP and have a good environmental performance record.</li> <li>Ensure the subsidence monitoring program is implemented and adhered to.</li> </ul>
Environmental Superintendent	<ul style="list-style-type: none"> <li>Ensure that all environmental monitoring and reporting is undertaken in accordance with this EP-HMP and various approval requirements, and is checked, processed, and filed appropriately.</li> <li>Communicate with statutory agencies and departments, public authorities and the community.</li> <li>Advise on matters identified in all approval, permit, licence, and consent documents and ensure all operations are conducted in compliance with those conditions, and all other environmental obligations.</li> <li>Liaise with stakeholders regarding subsidence impact management.</li> <li>Authorise changes to this EP-HMP.</li> </ul>
Surface Operations Manager	<ul style="list-style-type: none"> <li>Provides notification to all mine personnel advising of potential subsidence hazards and impacts.</li> </ul>
Civil Services Coordinator	<ul style="list-style-type: none"> <li>Manages the condition and safety of roads and tracks around the mine site.</li> <li>Remediates subsidence impacts to maintain trafficability of access roads and tracks.</li> <li>Maintains access to critical infrastructure and facilitates inspections and remedial works.</li> <li>Designs and installs PED cables (personal emergency device communications system).</li> </ul>
Technical Services Manager	<ul style="list-style-type: none"> <li>Decommissions Surface to in-seam (SIS) drainage sites and structures prior to subsidence impacts.</li> </ul>
Registered Mine Surveyor	<ul style="list-style-type: none"> <li>Ensure that all subsidence monitoring is carried out in accordance with the Subsidence Monitoring Program to the accuracy required, within the specified timeframes and are checked, processed and filed appropriately.</li> </ul>
Archaeologist(s)	<ul style="list-style-type: none"> <li>Provide technical advice on the management of archaeological values of Aboriginal cultural heritage objects and/or places.</li> </ul>

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

Roles	Responsibilities
RAPs	<ul style="list-style-type: none"> <li>Provide expertise in the management of Aboriginal cultural heritage objects and/or places.</li> </ul>

## 10.2 Inductions and training

NCOPL seeks to minimise the risk of inadvertent damage to Aboriginal cultural heritage sites by promoting an awareness of heritage conservation via the induction process. All NCOPL personnel have a duty of care to protect and manage Aboriginal cultural heritage sites from adverse impacts.

All personnel undertaking work at the Narrabri Mine are required to complete an induction package, which includes a training module focusing on Aboriginal cultural heritage awareness. The module provides information in relation to the presence, identification, reporting and protection of Aboriginal cultural heritage sites within and surrounding the mine site.

The induction package was developed in consultation with the RAPs and is delivered through an NCOPL on-line portal.

NCOPL retains records of all completed inductions.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

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	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206			

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	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## 12. Glossary

Term	Definition
Aboriginal cultural heritage site	Location of evidence of Aboriginal occupation (typically, Aboriginal objects, but also places of traditional or historical cultural value for which no Aboriginal objects exist).
Aboriginal object	As defined under section 5 of the NP&W Act.
Aboriginal place	As defined under section 5 of the NP&W Act.
Aboriginal remains	As defined under section 5 of the NP&W Act.
Active subsidence	The period of time that movement of the ground can occur after underground mining.
Angle of Draw	The angle with the vertical, made by a straight line extending away from the limits of extraction at seam level to the ground surface, spanning the horizontal distance in which subsidence may occur.
Artefact	An object made by human agency (e.g. stone artefacts).
Assessment	Refer to an environmental assessment of the environmental consequences of a project prior to the decision to move forward with the proposed action.
Compressive strain	A decrease in the distance between two points on the surface. This can cause shear cracking or steps at the surface if > 3 millimetres per metre (mm/m).
Cover depth	The depth of coal seam from the ground surface (metres).
Department	Planning and Assessment Group within the NSW Department of Planning and Environment (DPE).
Development	The Stage 2 development described in the EA as modified by the Project Approval.
Environmental consequences	The environmental consequences of subsidence impacts including: damage to built features; loss of surface flows to the sub-surface; loss of standing pools; adverse water quality impacts; development of iron bacterial mats; cliff falls; rock falls; damage to Aboriginal heritage sites; impacts to aquatic ecology; ponding.
Extraction Plan Area	The area predicted to be affected by the proposed secondary extraction of the approved longwall panels LW 203 to LW 206.
First workings	Development of the main headings and gate roads to establish access to the coal in the mining area.
Incident	A set of circumstances that causes or threatens to cause material harm to the environment, and/or breaches or exceeds the limits of performance measures/criteria in the Project Approval.
In-situ	Situated in the original place.
Material harm	Material harm to the environment is defined in section 147 of the <i>Protection of the Environment Operations Act 1997</i> .
Minimise	Implement all reasonable and feasible mitigation measures to reduce the impacts of the Narrabri Mine.
Mining operations	The extraction, processing and transportation of coal on the site, including the formation of mine access drifts and associated surface infrastructure such as gas and water drainage facilities.
Mitigation	Activities associated with reducing the impacts of the development.
MOD 5	Reduced the number of longwall panels from 26 to 20; increased the longwall panel widths for LW 107 to LW 120 from approximately 295 m to approximately 400 m; extended the western footprint approximately 60 m; and increased the maximum ROM coal processing rate from 8 Mtpa to 11 Mtpa.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

Term	Definition
MOD 7	Describes the change in mining method within the extent of the previously approved LW 201 and LW 202 and allows for up to 0.7 Mtpa via bord and pillar extraction at pillar reduction panels CF 201 to CF 205.
Narrabri Mine	The development approved under the Project Approval 05_0102 and Project Approval 08_0144.
Negligible	Small and unimportant, such as not worth considering.
Project	The Stage 2 Narrabri Coal Project described in the EA.
Project Approval	Development consent (PA 08_0144) issued on 26th July 2010 under Section 75J of the Environmental Planning and Assessment Act 1979 by the Department of Planning & Infrastructure (as modified).
Registered Aboriginal Parties	As described in the National Parks and Wildlife Regulation 2019.
Rehabilitation	The treatment or management of land disturbed by the project for the purpose of establishing a safe, stable and non-polluting environment including the remediation of impacts.
Remediation	Activities associated with partially or fully repairing or rehabilitating the impacts of the project or controlling the environmental consequences of this impact.
Second workings	Extraction of coal from longwall panels, mini-wall panels, or pillar extraction.
Secretary	Planning Secretary under the EP&A Act, or nominee.
Site	Has the same meaning as Aboriginal cultural heritage site.
Stage 1	The project approval granted by the Minister Planning for the Narrabri Coal Project, dated 14 November 2007.
Stage 2	Narrabri Mine Stage 2 approved under Project Approval 08_0144.
Statement of Commitments	The Proponent's revised commitments in Appendix 3 of the Project Approval, dated May 2010.
Subsidence	The totality of subsidence effects, subsidence impacts and environmental consequences of subsidence impacts.
Subsidence effects	Deformation of the ground mass due to mining, including all mining-induced ground movements, such as vertical and horizontal displacement, tilt, strain and curvature.
Subsidence impacts	Physical changes to the ground and its surface caused by subsidence effects, including tensile and shear cracking of the rock mass, localised buckling of strata caused by valley closure and upsidence and surface depressions or troughs.
Tensile strain	An increase in the distance between two points on the surface. This is likely to cause cracking at the surface if it exceeds 2 mm/m. Tensile strains are usually associated with convex (hogging) curvatures near the sides (or ends) of the panels.
the Proponent	Narrabri Coal Operations Pty Ltd
Tilt	The rate of change of subsidence between two points (A and B), measured at set distances apart (usually 10m). Tilt is plotted at the mid-point between the points and is a measure of the amount of differential subsidence
Watercourse	A river, creek or other stream, including a stream in the form of an anabranch or tributary, in which water flows permanently or intermittently, regardless of the frequency of flow events: In a natural channel, whether artificially modified or not, or in an artificial channel that has changed the course of the stream. It also includes weirs, lakes and dams.

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

### 13. Review history

Revision	Comments	Author	Authorised by	Date

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## Attachment 1 Compliance conditions relevant to this Plan

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

**Table A1-1 Project Approval conditions relevant to this Plan**

Project Approval 08_0144 conditions		Document reference
Condition	Requirement	
Schedule 2 Condition 1	The Proponent shall implement all practicable measures to prevent and/or minimise any harm to the environment that may result from the construction, operation, or rehabilitation of the project.	Section 4
Schedule 2 Condition 11	<p>With the approval of the Secretary, the Proponent may submit any management plan or monitoring program required by this approval on a progressive basis.</p> <p><b>Note:</b> <i>The conditions of this approval require certain strategies, plans, and programs to be prepared for the project. They also require these documents to be reviewed and audited on a regular basis to ensure they remain effective. However, in some instances, it will not be necessary or practicable to prepare these documents for the whole project at any one time, particularly as these documents are intended to be dynamic and improved over time. Consequently, the documents may be prepared and implemented on a progressive basis, subject to the conditions of this approval. In doing this however, the Proponent will need to demonstrate that it has suitable documents in place to manage the existing operations of the project.</i></p>	There is no staging of the EP-HMP
Schedule 3, Condition 4 (h)	<p>The Proponent shall prepare and implement Extraction Plans for any second workings to be mined to the satisfaction of the Secretary. Each Extraction Plan must:</p> <p>include a:</p> <p><b>Heritage Management Plan</b>, which has been prepared in consultation with Heritage NSW and relevant stakeholders for Aboriginal heritage, to manage the potential environmental consequences of the proposed second workings on heritage sites or values; and;</p> <p><b>Notes:</b> <i>Management plans prepared under condition 4(h) should address all potential impacts of proposed underground coal extraction on the relevant features. Other similar management plans required under this approval (eg under conditions 13 and 23 of schedule 4 or condition 3 of schedule 5) are not required to duplicate these plans or to otherwise address the impacts associated with underground coal extraction.</i></p>	Section 1.6 Section 1.4.2
Schedule 3, Condition 5	<p>The Proponent shall ensure that the management plans required under Schedule 3 Condition 4(h) include:</p> <p>a) an assessment of the potential environmental consequences of the Extraction Plan, incorporating any relevant information that has been obtained since this approval;</p> <p>b) a detailed description of the measures that would be implemented to remediate predicted impacts; and</p> <p>c) a contingency plan that expressly provides for adaptive management.;</p>	Section 3 Section 4 Section 6
Schedule 6, Condition 2	<p>The Proponent shall ensure that the management plans required under this approval are prepared in accordance with any relevant guidelines, and include:</p> <p>a) detailed baseline data;</p>	Section 2

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
		Document approver:	General Manager
		Revision period:	3 years
		Revision:	0
		Last revision date:	07 February 2023
WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206			

Project Approval 08_0144 conditions		Document reference
Condition	Requirement	
	b) a description of:	
	<ul style="list-style-type: none"> <li>the relevant statutory requirements (including any relevant approval, licence or lease conditions);</li> </ul>	Section 1.4
	<ul style="list-style-type: none"> <li>any relevant limits or performance measures/criteria;</li> </ul>	Section 4.2
	<ul style="list-style-type: none"> <li>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</li> </ul>	Section 4.2
	c) a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria:	Section 4 Section 5
	d) a program to monitor and report on the:	
	<ul style="list-style-type: none"> <li>impacts and environmental performance of the project;</li> </ul>	Section 5
	<ul style="list-style-type: none"> <li>effectiveness of any management measures (see (c) above);</li> </ul>	
	e) a contingency plan to manage any unpredicted impacts and their consequences;	Section 6
	f) a program to investigate and implement ways to improve the environmental performance of the project over time;	Section 8.4
	g) a protocol for managing and reporting any:	
	<ul style="list-style-type: none"> <li>incidents;</li> </ul>	Section 7.1
	<ul style="list-style-type: none"> <li>complaints;</li> </ul>	Section 9
	<ul style="list-style-type: none"> <li>non-compliances with statutory requirements; and</li> </ul>	Section 7.2
	<ul style="list-style-type: none"> <li>exceedances of the impact assessment criteria and/or performance criteria; and</li> </ul>	
	h) a protocol for periodic review of the plan.	Section 8.3
Schedule 6 Condition 3	Within 3 months of the submission of an:	Section 8.3
	a) audit under condition 7 of Schedule 6;	
	b) incident report under condition 4 of Schedule 6; and	
	c) annual review under condition 5 of Schedule 6; 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 Secretary.	

	<b>NARRABRI MINE ENVIRONMENTAL MANAGEMENT SYSTEM</b>	Document owner:	Environmental Superintendent
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		Last revision date:	07 February 2023
WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206			

Project Approval 08_0144 conditions		Document reference
Condition	Requirement	
Schedule 6 Condition 4	The Proponent shall notify the Secretary in writing via the Major Projects website and any other relevant agencies of any incident associated with the project 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 Secretary and any relevant agencies with a detailed report on the incident.	Section 7
Schedule 6 Condition 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 Secretary.	Section 1.7 Section 8.1
Schedule 6 Condition 6	By the end of March each year, the Proponent must submit a review of the environmental performance of the project for the previous calendar year to the satisfaction of the Secretary.	Section 8.1
Schedule 6 Condition 7	Prior to 13 September 2010, and every 3 years thereafter, unless the Secretary directs otherwise, the Proponent shall commission and pay the full cost of an Independent Environmental Audit of the project (Stages 1 and 2).	Section 8.2
Schedule 6 Condition 10	The Proponent shall: <ul style="list-style-type: none"> <li>(a) make copies of the following publicly available on its website:               <ul style="list-style-type: none"> <li>• the documents referred to in Condition 2 of Schedule 2;</li> <li>• all current statutory approvals for the project;</li> <li>• all approved strategies, plans and programs required under the conditions of this approval;</li> <li>• a comprehensive summary of the monitoring results of the project, reported in accordance with the specifications in any conditions of this approval, or any approved plans and programs;</li> <li>• a complaints register, updated on a monthly basis;</li> <li>• minutes of Community Consultative Committee meetings;</li> <li>• the annual reviews of the project;</li> <li>• any independent environmental audit of the project, and the Proponent's response to the recommendations in any audit;</li> <li>• any other matter required by the Secretary; and</li> </ul> </li> </ul>	Section 1.7
	(b) keep this information up-to-date, to the satisfaction of the Secretary.	Section 1.7

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<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

**Table A1-2 SoC Aboriginal heritage**

SoC requirements		EP-HMP reference
SoC	Summary of the requirement	
1.5	Advise relevant personnel on restrictions placed on activities by identification of sites of ecological or heritage significance and management requirements.	Section 10.2
5.7	Note the effects of any ponding and commission a hydrologist or ecologist to recommend remedial actions should the area of ponding encroach upon sites of conservation or heritage significance.	Section 4.6.2
5.16	For ponding where there is little or no vegetation of conservation significance) monitor the location and extent of ponding.  If ponded area continues to increase in area, encroaches on vegetation of conservation significance or there is an increase in water salinity, excavate a channel to reduce the gradient change over the retained chain pillars. The excavation will be undertaken in accordance with an Aboriginal Cultural Heritage Management Plan and vegetation clearing procedures.	Section 4.6.2
9.1	Involve all site employees and contractors in an awareness program re: Aboriginal heritage issues.	Section 10.2
9.3	Erect a sign on the fencing identifying an “Environmental Protection Zone”.	Section 4.4
9.8	In the event that one of the Aboriginal sites (other than Aboriginal Sites 10, 19, 38 and 39) cannot be avoided, commission an archaeologist and invite representatives of registered Aboriginal stakeholders (Gomerioi and Narrabri LALC) to salvage the artefacts identified at the affected site (“the Salvage Area”).	Section 4.7
9.9	Undertake a full analysis of the material salvaged from within the Salvage Area by allowing the archaeologist to take the artefacts for further analysis.	Section 4.7
9.10	Return the salvaged artefacts to the authorised Aboriginal organisation.	Section 4.8
9.11	Place the salvaged artefacts in the care and control of the Aboriginal organisation agreed to by Narrabri LALC and Gomerioi. (The Proponent (if required) has agreed to provide an interim ‘keeping place’ in a designated storage facility within the Pit Top Area until such time as a suitable location is identified and agreed to by Narrabri LALC and Gomerioi).	Section 4.8
9.12	Commission the preparation of a report (“Salvage Report”) including full descriptions of the salvaged material, and an interpretation of the archaeological record within the Salvage Area.	Section 4.7
9.13	Provide copies of the Salvage Report to Narrabri LALC, Gomerioi and the DECCW	Section 4.7
9.15	Identify and protect through fencing and signage, those sites determined to be of high scientific significance as agreed and determined in consultation between the Proponent, the registered Aboriginal stakeholders and the archaeologist.	Section 4.4 Section 4.5

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<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

SoC requirements		EP-HMP reference
SoC	Summary of the requirement	
9.16	In the event that an identified site cannot be avoided, commission an archaeologist and invite representatives of registered Aboriginal stakeholders (Gomerioi and Narrabri LALC) to salvage the identified artefacts. All salvage is to be undertaken as per Commitments 9.9 to 9.13 above.	Section 4.7
9.18	Ensure that if any further Aboriginal artefacts are uncovered at any time during the life of the mine, work in the vicinity of the subject area ceases and the Proponent follows the procedures recorded in the ACHMP.	Section 4.3
9.19	Wherever possible, if a tree is identified as having culturally made scars, it is retained in situ and protected.	Section 4.3
9.20	Ensure that, where it is not possible to retain a scarred tree in-situ, the tree is cut down to preserve the scar, and relocated into a designated protected area. All activity associated with cutting of the tree and preservation of the scar is to be conducted in consultation with the Aboriginal stakeholders and the archaeologist.	Section 4.3

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<b>WHC_PLN_NAR_HERITAGE MANAGEMENT PLAN LW 203 – LW 206</b>			

## Attachment 2 Consultation records



96 Barwan Street  
NARRABRI NSW 2390

ABN: 76 035 946 562

Email [REDACTED]

E-mail: [REDACTED]

**Local Aboriginal Land Council**

Brent Baker  
Manage HSE Narrabri Coal Operations  
10 Kurrajong Road  
Baan Baa NSW 2390

19<sup>th</sup> October 2022

Dear Brent

Re: NARRABRI UNDERGROUND MINE EXTRACTION PLAN LW 203 TO LW 206 – AHMP

As a representative of the RAP Narrabri LALC would like to make the following comments in relation to the extraction plan for longwall 203 to longwall 206.

We would like to think that all necessary precautions will be to extract the scattered artefacts and place them into the unit that was to be set up as a keeping place.

With the grinding groves they are very significant as it shows where people would use areas of significance, this area should be protected as due to the rarity of the site. Once it is fully assessed a decision will be made by all RAPS.

If you require any further information, please contact me on the above numbers

Thanking you

A handwritten signature in black ink, appearing to read "Lynn Trindall".

Lynn Trindall  
Chief Executive Officer  
Narrabri Local Aboriginal Land Council

**From:** [Nicole Davis](#)  
**To:** [Brent Baker](#)  
**Cc:** [Narrabri Environmental Approvals](#)  
**Subject:** Heritage NSW - ACH - Narrabri Coal Mine - Stage 2 - Extraction Plan LW203-206 (MP08\_0144-PA-39) (Narrabri Shire)  
**Date:** Sunday, 20 November 2022 4:04:00 PM  
**Attachments:** [image001.png](#)  
[image002.png](#)

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Dear Brent,

Thank you for your referral to the MPP in relation to the Narrabri Mine Extraction Plan - Heritage Management Plan (LW 203 – LW 206), Whitehaven Coal, 8 November 2022.

I understand that Narrabri Coal Operations Pty Ltd (NCOPL) have prepared a draft Extraction Plan for Longwall Panels (LW) 203 to LW 206 to comply with the conditions of the State approved Narrabri Mine Stage 3 Extension Project (SSD 10269). However, due to an unexpected delay in receiving Commonwealth approval for the Stage 3 Project, NCOPL are revising the secondary approval strategy to ensure the continuation of mining operations under the current Stage 2 Project Approval (PA 08\_0144). This will require the draft Extraction Plan for LW 203 to LW 206 to be prepared to comply with the conditions under PA 08\_0144 (Stage 2). In accordance with Schedule 3 Condition 4(h) of the Stage 2 Project Approval (PA 08\_0144), you are seeking any comments that Heritage NSW may have in relation to the draft (Revision A) Extraction Plan - Heritage Management Plan, prior to finalisation. I can advise that I have the draft (Revision A) Extraction Plan - Heritage Management Plan, and have no additional comments. Please contact me directly should you require any additional information. I shall upload to the MPP this afternoon.

Kind Regards  
Nicole Davis

**Nicole Davis**  
Manager Assessments  
Heritage NSW  
**Department of Planning and Environment**



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**Sent:** Wednesday, 9 November 2022 9:44 AM

**Subject:** Major Projects – Proponent Request for Advice - Narrabri Coal Mine - Stage 2 - Extraction Plan LW203-206 (MP08\_0144-PA-39) (Narrabri Shire)

A proponent is requesting advice in relation to a post approval matter for the Narrabri Coal Mine - Stage 2.

Please sign in to your account to view the details of this request and to upload your advice.

If you have any enquiries about this request, you can contact Brent Baker at [REDACTED]

To sign in to your account click [here](#) or visit the [Major Projects Website](#).

Please do not reply to this email.

Kind regards

The Department of Planning and Environment



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If you are not the intended recipient, please notify the sender and then delete it immediately.

PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING THIS EMAIL



26 October 2022

Jim Trindall  
Gomeri Narrabri Aboriginal Corporation

Dear Jim,

**Re: NARRABRI UNDERGROUND MINE – EXTRACTION PLAN HERITAGE MANAGEMENT PLAN FOR LONGWALLS 203 - 206**

I am writing to you in relation to our recent correspondence regarding the Narrabri Coal Operations Pty Ltd (NCOPL) draft Extraction Plan – Aboriginal Heritage Management Plan for Longwalls 203-206. The draft plan was initially developed to comply with the conditions of the recently approved Narrabri Mine Stage 3 Extension Project (SSD 10269). However, due to a delay in receiving Federal approval for the Stage 3 Project, NCOPL are required to continue mining operations under the current Stage 2 Project Approval (PA 08\_0144).

Therefore, NCOPL have revised the Extraction Plan – Aboriginal Heritage Management Plan for Longwalls 203-206 to comply with the conditions under Stage 2 Project Approval 08\_0144. The revised plan has been amended with administrative changes only, no material changes have occurred. The changes are summarised as follows:

- Title updated to Extraction Plan – Heritage Management Plan (EP-HMP) in accordance with Stage 2 Project Approval 08\_0144 Schedule 3, Condition 4(h);
- Removal of all references to the Stage 3 development (i.e. Conditions of Consent, SSD 10269, Stage 3 etc.) and replaced with reference to the Stage 2 development under PA 08\_0144; and
- No changes have been made in relation to the subsidence predictions, environmental impacts and/or management measures.

Please find enclosed for your review a copy of the draft EP-HMP. Your comments on the EP-HMP will be taken into consideration as the plan is finalised. If you do not have any comments, we would still very much appreciate written confirmation of this via letter or email.

I look forward to further consultation with you as mining progresses.

Yours sincerely,



Brent Baker  
**Manager HSE - Narrabri Coal Operations**

## Brent Baker

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**From:** Brent Baker  
**Sent:** Wednesday, 26 October 2022 12:33 PM  
**To:** 'CEO | Narrabri LALC'  
**Subject:** LW203-206 Extraction Plan- Heritage Management Plan- Stage 2 Project Approval  
**Attachments:** Heritage Management Plan LW 203-206 - Rev A clean.pdf

Dear Lynn

I am writing to you in relation to our recent correspondence regarding the Narrabri Coal Operations Pty Ltd (NCOPL) draft Extraction Plan – Aboriginal Heritage Management Plan for Longwalls 203-206. The draft plan was initially developed to comply with the conditions of the recently approved Narrabri Mine Stage 3 Extension Project (SSD 10269). However, due to a delay in receiving Federal approval for the Stage 3 Project, NCOPL are required to continue mining operations under the current Stage 2 Project Approval (PA 08\_0144). Therefore, NCOPL have revised the Extraction Plan – Aboriginal Heritage Management Plan for Longwalls 203-206 to comply with the conditions under PA 08\_0144 (Stage 2). The revised plan has been amended with administrative changes only, no material changes have occurred. The changes are summarised as follows:

- Title updated to Extraction Plan – Heritage Management Plan (EP-HMP) in accordance with Stage 2 Project Approval 08\_0144, Schedule 3, Condition 4(h)
- Removal of all references to the Stage 3 development (i.e. Conditions of Consent, SSD 10269, Stage 3 etc.) and replaced with reference to the Stage 2 development under PA 08\_0144
- No changes have been made in relation to the subsidence predictions, environmental impacts and/or management measures.

**Please find a copy of the revised EP-HMP for Longwalls 203-206 attached.**

**If you could kindly review the plan, and provide a response letter confirming receipt and advising of any comments.**

In response to your letter provided to NCOPL on 19 October 2022 in relation to the initial draft Stage 3 LW203-206 Extraction Plan-Aboriginal Heritage Management Plan I provide the below responses:

- NLALC comment regarding Mayfield Grinding Groove– *“Once it is fully assessed (i.e. Mayfield GG1) a decision will be made by all RAPs”*.
  - NCO response – Absolutely; all RAPs will be included in investigations and decision making process. Section 4.5 of the EP-HMP includes the following text: *“NCOPL will undertake further investigation prior to mining to determine the potential connection to bedrock with an appropriately qualified specialist (e.g. archaeologist, geologist, geomorphologist) and the RAPs. If the investigations determine that the site is connected to bedrock, additional management measures will be determined in consultation with the appropriately qualified specialist and the RAPs.”* Whilst undermining of the area where Mayfield Grinding Groove is located will not occur for several years, the management plan includes a requirement to develop an Action Plan for the management of the site within 6 months of approval of the plan.
- NLALC comment *“We would like to think that all necessary precautions will be to extract the scattered artefacts and place them into the unit that was to be set up as a keeping place”*.
  - NCO response – *“It is best practice to only salvage those sites under threat of impact. As per the current management measures employed for previous longwall mining areas, NCO will only salvage those sites predicted to have an impact in accordance with section 4.7 of the EP-HMP. All other artefact sites will be protected from surface disturbance activities, fenced as per section 4.4 of EP-HMP, and subject to regular monitoring for any potential subsidence impacts. If assessment determines an impact is likely (for example from subsidence cracking) any salvaged artefacts will be stored in the allocated Keeping Place (section 4.8 of EP-HMP).*

Regards,

**Brent Baker**

Manager HSE - Narrabri Coal Operations

**Whitehaven Coal Limited**

10 Kurrajong Creek Rd, Baan Baa NSW 2390 Australia



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**Table A2-1 Consultation response - NLALC**

Consultation feedback	Outcome	Document reference
1. We would like to think that all necessary precautions will be to extract the scattered artefacts and place them into the unit that was to be set up as a keeping place.	It is best practice to only salvage those sites under threat of impact. As per the current management measures employed for previous longwall mining areas, NCO will only salvage those sites predicted to have an impact in accordance with section 4.7 of the EP-HMP. All other artefact sites will be fenced and appropriately signed as per section 4.4 of EP-HMP to protect the sites from surface disturbance activities. These sites will be subject to regular monitoring for any potential subsidence impacts as per section 5 of EP-HMP. If assessment determines an impact is likely (for example from subsidence cracking) any salvaged artefacts will be stored in the allocated Keeping Place (section 4.8 of EP-HMP).	Section 4.4 Section 4.7 Section 4.8 Section 5
2. With the grinding grooves they are very significant as it shows where people would use areas of significance, this area should be protected as due to the rarity of the site. Once it is fully assessed a decision will be made by all RAPS.	All RAPS will be included in investigations and decision-making process. Section 4.5 of the EP-HMP includes the following text: “NCOPL will undertake further investigation within 6 months of approval of this EP-HMP (and prior to the commencement of secondary workings) to determine the potential connection to bedrock with an appropriately qualified specialist (e.g. archaeologist, geologist, geomorphologist) and the RAPS. If the investigations determine that the site is connected to bedrock, additional management measures will be determined in consultation with the appropriately qualified specialist and the RAPS.”  “An action plan will be developed for the management of this site within 6 months of approval of this EP-HMP which will include the outcomes of the investigation and will outline the mitigation options determined in consultation with the RAPS.”	Section 4.5