

HERITAGE MANAGEMENT PLAN



Ashton Coal Project

Date: September 2020

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1 INTRODUCTION

This Heritage Management Plan (HMP), previously known as the Archaeology and Cultural Heritage Management Plan (ACHMP), has been prepared to address the management and mitigation of potential impacts of the Ashton Coal Project (ACP) on Aboriginal cultural and historical heritage across the surface area of the underground mine.

Cultural heritage sites associated with the North East Open Cut and other infrastructure areas within the ACP have been managed and previously salvaged in accordance with approved Aboriginal Heritage Impact Permits (AHIP). As such they have not been re-addressed within this HMP.

The underground mine is approved as a multi-seam extraction, targeting four coal seams in descending order (Pikes Gully (PG) (completed), Upper Liddell (ULD), Upper Lower Liddell (ULLD) and Lower Barrett (LB)). Development of the underground mine commenced in December 2005 and is accessed through the southern wall of the Arties Pit under the New England Highway. Extraction of coal from all longwall panels (LW) within the PG Seam was completed during late 2013, and within the ULD Seam in mid-2017. Mining has subsequently descended to the ULLD Seam, with LW203 nearing completion at the date of document preparation.

This HMP consolidates the management strategies developed in consultation with the Aboriginal and Historical Heritage Community, as documented within previous management plans, and the requirements of the associated AHIPs, development consent and Extraction Plans, into one concise document. This revision of the HMP focusses on remaining works and acknowledges that works within the PG and ULD seams, and construction of the Bowmans Creek diversion, have been completed.

1.1 Structure of this Report

The remainder of this HMP is structured as follows:

- | | |
|------------|---|
| Section 2: | Outlines the statutory requirements of the development consent as it relates to cultural and historical heritage and subsidence management. |
| Section 3: | Outlines the objectives of this management plan and sets out the performance measures and performance indicators relevant to the management of cultural and historical heritage within the ACP. |
| Section 4: | Describes the known cultural and historical heritage sites within the ACP and potential impacts and consequences resulting from subsidence. |
| Section 5: | Details the proposed management and monitoring actions relevant to the management of predicted impacts. |
| Section 6: | Summarises the responsibilities, reporting and auditing processes under this HMP. |
| Appendix A | Lists relevant development consent requirements. |
| Appendix B | Sets out methodology for the management of cultural heritage sites. |
| Appendix C | Sets out methodology for the monitoring of cultural heritage sites. |
| Appendix D | Copies of correspondence documenting stakeholder consultation. |

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- Appendix E Summary of relevant measures contained within the Conservation Agreement.
- Appendix F Copy of AHIP #1131017 LW1-4 Eastern Panels.
- Appendix G Copy of AHIP#1130976 LW5-8 Western Panels.

2 STATUTORY REQUIREMENTS

This document has been prepared in accordance with Development Consent DA 309-11-2001-i, June 2016 (as modified) (DA), relevant legislation and guidelines.

The DA requirements relevant to cultural heritage are reproduced in **Appendix A**.

The requirements for the preparation of an HMP are outlined in Schedule 3, Condition 34 of the DA, which requires Ashton Coal Operations Limited (ACOL) to prepare a Heritage Management Plan to:

“...manage the potential impacts of the development”.

Further, Condition 32(h) requires that ACOL prepare an Extraction Plan for all second workings on site and that the Plan will include a Heritage Management Plan, which has been prepared in consultation with the Office of Environment and Heritage (OEH) and relevant stakeholders for Aboriginal Heritage to:

“...manage the potential impacts and consequences of subsidence on heritage sites or values”.

This HMP has been prepared to address Schedule 3, Condition 32 (h) of the DA with respect to specific management of environmental consequences resulting from longwall mining in the ULD, ULLD and LB seams.

The relevant development consent conditions are listed in **Appendix A** including a cross-reference to where in this document they have been addressed.

2.1 Aboriginal Heritage Impact Permits

The current AHIP's held for the ACP are:

- AHIP #1130976 (Appendix F) granted by the Land and Environment Court ([2011] NSWLEC 1249) in August 2011, encompassing the western underground longwall panels LW5, LW6A, LW6B, LW7A, LW7B and LW8, and the Bowmans Creek diversion. LW 205 in the ULLD seam is also within this area; and
- AHIP #1131017 (Appendix G) issued on 23 December 2011, for the eastern underground longwall panels: LW 1 – 4. This AHIP also covers the area that will be subsided by LW 201 – 204 in the ULLD Seam.

2.2 Development Consent

The DA was initially granted for the ACP by the Minister for Planning in October 2002. The approval has been subsequently modified on a number of occasions.

In April 2015, the Land and Environment Court approved a major project application (PA 08_0182) for the South East Open Cut (SEOC) Project. This approved project includes (among other things) extraction of up to 3.6 Mtpa of ROM coal from a new open cut operation (the SEOC). Development of the SEOC Project has not yet commenced and is beyond the scope of this Management Plan.

In June 2016, DA 309-11-2001-i, was modified (Modification 5) to allow for (among other things):

- Changes to the ACP Coal Handling and Preparation Plant (CHPP) and associated facilities to allow conveyors and pipelines for coal processing and reject disposal from the South East Open Cut Project (SEOC), as approved by DA 08_0182;
- An increase in total production rates to 8.6 million tonnes (Mt) per annum, to account for production from the SEOC; and

- Fine rejects to be piped from the ACP underground mine to the SEOC for disposal.

In amending DA 309-11-2001-i the consent conditions were updated to be consistent with the project approval conditions for the SEOC Project (PA 08_0182), including contemporising consent conditions as well as administrative and other changes.

Correspondence received from the Department of Planning, Industry and Environment (DPIE), dated 11 October 2016, requested ACOL to update all strategies/ plans / programs to reflect the current conditions of consent, by the end of June 2017. This HMP has been updated, to reflect the administrative changes within the DA (as modified), whilst still meeting the requirements for archaeology and cultural heritage management within the development consent that applied prior to the approval of the modification.

In accordance with Schedule 5, Condition 3 of the DA, all existing management plans, approved at the date of modification (i.e. June 2016) can continue to have full force and effect, and may be revised as per Schedule 5, Condition 6, as if subject to the conditions of this consent that applied prior to the approval of the modification.

Schedule 5, Condition 6 of the DA requires the review and revision of the Plans within 3 months of the submission of an incident report, Annual Review or Audit (as specified within the DA). This HMP has been reviewed and revised, where required, following the submission of the Annual Review and Independent Environmental Audit.

A further review of the HMP will be undertaken should ACOL commence with the development of the SEOC, as required. In accordance with Schedule 5, Condition 3, all Management Plans required under Schedule 3, will be submitted at least 3 months prior to the recommencement of open cut mining operations.

2.3 Extraction Plans

Approved Extraction Plans provide a framework for the management of subsidence impacts associated with ACOL underground mining activities.

The various approved Extraction Plans consider the potential impacts of the second workings associated with longwall mining on cultural heritage. It also outlines ACOL's statutory requirements relating to monitoring and management of subsidence impacts on cultural heritage sites within the underground operations, as well as consultation, monitoring and reporting requirements. The current approved Extraction plans relevant to this plan include:

- Extraction Plan for ULD Seam LW Panel 1 - 4;
- ULD Seam Extraction Plan for LWs 105 - 107; and
- Extraction Plan for LWs 201 – 204 in ULLD Seam.

The Extraction Plan for LW Panel 205 – 208 in ULLD Seam was in preparation at the time of review of this document. These Extraction Plan identify the management strategies for subsidence impacts on natural and built features from secondary extraction, including heritage sites and values. This HMP has also been updated to include the mitigation, management, monitoring and reporting requirements for heritage sites and values potentially impacted by mining of the ULD and ULLD seams.

2.4 Conservation Agreement

A Conservation Agreement (dated 16 September 2010) was made between ACOL and the NSW Minister for the Environment under the *National Parks and Wildlife Act 1974* (NP&W Act). The Conservation Agreement covers a parcel of land equal to 65.66 hectares in the south east of the ACP site (the southern woodland conservation area) and in accordance with Consent Condition 3.30 “...shall be to protect and conserve Aboriginal cultural

heritage, and biodiversity, within the conservation area. The Conservation Agreement, together with the environmental management plans for the ACP site, constitutes the Plan of Management for the conservation area, as summarised in **Appendix E**.

3 OBJECTIVES AND PERFORMANCE MEASURES

3.1 Objectives

Objectives under the ACOL EMS and development consent for the cultural heritage values of the site are to:

- To identify, as far as practical, all Aboriginal and historical heritage sites and values.
- To consult and actively involve relevant Aboriginal community stakeholders in the management of Aboriginal cultural heritage sites and objects.
- To advise ACOL staff and contractors of their personal responsibility in avoiding, managing and mitigating impacts on Aboriginal cultural and historical heritage.
- To provide a process for ACOL staff and contractors to follow in managing Aboriginal cultural and historical heritage during the carrying out of their day-to-day operational activities at the ACP.
- To avoid or mitigate disturbance to Aboriginal cultural resources and Historical heritage as far as practicable.
- To provide suitable conservation measures to ensure on-going protection to those Aboriginal objects and historical heritage sites not assessed as being impacted by the project.
- To ensure ACOL's commitment to best practice in the management and mitigation of Aboriginal cultural and historical heritage is reflected in its environmental management policies and protocols.
- To meet the conditions of development consent and associated modifications.

3.2 Performance Measures

Performance measures for cultural heritage values have been developed for the ACP and are presented in **Table 1**.

Monitoring will be used to assess the impact of the ACP against the performance measures and indicators detailed in **Table 1** (refer to **Section 5**). If monitoring and assessment indicates that a performance indicator has been exceeded, or likely to be exceeded, ACOL will implement the contingency measures outlined in **Section 6.1**.

Table 1: Preliminary Performance Measures

Criteria	Performance Measure A	Indicator of Success B	Key Assessment Considerations C
General			
Aboriginal cultural heritage	Aboriginal cultural heritage values are conserved in accordance with ACOL's statutory requirements.	Works are undertaken in accordance with the ACP Mining Operations Plan (MOP) and the relevant HMP and AHIP. Salvage of archaeological objects undertaken prior to impact in accordance with the approved AHIP. Any new sites identified during the monitoring program are assessed for impacts and any management recommendations are consistent with the relevant HMP and AHIP conditions.	1) Does the monitoring and assessment indicate that a performance measure or development consent condition has been exceeded, or likely to be exceeded? 2) Does this exceedance increase the risk of any objects being impacted? 3) What is the nature of the risk? • Cracking • Ponding • Subsidence remediation works 4) What are the potential factors that may have contributed to the risk i.e. subsidence, inadequate management measure or natural processes? 5) What actions, if any are required to mitigate and/or minimise the potential for future impacts and monitor the long-term impacts of the exceedance?
Historical Heritage	Historical heritage values are conserved in accordance with ACOL's statutory requirements.	Works are undertaken in accordance with the ACP Mining Operations Plan (MOP) and this HMP. Any new sites identified during the monitoring program are assessed for impacts and any management recommendations are consistent with the relevant HMP and legislative requirements.	1) Does the monitoring and assessment indicate that a performance measure or development consent condition has been exceeded, or likely to be exceeded? 2) Does this exceedance increase the risk of any values being impacted? 3) What is the nature of the risk? • Cracking • Ponding • Subsidence remediation works 4) What are the potential factors that may have contributed to the risk i.e. subsidence, inadequate management measure or natural processes? 5) What actions, if any are required to mitigate and/or minimise the potential for future impacts and monitor the long-term impacts of the exceedance?
Waterhole Site			
	Negligible impact.	This site should not be impacted by the life of mine activities. The indicator of success is the retention of the Waterhole site in a stable condition upon completion of mining.	1) Does the monitoring and assessment indicate that a performance measure or development consent condition has been exceeded, or likely to be exceeded? 2) Does this exceedance increase the risk for harm to the site? 3) What is the nature of the risk? • Surface disturbance • Poor land management

Criteria	Performance Measure A	Indicator of Success B	Key Assessment Considerations C
			4) What are the potential factors that may have contributed to the risk i.e. subsidence, inadequate management measure or natural processes? 5) What actions, if any are required to mitigate and/or minimise the potential for future impacts (i.e. management of natural processes, such as water runoff) and monitor the long-term impacts of the exceedance?
Glennies Creek Site			
	The site remains relatively undisturbed at the completion of mining.	The majority of the site remains in-situ and in a stable condition. Where impacts have occurred, they have been managed in accordance with an appropriate AHIP.	1. Does the monitoring and assessment indicate that a performance measure or development consent condition has been exceeded, or likely to be exceeded? 2. Does this exceedance increase the risk for harm to the site? 3. What is the nature of the risk? • Cracking; • Ponding; • Subsidence remediation works; and • Poor land management practices resulting in surface impacts. 4. What are the potential factors that may have contributed to the risk i.e. subsidence, inadequate management measure or natural processes? 5. What actions, if any are required to mitigate and/or minimise the potential for future impacts and monitor the long-term impacts of the exceedance?
Other Aboriginal heritage sites overlying longwall mining area			
Aboriginal Heritage Sites located over the longwall mining area	Managed according to the methodology prescribed in this HMP and relevant AHIP.	Sites managed in accordance with the relevant AHIPs over the life of the mine.	1) The archaeological objects are salvaged prior to being harmed. 2) Sites outside impact zones are conserved in-situ and where appropriate protected by fencing and management strategies. 3) Does the monitoring and assessment indicate that a performance measure or development consent condition has been exceeded, or likely to be exceeded? 4) Does this exceedance increase the risk of any objects being impacted? 5) What is the nature of the risk? • Cracking; • Ponding; and • Subsidence remediation works. 6) What are the potential factors that may have contributed to the risk i.e. subsidence, inadequate management measure or natural processes? 7) What actions, if any are required to mitigate and/or minimise the potential for future impacts and monitor the long-term impacts of the exceedance?

4 EXISTING ENVIRONMENT AND POTENTIAL IMPACTS

4.1 Known Aboriginal heritage sites

Known Aboriginal heritage sites within the area impacted by subsidence associated with LW 1 to 8 in the ULD Seam and LW 201 – 204 in the ULLD seam are summarised in **Table 2**. The locations of all recorded AHIMS sites and AHIP boundaries are shown in **Figure 1**.

There are three identified sites of particularly high scientific and cultural significance:

1. Glennies Creek Site (37-3-0541 & 37-3-0549);
2. Oxbow Site (37-3-501, 37-3-502, 37-3-503, 37-3-0511 & 37-3-0006); and
3. Waterhole Site (37-3-0500).

Glennies Creek Site is to be managed within a conservation area with minor impacts from underground mining and associated activities. The Waterhole site is to be retained with no disturbance from underground mining activities. The Oxbow site has been partially impacted by underground mining and associated activities and has been managed in accordance with AHIP #1131017.

Table 2 also identifies the predicted level of impact and/or status of any impacts for each known Aboriginal site across LW 1 - 8 as a result of ULD mining and LW 201 – 204 as a result of ULLD mining. The potential impacts to sites generally arise via the following mechanisms:

Cracking and or crack remediation. The ground may crack as a result of the underground goaf collapse. Cracking associated with secondary extraction is predicted to require remediation. Generally, where cracking requires repair this is achieved with ripping of the crack with a bulldozer/ grader.

Knick points and rilling. Changes in slope can cause changes in erosion patterns and may hasten the movement of knick points upslope.

Ponding. Ponds may develop where subsidence forms depressions. Ponding will be assessed once it has been identified and filling of the depression or drainage works (i.e. construction of drainage channels or similar such alteration of the landform undertaken to maintain a free draining landform).

Development of surface infrastructure. To facilitate the underground mining operations the installation of various types of surface infrastructure will be required. These may include gas drainage bores and associated infrastructure, access tracks, dewatering facilitates, ventilation shafts etc.

The cracking of the surface may impact where objects are located directly above the crack however this is not usual. It is more common for the remediation of cracks to impact on sites as the process of ripping the area impacts on a broader surface. Surface cracks due to secondary extraction are anticipated to be in the order of several hundred millimetres in the areas of shallower overburden, and decrease in width with increased depth of cover.

The subsidence modelling for the ULD seam predicted surface impacts (cracking, tilts and strains) of two to three magnitudes greater than the PG Seam (SCT, 2011). Surface impacts from mining of the ULLD seam in LW 201 – 204 are not significantly different to those experienced in the previous two seams. For management purposes, it is anticipated that archaeological sites overlying the extraction area will be impacted, to varying degrees, by the remediation of subsidence. All remediation such as ripping of cracks, filling of ponding or earthworks to

control erosion, will be reassessed for its potential to impact sites prior to implementation in accordance with **Table 3**.

Insite Heritage (2016) prepared an Aboriginal Heritage Assessment for inclusion in the Extraction Plan for LW 201 – 204, which can be referred to for further details on predicted subsidence impacts from secondary extraction in the ULLD seam.

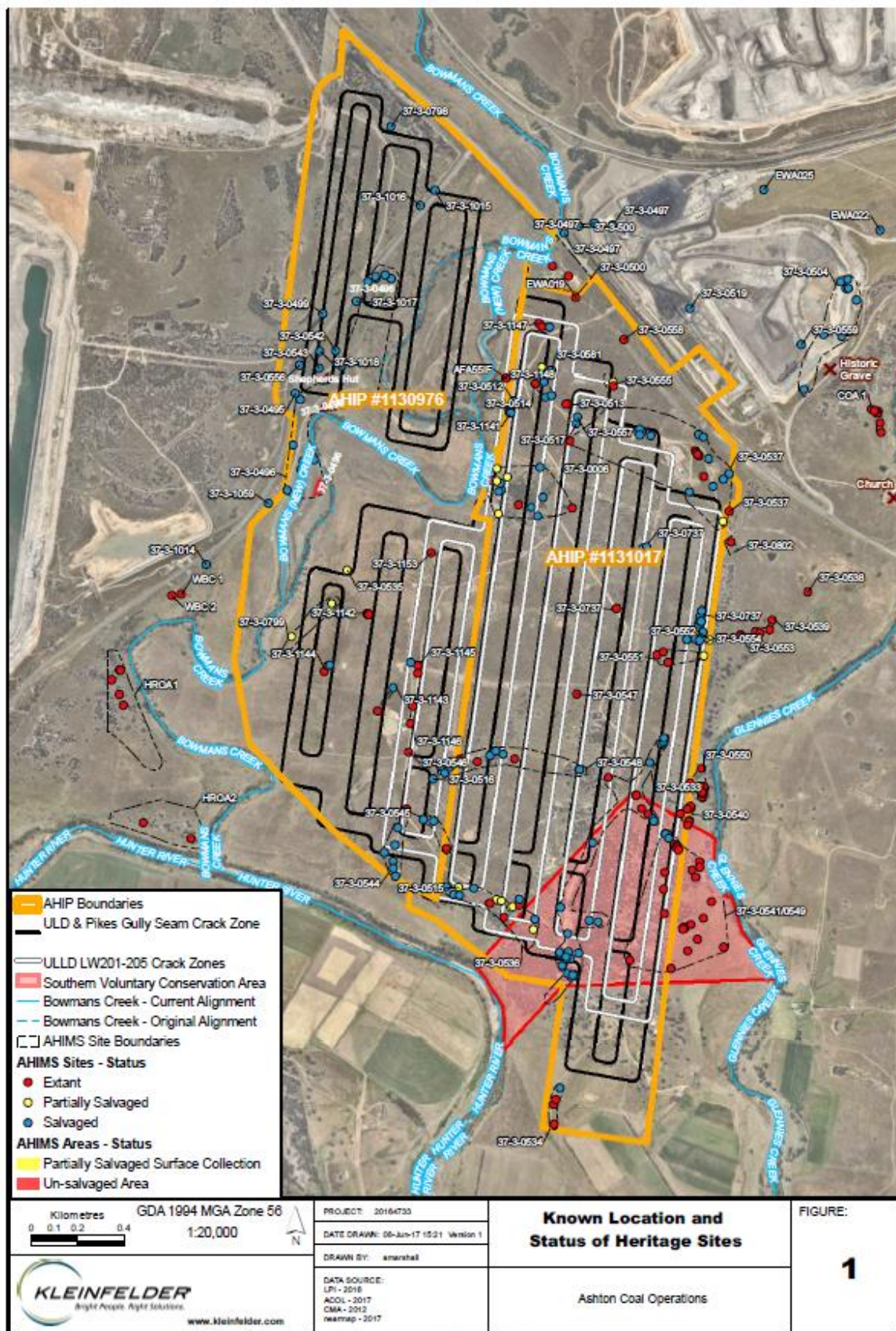


Figure 1: Known Locations of Archaeology on ACP

Table 2: Sites Recorded within the ACP and Predicted/ Status of Impact of Subsidence

Note: These details are current at the time of writing of this management plan. Some sites may have been salvaged, or further defined subsequent to the development of this plan, where applicable current AHIMS records will be consulted.

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
37-3-0496 (includes: 37-3-0542, 37-3-0543, 37-3-0556)	EWA 82	Open camp site with PAD PAD extends from LW 4.3 in south to New England Highway.	The site varies from low significance to potential high significance in the area of the possible Pleistocene PAD.	Site comprises 2nd (pre European) terrace with 20% visibility. Includes lenses of artefacts and isolated finds. The recording includes an area of potential late Pleistocene, early Holocene landform. Site has been tested and found to be deflated older surface with Holocene artefacts overlying deposit. Status – eastern portion partially salvaged by ACOL and western portion salvaged by Xstrata	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1130976.
	LW 4.1					
	LW 5.2					
	LW 4.2					
	LW 4.3					
	LW 4.4					
	LW 5.1					
	EWA 80	Isolated find	Potential High	Potential late Pleistocene, early Holocene PAD located immediately west of Brunkers Lane and north of the New England Hwy. Status - Partially salvaged Site subject to archaeological test investigations. Tested, found to be Holocene artefacts over colluvium.	High Impacted by LW7 and surface mine activities.	Managed in accordance with AHIP #1130976.
	EWA 81	Isolated find				
	EWA 89	Isolated find				
	EWA 80	Isolated find	Low	As above in 100 sqm exposure. Collected by ACOL	Medium - High Will be impacted by subsidence remediation and surface mine infrastructure	Managed in accordance with AHIP #1130976.
	EWA 81	Isolated find	Low	Associated with terrace above in 100sqm exposure. Collected by ACOL		
	EWA 89	Isolated find	Low	Terrace in 150sqm exposure. Collected by ACOL		

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
37-3-0535	EWA 97	Artefact scatter	Moderate	Terrace with <10% visibility. Salvaged	Medium - High Will be impacted by subsidence remediation and surface mine infrastructure.	Managed in accordance with AHIP #1130976.
37-3-0799	LW 2.1	Artefact scatter	Moderate	Terrace in exp with 50% visibility. Partially salvaged		
37-3-0798	EW 15	Artefact scatter	Low	Salvaged Located in Macquarie Generation land in 3mx3m eroded area on ridge top. Collected by ACOL		
37-3-0546	EWA 52	Isolated find	Low	Salvaged		
37-3-0544	EWA 50	2 artefacts	Low	Partially Salvaged		
37-3-0545	EWA 51	Artefact scatter	Low	Partially salvaged. Loci of site RS9 extant	. High. Site located within subsidence crack zone for ULLD	Managed in accordance with AHIP #1130976 and #1131017 and this Plan
37-3-0548	EWA 57	Isolated find	Low	Partially salvaged. Loci within ULD subsidence crack zone salvaged	High Site located within subsidence crack zone for ULLD. Parts of site may also be affected by predicted ponding	Manage according to AHIP # 1131017 and this Plan.
37-3-500	Waterhole Site	Artefact scatter and grinding grooves	High	Artefact scatter and Grinding Grooves located on edge of waterhole on Bowmans Creek.	No Impact	Fence and monitor for impacts. Manage natural processes such as sheet erosion without impacting on the cultural values.
37-3-0502 37-3-0501 37-3-0503 37-3-0511	Oxbow Site	Artefact scatter	High	Artefact scatter located east of the Bowmans Creek oxbow. Partially Salvaged	High Will be impacted by remediation works and surface activities.	To be salvaged in accordance with AHIP#1131017.

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
37-3-0006	Camberwell Bowman's Creek (Oxbow Site)	Artefact scatter	High	Previously linked with the Waterhole Site – AHIMS information amended	High Will be impacted by remediation works and surface activities.	To be salvaged in accordance with AHIP#1131017.
37-3-0581	Homestead Site	Artefact Scatter	Low	Partially Salvaged. Site located within subsidence crack zone for ULD seam	High Will be impacted by remediation works and surface activities	To be salvaged in accordance with AHIP#1131017.
37-3-0541/37-3-0549	Glennies Creek Site	Artefact scatter and grinding grooves	High	Site located within the Southern Woodland Conservation Area Partially salvaged – loci within subsidence crack zone for ULD & ULLD salvaged	Low Potential subsidence remediation impacts to the outer limits of the currently defined artefact scatter.	To be salvaged in accordance, AHIP#1131017.
37-3-0537	High Ridge Workshop Site	Artefact scatter	High	Partially salvaged	High Will be impacted by subsidence remediation works and surface activities.	To be managed or salvaged in accordance AHIP#1131017.
37-3-0533	Ridge Peak Site	Artefact scatter	High	Partially salvaged	High Will be impacted by subsidence remediation works and surface activities.	To be managed or salvaged in accordance with AHIP#1131017.
37-3-0536	High Spur Site	Artefact scatter	High	Partially salvaged	High Will be impacted by subsidence remediation works and surface activities.	Where impacts are identified, managed or salvaged in accordance with AHIP#1131017.
37-3-0547	EWA 56	Isolated find	Low	Salvaged	High Will be impacted by remediation works and surface activities.	To be managed or salvaged in accordance with AHIP#1131017.

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
37-3-0737	EWA 77	Isolated find	Low	Partially salvaged	Medium Outside of subsidence impact area although may be impacted by track upgrade works.	To be managed or salvaged in accordance with AHIP#1131017.
37-3-0554	EWA 78	Isolated find	Low	Salvaged	High Site located within predicted crack zone for ULD and ULLD seams and on upgraded track way	To be managed or salvaged in accordance with AHIP#1131017.
37-3-0557	EWA 91	Isolated find	Low	Salvaged	High Will be impacted by remediation works and surface activities.	To be managed or salvaged in accordance with AHIP#1131017.
37-3-0495	MOIF3	Isolated find	Low	Salvaged Collected by Xstrata	N/A	Managed in accordance with AHIP #1130976 and Ravensworth CHMP.
37-3-1014	REA 197	Artefact Scatter	Moderate	Salvaged Collected by Xstrata	N/A	Managed in accordance with AHIP #1130976 and Ravensworth CHMP
37-3-1015	REA 143	Artefact Scatter	Moderate	Salvaged Collected by Xstrata and collection and test pits by ACOL	N/A	Where impacts are associated with the Ravensworth project - to be managed in accordance with the Ravensworth CHMP.
37-3-1016	REA 144	Artefact Scatter	Moderate	Salvaged Partial collection Xstrata Remainder collected by ACOL	N/A	Managed in accordance with AHIP #1130976 and where impacts are associated with the Ravensworth project managed in accordance with the Ravensworth CHMP.

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
37-3-1017	REA 145	Artefact Scatter	Moderate	Salvaged Partial collection Xstrata Remainder collected by ACOL	N/A	Managed in accordance with AHIP #1130976 and where impacts are associated with the Ravensworth project managed in accordance with the Ravensworth CHMP.
37-3-1018	REA 146	Artefact Scatter	Moderate	Collected by Xstrata	N/A	Where impacts are associated with the Ravensworth project managed in accordance with the Ravensworth CHMP.
37-3-1148	AFA55	Artefact Scatter	Moderate	Partially Salvaged Site located within ULD & ULLD subsidence crack zone. Partial collection for Eastern Diversion.	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1130976.
37-3-0499	ASH 3	Artefact Scatter	Low	Collected by ACOL	N/A	Managed in accordance with AHIP #1130976.
37-3-1153	AFA 51	Artefact Scatter	Low	Extant	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1130976.
37-3-1141	AFA 21, AFA22, AFA 23, AFA 24.	Artefact Scatter	Low	Salvaged Site located within subsidence crack zone for ULD and ULLD seams	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1130976 and 1131017. Site has been salvaged
37-3-1059	REA 187	Artefact Scatter	Low	Salvaged Collection by Xstrata. Surface collection and test pits for portion of site located within	N/A	Managed in accordance with AHIP #1130976 Where impacts are associated with the

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
				Bowmans Creek Diversion project area by ACOL		Ravensworth project managed in accordance with the Ravensworth CHMP.
37-3-0516	Ash 20	Artefact Scatter	Moderate	Salvaged	Medium Moderate chance that impacts requiring remediation will occur.	Managed in accordance with both AHIP #1130976 and 1131017. Site has been salvaged
37-3-1146	AFA50	Artefact Scatter	Low	Extant	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1130976.
37-3-1143	AFA 44	Artefact Scatter	Low	Extant	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1130976.
37-3-1145	AFA48, AFA49, AFA58	Artefact Scatter	Low	Extant	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1130976.
37-3-1144	AFA45, AFA46, AFA47	Artefact Scatter	Low	Extant	Medium Moderate chance that impacts requiring remediation will occur.	Managed in accordance with AHIP #1130976.
37-3-1142	AFA25, AFA26, AFA59 AFA60	Artefact Scatter	Low	Extant	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1130976.
37-3-0551	Ashton EWA69	Artefact Scatter	Low	Partially Salvaged. Portion of site salvaged for access track upgrade	Medium Outside of subsidence impact area although may be	Managed in accordance with AHIP #1131017.

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
					impacted by track upgrade works.	
37-3-0552	Ashton EWA70	Artefact Scatter	Low	Partially Salvaged. Portion of site salvaged for access track upgrade	Medium Outside of subsidence impact area although may be impacted by track upgrade works.	Managed in accordance with AHIP #1131017.
37-3-0555	Ashton EWA78	Artefact Scatter	Low	Partially Salvaged Site located within predicted subsidence crack zone for ULLD seam. Portion of site salvaged for ULD subsidence crack zone.	High Moderate chance that impacts requiring remediation will occur.	Managed in accordance with AHIP #1131017.
37-3-0558	Ashton EWA96	Isolated artefact	Low	Extant	Medium Moderate chance that impacts requiring remediation will occur.	Managed in accordance with AHIP #1131017.
37-3-0534	Ashton Hunter River slope site	Artefact scatter, Hearth	High (part of site)	This artefact scatter was the only example where there were scattered heat retainers and a well formed hearth with charcoal. Potential for sub surface artefacts. Partially salvaged. Collection of artefacts on access track made.	Medium - High May be impacted by road upgrade works.	Managed in accordance with HMP
37-3-0802	SA13/3	Artefact scatter	Low	Extant	Nil Outside of subsidence impact area and AHIP.	Managed in accordance with HMP.
37-3-1147	AFA52 AFA53 AFA54	Artefact scatter	Low	Artefact scatter located on exposed track. Partially Salvaged Portion of site located within ULD crack zone	Medium - High Will be impacted by subsidence remediation and surface mine infrastructure.	Managed in accordance with AHIP #1131017.
37-3-0512	ASH16	Artefact scatter	Low	Salvaged	N/A	Managed in accordance with AHIP #1131017.

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
37-3-0513	ASH17	Artefact scatter	Medium	Extant Located in an eroded exposure on a ridge overlooking Bowmans Ck. The site also contained some burnt clay deposit. Some potential for subsurface artefacts.	High Will be impacted by subsidence remediation and surface mine activities.	Managed in accordance with AHIP #1131017.
37-3-0514	ASH18	Artefact scatter	Low	Partially Salvaged Terrace overlooking Bowmans Ck. Some potential for subsurface artefacts. Portion of site within ULD crack zone salvaged.	Medium - High Will be impacted by subsidence remediation and surface mine infrastructure.	Managed in accordance with AHIP #1131017.
37-3-0515	ASH19	Isolated artefact	Low	Partially Salvaged. Eroded exposure on ridgeline overlooking Hunter River. Portion of site within ULD crack zone salvaged. Site located within ULLD crack zone.	Medium - High Will be impacted by subsidence remediation and surface mine infrastructure.	Managed in accordance with AHIP #1131017.
37-3-0517	ASH21	Isolated artefact	Low	Salvaged	High Will be impacted by remediation works and surface activities.	Managed in accordance with AHIP #1131017.
37-3-0518	ASH22	Artefact scatter	Low	Salvaged	High Will be impacted by remediation works and surface activities	Managed in accordance with AHIP #1131017.
37-3-0540	EWA066-067	Artefact Scatter	Low	Extant	Nil Site located outside of subsidence crack zone for ULD & ULLD seams	Managed in accordance with HMP
37-3-0550	EWA068	Artefact Scatter	Low	Extant	Nil	Managed in accordance with HMP

AHIMS No.	Site Name	Site Type	Archaeological Significance	Description (incl. status)	Predicted Impact *	Management # (refer to Table 3 and Appendix B)
					Site located outside of subsidence crack zone for ULD & ULLD seams	
37-3-0539	EWA072-074, SA13.2	Artefact Scatter	Low	Extant	Nil site located outside subsidence impact zone	Managed in accordance with HMP
37-3-0553	EWA071	Artefact Scatter	Low	Extant	Nil site located outside subsidence impact zone	Managed in accordance with HMP
		Potential burials	Potential for high significance	The terrace near the northern end of the Western Diversion is compacted clay therefore the main area for potential burials will be in the softer overbank deposits on the outer margins of meander bends.	Ground Penetrating Radar (GPR) completed. Low potential for burials. Appendix B contains procedures to follow in the case of a suspected burial.	

These management measures have been prepared based on the assumption that works within the Pikes Gully seam have been completed prior to impacts within the ULD seam.

* Four categories of potential subsidence impacts have been defined:

- High** – Definite potential for cracking, ponding or surface erosion to occur that will require remediation.
- Medium** – Subsidence will be experienced but only a moderate chance that impacts requiring remediation will occur.
- Low** – Subsidence may be experienced at the site however there is a low chance that repair work will be required.
- No Impact** – No impacts on sites will occur as they are located outside the subsidence zone.

4.2 Potential for Additional Sites

The archaeological assessments of the LW 1 - 8 subsidence impact area have found that the potential for unidentified sites to occur vary according to the age of the landscape feature.

Western Panels

The data regarding cultural heritage has been based on the 2002 field survey, and updated by a series of additional investigations for the SMP LW/ MW 5-9, and Bowmans Creek diversion.

Areas of the Bowmans Creek terrace (east and west) have been formed in the post European period. These areas are considered to have no potential for in-situ artefact scatters; however, the potential for artefacts to have been transported on or into the terrace along with the terrace deposit cannot be discounted.

Elsewhere the terraces of Bowmans Creek are of sufficient age and stability to contain artefact scatters in-situ. The integrity of these scatters is likely to be variable depending on factors such as historical land use. These factors are considered and addressed in the methodologies prescribed in AHIP #1130976.

The potential for previously unidentified sites to occur in these landforms is likely, as the pasture cover is sufficiently dense to obscure the majority of the land surface. However, the sites that have been identified in these landforms have been sufficient to identify the probable character of any obscured sites. The salvage methodologies have therefore been designed to be applicable to both known and unknown sites, unless a previously unknown site is identified as significant at which time special conditions within the AHIP #1130976 will be implemented as outlined in **Appendix B**.

Eastern Panels

The data regarding Aboriginal cultural heritage across the eastern panels has been based on the 2002 field survey and supplemented by site inspections with stakeholder representatives that routinely occur prior to surface works.

The eastern panels were surveyed in November and December 2011 to ground truth existing data and identify any additional sites that have been exposed by changes in surface visibility prior to undertaking salvage works for the ULD seam in 2012.

As identified within the western panels, the potential for previously unidentified sites to occur in these landforms is likely, however, the sites that have been recorded have been sufficient to identify the probable character of any additional sites. The salvage methodologies have therefore been designed to be applicable to both known and unknown sites, unless a previously unknown site is identified as significant at which time special conditions within AHIP#1131017 will be implemented as outlined in **Appendix B**.

LW 201 – 204

Given that LW 201 – 204 in the ULLD seams overlay LW 1 – 4 in the ULD seams (Eastern Panels), which have already been subject to secondary extraction and hence subsidence impacts, the potential for previously unidentified sites to occur in this area is unlikely. Notwithstanding this, the salvage methodologies, as previously developed for both known and unknown sites will continue to be implemented, as outlined in **Appendix B** and AHIP#1131017.

4.3 European heritage Sites

Four European heritage sites have been identified in proximity to the ACP. These include:

- St Clements Anglican Church, Lot 103 DP 738182, located to the west of Camberwell Village is an item of local significance as listed on the Singleton Council Local Environmental Plan (LEP) 2013 (Item No. I12);
- Camberwell Community Hall, Lot 2 Section 13 DP 758214, located south of the New England Highway is an item of local heritage significance as listed in the Singleton Council LEP 2013 (Item No. I13);
- Camberwell Glennies Creek Underbridge located at 252.613km Main Northern Railway Line is listed under Section 170 of the Heritage Act 1977. The item curtilage includes the bridge structure and a surrounding area of 20m in all directions; and
- Historical Grave – Glennis Creek Road. Identified as part of the NEOC project, the historical grave site of Bernard Fox is located adjacent to Glennies Creek Road. Mr Fox was a sheep overseer on the Ravensworth property who was killed on the 25th October 1847 following an altercation with Charles Cooper a ticket of leave holder stationed at Falbrook. The site has been fenced as part of the NEOC project.

These items will not be impacted by underground mining at the ACP and no specific management measures have been recommended for European heritage sites. Two additional sites of historical occupation have been identified on the surface overlying Longwall 8.

One site, which relates to the earlier agricultural history of the holding, is a standing ruin and consists of a timber shed and yard area. This structure comprises a concrete slab, timber-frame constructed shed clad with weatherboard, corrugated iron gable roof and adjacent corrugated iron water tanks. The yard area consists of a small timber post and wire enclosure.

These structures were assessed by Umwelt (2010) as not forming part of any identified significant grouping of rural farm buildings and are not heritage listed items. Umwelt concluded that these items have nil to low significance and no research potential.

No management of the site is proposed, other than to secure the site and prevent injury during/ following subsidence as per the Built Features Management Plan and Public Safety Management Plan.

The second site was identified in November 2011 by Insite heritage as a possible shepherd's hut/outstation located on the Ashton Coal mine lease. The known site elements are a probable chimney and small area of brick floor. The site is likely to be associated with the original Ashton property dating to the late 19th/early 20th Century.

In 2012 ACOL received an Excavation Exemption from the Heritage Division of NSW Environment, Energy and Science (Heritage Division) to allow for subsurface testing of the site in order to determine an accurate site boundary for future management. These investigations may occur prior to further subsidence under the structures.

5 CONSULTATION AND MANAGEMENT

The actions that ACOL undertakes to fulfil the consent conditions outlined in **Appendix A** are detailed in **Table 3**. These actions have been categorised into:

- Monitoring;
- Management; and
- Incident Response.

Consultation with Aboriginal stakeholders was carried out at the time of developing the ACH SMP LW 1-4 and Western Panels HMP. This HMP consolidates the management strategies documented within these previous management plans into one concise document, and does not introduce any new management strategies that would require additional consultation under applicable guidelines. Consultation also continues in the course of day-to-day mine management activities including internal clearance procedures.

The salvage of sites will be carried out under the approved AHIPs issued by the former OEH (now Heritage NSW, or HNSW) (refer to **Appendices F - G**). An AHIP is issued on the basis of the management measures prescribed in the corresponding Aboriginal Cultural Heritage Assessment Report and associated HMP. This management plan also represents a consolidation of the consultation undertaken in the development of these AHIP applications. In acknowledgment that the AHIP may also prescribe additional management measures to be fed back into the HMP where necessary this management plan seeks to capture any of these additional management requirements to ensure consistency between the documents.

As such the management measures outlined in **Table 3** and **Appendix B** have been developed by the archaeologist, in consultation with the Aboriginal community stakeholders. Specifically, this draft management plan was discussed during the Aboriginal Community Consultative Forum (ACCF) meetings (as discussed below). Further, management measures have been part of the ongoing consultation undertaken with the community during the development of the respective AHIP applications, and take into consideration of any additional conditions required within the issued AHIPs.

Comprehensive consultation was undertaken during the last major revision of this HMP in 2017 with Registered Aboriginal Parties (RAPs), Singleton Historic Society and Museum Inc, EES and AGL Macquarie Generation. As the changes proposed as part of this 2020 review are predominantly administrative, additional consultation was not undertaken. Copies of correspondence following the 2020 review is included in **Appendix D**.

The RAP's were provided the opportunity to comment on the revised HMP and the Plan was also discussed at an ACCF meeting held on the 6 June 2017. During this meeting, the RAPs requested procedures be developed for the reinterment of the Aboriginal artefacts salvaged from ACP. A procedure for the reinterment of the Aboriginal artefacts has been developed in conjunction with RAPs and, at the time of document review, consultation with HNSW regarding approval for the procedure was pending. This procedure details requirements for the storage, curation, display and/ or reinterment of artefacts salvaged from ACP, ensuring traditional ritual and etiquette is followed. ACOL will endeavour to finalise these procedures in consultation with HNSW and incorporate these in to the HMP during the next review of the Plan.

5.1 Aboriginal Community Consultative Forum

ACOL have established an ACCF with the following objectives:

- To provide a formal vehicle for communication with the broader Aboriginal community and to provide a forum to allow effective communication to take place between Aboriginal stakeholder groups and ACOL; and

- To provide information to the community as well as receive feedback on cultural and community issues.

The ongoing operation and structure of the ACCF will be reviewed on an ongoing basis to determine its long-term viability. However, based on the current implementation and effectiveness of the ACCF, this forum forms the central basis of ACOL's Aboriginal Community Consultation. It is recognised that this may change in the future.

The ACCF is currently chaired by an independent facilitator and is made up of representatives from ACOL, consulting archaeologists and members of ACOL's 34 RAPs. Each ACOL RAP is invited to participate and is provided documentation from ACCF meetings irrespective of their participation levels. The meetings are currently held every six months (subject to change if required at different intervals) and provide a forum to allow effective communication to take place between the Aboriginal community and ACOL. During each forum, updates are provided to community members on ACOL operations as well as feedback on cultural and community issues.

Focused working groups were operated as part of the establishment of the ACCF. Members from each of the RAPs were invited to nominate to be members of a specific working group (i.e. the VCA management). The aim of the working groups was to work closely with ACOL representatives and archaeology consultants on cultural heritage management recommendations and report back to the ACCF. The following working groups were established:

- Voluntary Conservation Area (specifically related to this Plan of Management);
- Grinding Groove management;
- Ongoing fieldwork protocols; and
- Artefact identification and analysis.

Working groups held workshops in 2012 with the results reported back to the ACCF. No working groups were active at the time of revision of this document.

Table 3: Archaeology and Cultural Heritage Management Actions and Responsibilities

Item	Action	Trigger/Timing	Responsibility	Reporting
1.0	Monitoring			
1.01	Documented visual inspection (including photographs) of all in-situ sites subject to potential subsidence will be undertaken by a qualified archaeologist to record the current condition of each archaeological site as outlined in Appendix C . All Registered Aboriginal Parties will be provided with the opportunity to participate in this recording.	Prior to and at the completion of each longwall panel.	Environment and Community Relations Superintendent	Internal Reporting
1.02	Site personnel will inspect archaeological sites that are potentially affected by subsidence on a monthly basis during undermining. The inspections will aim to observe the relationship of cracking (if any) to sites, any erosion potentially threatening the site and whether intervention and remediation works are required.	Monthly	Environment and Community Relations Superintendent Mine Surveyor	Internal Reporting
1.03	All Registered Aboriginal Parties will be provided with the opportunity to monitor mine related impacts on Aboriginal sites within ULLD 201 - 208.	Prior to and at the completion of each longwall panel.	Environment and Community Relations Superintendent	-
1.04	Following completion of longwall extraction within each seam in the western panels (LW 205-208), ACOL must prepare a report on the Aboriginal heritage subsidence impact monitoring program (Appendix C).	At completion of each seam (western panels).	Environment and Community Relations Superintendent	Cultural Heritage Management Report to HNSW
1.05	Following completion of longwall extraction within the eastern panels (LW 201-204), ACOL must prepare a report on the actions relating to the harm of Aboriginal objects (permitted by the AHIP) as outlined in Section 6.2 .	At completion of mining within the eastern panels (or expiry of the relevant AHIP).	Environment and Community Relations Superintendent	Harm to Aboriginal Objects Report to HNSW and all Registered Aboriginal Parties
2.0	Management			
2.01	Collection of surface artefacts as outlined in Appendix B will be aimed at those sites not already collected during the detailed surface collection, salvage excavation and grader scrapes already completed in accordance with the AHIP #1130976 and AHIP #11310017.	Prior to any subsidence related impact within the ULD.	Environment and Community Relations Superintendent	Annual Review, Cultural Heritage Management Report and Harm to Aboriginal Objects Report to HNSW

Item	Action	Trigger/Timing	Responsibility	Reporting
2.02	Maintain fencing around the Oxbow Site and monitor for potential subsidence impacts including cracking, ponding and/or increased erosion. Where impacts are anticipated or observed, salvage in accordance with an appropriate AHIP will be carried out prior to mitigation/remediation measures being undertaken as outlined in Appendix B .	Prior to any subsidence mitigation related impact	Environment and Community Relations Superintendent	Annual Review
2.03	Maintain sites identified for conservation, such as Waterhole and Glennies Creek Sites, in accordance with HMP(s) and relevant management plans including fencing, erosion control measures and site entry restrictions. No construction within 70m of the Waterhole site.	Ongoing for life of mine	Environment and Community Relations Superintendent	Annual Review
2.04	Ensure all personnel involved in earthworks or any type of disturbance on the ACP are appropriately trained / inducted and made aware of the cultural significance of the area, including site identification and materials likely to be uncovered. Personnel will be instructed to notify the Environment and Community Relations Superintendent in the event they identify any object which they believe to be of archaeological or cultural origin.	Prior to commencing works on site	Environment and Community Relations Superintendent	None
2.05	The Aboriginal stakeholders have been asked to consider the curation of the artefacts retrieved from the site. Should consensus not be reached by stakeholders within 3 years of the commencement of the relevant AHIP the artefacts will be stored as determined by HNSW.	Ongoing	Environment and Community Relations Superintendent	None
2.06	Ensure that archaeological surveys are undertaken for any new impact areas and where required project specific management measures prepared in consultation with stakeholders.	Prior to commencing works on site.	Environment and Community Relations Superintendent	None
2.07	Provide a first point of contact if Aboriginal people wish to visit any areas of conservation.	Ongoing	Environment and Community Relations Superintendent	None
3.0	Incident Response			
3.01	Subsidence remediation works will be undertaken in accordance with Appendix B and will aim to: - Minimise disturbance from any remediation/repair works; - Relocate artefacts within the area to avoid the proposed works; and - If damage appears to be unavoidable, undertake salvage works.	Where impacts are anticipated or observed to any unsalvaged sites.	Environment and Community Relations Superintendent	Annual Review

Item	Action	Trigger/Timing	Responsibility	Reporting
3.02	Following the discovery of new finds of Aboriginal objects – surface works will cease in the immediate area immediately and the area secured. Assessment of the site/object and subsequent management of the site will be carried out in accordance with the protocols provided in Appendix B. In addition, the site will be recorded on standard AHIMS site cards and lodged with AHIMS. Objects that are likely to be impacted are to be salvaged in consultation with stakeholders and archaeologist as outlined in Appendix B. If the site is considered by the archaeologist, in consultation with at least 2 RAPs, to be significant, HNSW will be notified and a methodology for salvage will be developed with HNSW and the RAPs. Surface works within the immediate area will only recommence on agreement in writing from HNSW on the salvage methodology.	The discovery of any previously unrecorded Aboriginal heritage sites.	Environment and Community Relations Superintendent	Annual Review
3.03	In the event that a potential burial is identified / discovery of skeletal remains– works will immediately cease in that area. No works to recommence until clearance is provided by HNSW and/or where appropriate the NSW Police as per the protocol outlined in Appendix B .	Identification of a potential burial or discovery of skeletal remains.	Operations Manager	Annual Review (if appropriate and approved)

Important Note: These management measures have been prepared based on the assumption that cultural heritage management works planned in advance of mining within the ULLD seam have been completed. As indicated within **Table 2**, grader scapes, salvage excavation and surface collections have been undertaken, or were planned to be undertaken in accordance with the relevant version of the HMP prior to construction of the Bowmans Creek Diversion and mining within the PG, ULD and ULLD seams. No additional management measures have been recommended in the table above for those sites where surface collection and/or salvage works have been already carried out or were planned to be carried out in accordance with the relevant AHIP. If not conducted prior to impacts associated with secondary extraction in the ULLD seam, these sites will be managed in accordance with the relevant AHIP (**Appendix F-G**).

6 IMPLEMENTATION

6.1 Contingency Response

The flow chart in **Figure 2** demonstrates the implementation of this plan with respect to the performance measures/ indicators identified in **Section 3.2** and general steps to be undertaken in the event that potential unplanned impact and/or exceedance of the criteria occurs.

In the event the performance measures provided in **Section 3.2** are considered to have been exceeded, or are likely to be exceeded, ACOL will undertake the following:

- ACOL will report the likely exceedance of the performance indicator as soon as practicable after becoming aware of the exceedance. This will be reported to the relevant agencies, as required under the development consent or legislation;
- ACOL will identify an appropriate course of action with respect to the identified impact in consultation with appropriate specialists, relevant agencies and local Aboriginal community representatives; and
- Review the effectiveness of this HMP and performance measures to adequately manage potential impacts within the limits of the project approval.

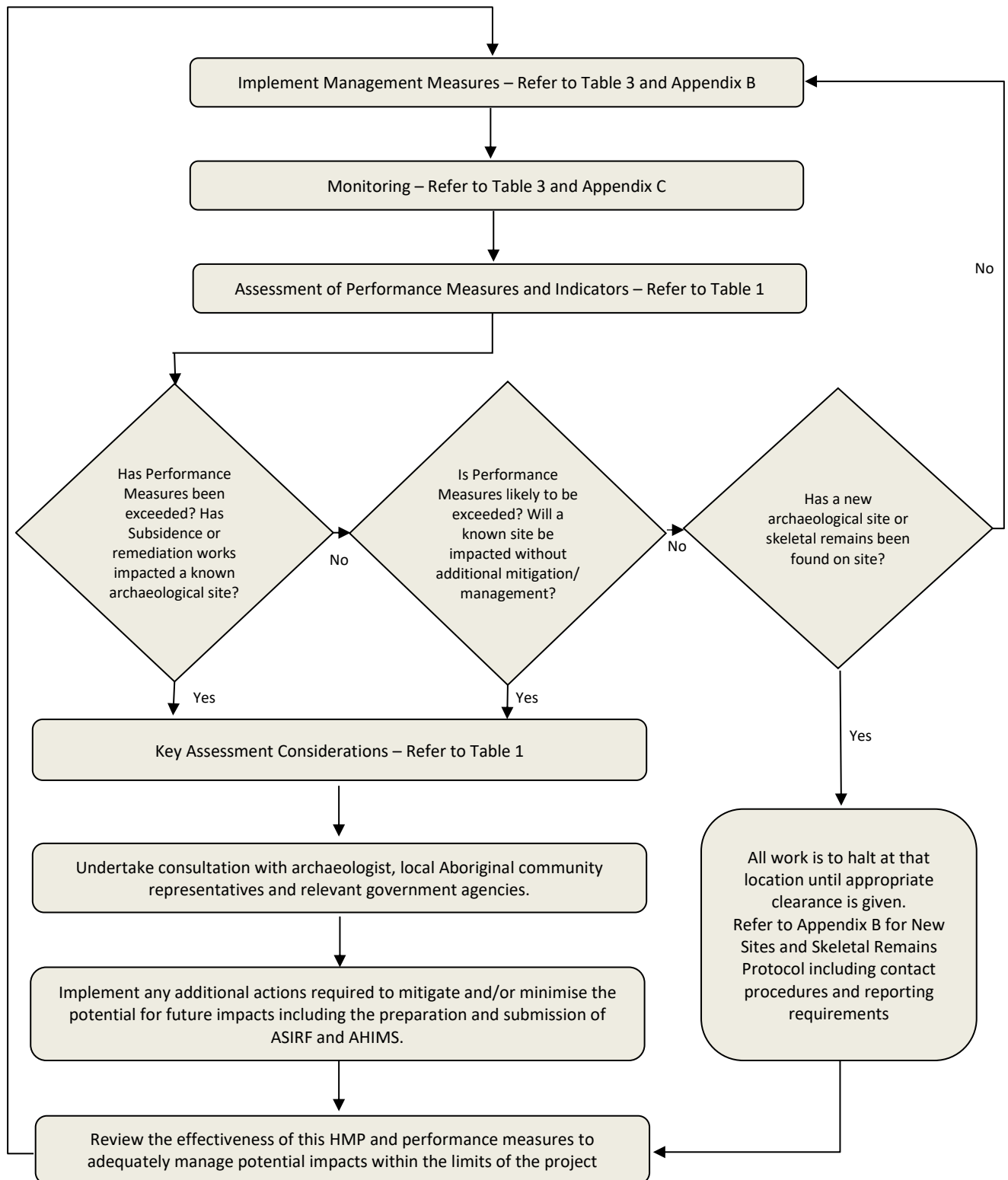


Figure 2: HMP Implementation and Contingency Response

6.2 Reporting

Reporting relevant to this HMP is nominated in **Table 3** and includes the reporting of management actions / progress undertaken, and any incidents within the following documents:

- Annual Review;
- Aboriginal Heritage Information System (AHIMS) site cards;
- Aboriginal Site Impact Reporting Form (ASIRF);
- Cultural Heritage Management Reports (western panels); and
- Harm to Aboriginal Object Report (eastern panels).

The Annual Review is the primary reporting tool for the ACP. The Annual Review is required to be prepared under the ACP development consent and Mining Lease and its purpose is to review the performance of the mine against the Environmental Management Strategy and the relevant Mining Operations Plans, the conditions of this consent, and other licenses' and approvals relating to the mine. In context of archaeology and cultural heritage management the Annual Review will report against and review the findings of monitoring conducted in relation to the items in **Table 1** and **Table 3**. Within 30 days of being finalised and approved, the Annual Review will be made publicly available via ACOL's website.

An Aboriginal Site Impact Recording Form (ASIRF) must be completed and submitted to the AHIMS Registrar, for each AHIMS site identified within Schedules B and C of the relevant AHIP that has been salvaged or otherwise impacted as authorised under the AHIP. These must be submitted within one month of the action for the western panels and biannually for the eastern panels (or within 4 months of the completion of the actions authorised by, or expiry of, the relevant AHIP).

AHIMS site cards have been designed to complement the AHIMS data structure as well as to meet the professional standards for archaeological recording of potentially sensitive information. All new sites (both previously unrecorded and relocated sites) will be recorded by an archaeologist on standard AHIMS site cards and submitted to HNSW for registration on the AHIMS database.

A Cultural Management Heritage Report (western panels) is to be prepared and submitted to HNSW two months prior to the extraction of the next seam. The report will contain as a minimum:

- Documentary evidence of Aboriginal sites and objects such as photographs, written records and comments made by the RAPS at each monitoring location within the AHIP area during the reporting period;
- Include a map of landform units overlying the longwall panels within the AHIP area, that identifies the location of:
 - Longwall panels;
 - Aboriginal sites and objects;
 - Predicted versus measured subsidence impacts for the reporting period, including type and scale of impact; and
 - Any mining related surface disturbance activities, including subsidence remediation works, which were carried out during the reporting period.
- Describe any revised proposed subsidence assessment of the potential impact to Aboriginal sites and objects within the AHIP area;
- Describe the measures implemented to manage subsidence and how these were applied to reduce or avoid impacts to Aboriginal sites and objects within the AHIP area;
- Describe any ongoing consultation with or involvement of RAPS in relation to the AHIP during the reporting period;

- Describe how any Aboriginal objects or no-harm areas described in schedule A were managed during the reporting period;
- Comment on the effectiveness of any Aboriginal heritage management plan that was in place during the reporting period;
- Comment on the effectiveness of any mitigation measures that were implemented;
- Detail the results of any analysis of Aboriginal objects; and
- Include a statement confirming that all Aboriginal Site Impact Recording Forms have been completed and submitted to the AHIMS Registrar.

A Harm to Aboriginal Objects Report (eastern panels) must be prepared and submitted to HNSW within 4 months of the completion of the action authorised by the relevant AHIP i.e. the completion of mining within the eastern panels or the expiry of the AHIP (whichever comes first). The report must:

- Include a short summary of the report;
- Describe any ongoing consultation with or involvement of representatives of Registered Aboriginal Parties in relation to the AHIP;
- Describe how any Aboriginal objects or 'no harm areas' described in Schedule A of the AHIP were managed during the course of undertaking the actions;
- Provide a description of the methods and results of any salvage excavations;
- Detail any community collection of Aboriginal objects undertaken by the Registered Aboriginal Parties;
- Comment on the effectiveness of any mitigation measures that were implemented;
- Comment on the effectiveness of any management plan that was in place;
- If any Aboriginal objects were moved to a temporary storage location, a description of the nature and types of Aboriginal objects which are now at that location;
- Details of the results of any analysis of Aboriginal objects;
- Detail the long-term management arrangement for any Aboriginal objects;
- Include a statement confirming that all Aboriginal Site Impact Recording Forms have been completed and submitted to the AHIMS Registrar.

A copy of the Harm to Aboriginal Objects Report, including a summary of the report in plain English, must be sent by registered post to each Registered Aboriginal Party within 14 days of the report being submitted to HNSW.

This management plan and any major revisions will be undertaken in consultation with the Aboriginal community, HNSW, Singleton Council (SC), local historical organisations and relevant landowners and submitted to the Secretary for approval. The management plan will be distributed to relevant government agencies, SC, CCC, and the ACCF and published on Ashton Coal's website within 30 days of approval.

6.3 Audits and Reviews

This HMP may be audited (if required) under the scope of any external environmental compliance audits.

In accordance with the AHIP #1130976 the monitoring program is to be reviewed at least two months prior to longwall extraction for each new seam.

In accordance with the development consent, within 3 months of the submission of an:

- a) Incident Report under Condition 8 of Schedule 5;
- b) Annual Review under condition 10 of Schedule 5;
- c) Audit under Condition 11 of schedule 5; and
- d) Any modification to the conditions of this consent (with the exception of Modification 5).

The management plan will be reviewed and if necessary updated and approved by the Secretary of DPIE.

In addition to the above, an internal review of this HMP may be conducted in response to:

- An incident recorded as a result of the operations that potentially affects any known cultural heritage site;
- A significant change in operation that may affect the implementation of this management plan;
- Statutory requirements or directions/conditions of approvals requiring such action; or
- Recommendations as a result of internal or external audits.

6.4 Training

All personnel involved in earthworks or any type of disturbance on the ACP will be appropriately trained/ inducted prior to commencement of work. This will include a component on the Aboriginal cultural and historical heritage known within the area and procedures for site identification and materials likely to be uncovered. Personnel will also be instructed to notify the Environment and Community Relations Superintendent in the event that any objects are encountered that may be of archaeological or cultural origin.

Records will be maintained to confirm personnel have been appropriately trained in Aboriginal cultural and historical heritage management.

6.5 References

Insite Heritage (2016), *Ashton Coal Project Aboriginal Heritage Assessment Longwalls 201 – 204 Extraction Plan*. Report to Ashton Coal.

Insite Heritage (2010), *Ashton Coal Project Aboriginal Cultural Heritage Management Plan Underground Area - Western Panels*. Report to Ashton Coal.

Insite Heritage (2007), *Archaeological and Cultural Heritage Subsidence Management Plan Ashton Coal Longwall Panels 1-4*. Report to Ashton Coal.

SCT (2011), *Draft Subsidence Report Upper Liddell Seam LW 1-8*. Draft report prepared for Ashton Coal Operation Ltd.

Umwelt (2010), *Ravensworth Operations Project, Historical Heritage Assessment*.

Wilson, S. & Mills, K. (2016), *Ashton Coal Operations Ltd. Subsidence Assessment for the Extraction Plan for Longwalls 201-204 in the Upper Lower Liddell Seam ASH4552*. Unpublished report prepared for Ashton Coal Operations Ltd by SCT Operations Ltd.

7 REVISION HISTORY

Version History

Version Date	Status	Details	Authors	Authorised/Approved for Issue	
				Name/Position	Date
02/03/2012	DRAFT	For Consultation	Insite Heritage, AECOM	Lisa Richards, Environment & Community Relations Manager	02/3/2012
17/07/2012	DRAFT	For Approval	Insite Heritage, AECOM	Lisa Richards, Environment & Community Relations Manager	17/07/2012
01/08/2012	FINAL	Approved	Insite Heritage, AECOM	Lisa Richards, Environment & Community Relations Manager	01/08/2012
25/07/2014	FINAL	Approved following 3 year Independent Environmental Audit (December 2013) and annual review.	Insite Heritage, AECOM	Lisa Richards, Environment & Community Relations Manager	25/07/2014
13/06/2015	DRAFT	Reviewed following independent environmental audit and the 2014 AEMR. Revision includes the addition of statement of commitment and general management plan consent requirements, and minor wording changes including the update of government department names. No material changes to management practices have occurred in this review.	Ashton Coal	Digby Short, Environment and Community Relations Manager	13/06/2015
19/06/2015	FINAL	Approved	Ashton Coal	Digby Short, Environment and Community Relations Manager	19/06/2015
08/05/2017	DRAFT	For Consultation during minor review following submission of Annual Review, Independent Environmental Audit and changes within DA Modification 5.	Ashton Coal, Insite Heritage	Phillip Brown, Environment and Community Relations Superintendent	08/05/2017
22/06/2017	DRAFT	For Approval, following minor review after submission of Annual Review, Independent Environmental Audit and changes within DA Modification 5.	Ashton Coal, Insite Heritage	Phillip Brown, Environment and Community Relations Superintendent	22/06/2017
10/10/2017	FINAL	Approved	Ashton Coal	Phillip Brown, Environment and Community Relations Superintendent	10/10/2017
05/06/2020	DRAFT	For Approval, following minor review after submission of Annual Review and Independent Environmental Audit	Ashton Coal	Phillip Brown, Environment and Community Relations Superintendent	05/06/2020

25/09/2020	Draft	For approval following review by DPI&E	Ashton Coal		
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External Approval Register

Organisation	Nominated Rep.	Version	Date Issued	Date Approved
DP&I	Howard Reed	17/07/2012	18/07/2012	27/07/2012
DRE	Brad Mullard	17/07/2012	18/07/2012	31/07/2012
DP&E	Chris Knight	19/06/2015	29/06/2015	27/07/2015
DP&E	Matthew Sprott	10/10/2017	29/06/2017	04/10/2017
DPIE	TBC	05/06/2020	06/06/2020	TBC

8 APPENDICES

APPENDIX A – APPROVAL CONDITIONS

Table 4: Approval Conditions (Heritage)

Condition Number	Condition Requirement (DA 309-11-2001 MOD 5)	Where Addressed in HMP
Schedule 2, Condition 2 (a) and Appendix 4	Additional information relating to flora and fauna surveys, the diversion of Bowmans Creek, water quality, groundwater, air quality and Aboriginal cultural heritage provided by HLA-Envirosciences to planning NSW and other government agencies, dated 28 February 2002. Note: the recommendations made in relation to Aboriginal Cultural Heritage in the document referenced above include: • A management plan; • Fencing of aboriginal sites to avoid damage; • The opportunity for the aboriginal community to tender for small works; and • An archaeological research program.	This HMP Table 2, Appendix B, Appendix E Not applicable to this management plan, but covered by a deed of agreement. Section 3, Table 1, AHIPs.
	Fax from WML to Planning NSW dated 25 July 2002 relating to Aboriginal conservation (Note: the commitments made in this fax relate to Conservation of Glennies Creek site and the waterhole grinding grooves)	Table 3
	Letter from WML to Planning NSW dated 12 August 2002 relating to a conservation area (Note: the commitment made in this document is in relation to the Voluntary Conservation Agreement).	Appendix E
	Document titled Development consent modification DA 309-11-2001-I MOD 4 dated July 2009, prepared by Wells Environmental Services. (Note: the relevant commitment made in this document are: • Artefact scatters will be regularly monitored by the aboriginal community giving them the chance to record and relocate artefacts should subsidence appear to cause damage; • Regular archaeological monitoring of Bowmans Creek floodplain and terraces; and • Approval under Part 6 prior to remediation works within Bowmans Creek / Brunkers Lane area.	Table 1 Table 2 and AHIP #1131017 AHIP 1130976 (Appendix G)
	Document titled Second Response to Submissions – Ashton Coal Operations Ltd. (ACOL) – Longwall/ Miniwall Panel No. 9 dated 24 December 2009 (Note: this document states that sites that will be disturbed by subsidence will be collected, otherwise sites will remain in-situ)	Table 1
Schedule 3, Condition 34	The Applicant shall prepare and implement a Heritage Management Plan for the Ashton Mine Complex to the satisfaction of the Secretary to manage the potential impacts of the development. This plan must:	

Condition Number	Condition Requirement (DA 309-11-2001 MOD 5)	Where Addressed in HMP
	a) Be prepared by suitably qualified and experienced persons whose appointment has been endorsed by the Secretary;	This HMP is a consolidation of previously approved management plans and AHIPs #1130976 and #1131017 (Appendix F-G), as prepared by suitably qualified and experienced personnel, Insite Heritage and AECOM. Only minor changes have been made to this Plan during this review. In accordance with Schedule 5, Condition 3, the HMP approved at the time of modification 5 may be reviewed in accordance with the previous approval. In accordance with the DA, the HMP will be prepared by a suitable person endorsed by the Secretary at least 3 months prior to the commencement of any open cut mining.
	b) Be prepared in consultation with OEH, Council, the Aboriginal Community, local historical organisations and relevant landowners;	Appendix D
	c) Include the following for the management of Aboriginal cultural heritage on the site:	-
	An archaeological salvage program for the development disturbance area, which includes additional sub-surface testing of the more significant sites and landform units;	Table 3 and Appendix B AHIP #1130967 and #1131017 (Appendices F-G)
	A description of the measures that would be implemented for:	-
	The protection, monitoring and management of Aboriginal sites outside the development disturbance area, and within the Southern Conservation Area;	Table 2, Section 5 and Appendix B, C and E Part of the conservation area falls outside the AHIP boundaries and these areas will be managed to prevent impacts.
	Maintaining and managing access for Aboriginal sites by the Aboriginal community;	Table 3 and Section 5.1 Appendix C
	Managing the discovery of any human remains or previously unidentified Aboriginal objects that have conservation significance during the development;	Table 3 and Section 6.1

Condition Number	Condition Requirement (DA 309-11-2001 MOD 5)	Where Addressed in HMP	
	Ongoing consultation and involvement of the Aboriginal communities in the conservation and management of Aboriginal cultural heritage; and	Ongoing consultation with the Aboriginal community in accordance to the most recent HNSW guidelines is carried out as part of the AHIP application and development process. Section 5.1	
	Heritage inductions for construction personnel (including procedures for keeping records of inductions); and	Section 6.4	
	d) Include the following for the management of historical heritage		
	A description of the measures that would be implemented for:		
	Managing the discovery of human remains or previously unidentified heritage items during the development; and	Table 3 and Section 6.1 Appendix B	
	Heritage inductions for construction personnel (including procedures for keeping records of inductions).	Table 3 and Section 6.4	
	The applicant must implement the approved management plan as approved from time to time by the secretary.	Noted	
Schedule 3, Condition 29, Table 10	The Applicant shall ensure that underground mining does not cause any exceedances of the performance measures in Table 10. <i>Table 10: Subsidence Performance Measures (inter alia)</i>	Table 1	
	Aboriginal heritage features		
	Waterhole Site		Negligible impact
	Other Aboriginal heritage sites		No greater subsidence impact or environmental consequences than approved under a permit issued under section 90 of the <i>National Parks and Wildlife Act 1974</i>
	<i>Notes: The Applicant will be required to define more detailed performance indicators for each of these performance measures in the various management plans that are required under this consent.</i>		
	Management Plan Requirements 2. The Applicant must ensure that the management plans required under this consent are prepared in accordance with any relevant guidelines, and include:		
	a) Detailed baseline data;	Section 4	

Condition Number	Condition Requirement (DA 309-11-2001 MOD 5)	Where Addressed in HMP
	b) A description of: - The relevant statutory requirements (including any relevant approval, license or lease conditions); - Any relevant limits or performance measures/criteria; - The specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	Section 2 and Appendix A Section 3 Section 3
	c) A description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	This table Section 3
	d) A program to monitor and report on the: - Impacts and environmental performance of the development; - Effectiveness of any management measures (see (c) above);	Section 5 Section 6
	e) A contingency plan to manage any unpredicted impacts and their consequences;	Section 6.1
	f) A program to investigate and implement ways to improve the environmental performance of the development over time;	Section 6.3
	g) A protocol for managing and reporting any: - Incidents; - Complaints; - Non-compliances with the conditions of this consent and statutory requirements; and - Exceedances of the impact assessment criteria and/or performance criteria; and	Section 6.1
	(h) A protocol for periodic review of the plan.	Section 6.3
	Note: The Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.	
SOC Mod 7 4a	Locations of gas drainage well pads and access tracks will be developed to avoid known Aboriginal heritage sites, wherever practicable.	Table 3

Condition Number	Condition Requirement (DA 309-11-2001 MOD 5)	Where Addressed in HMP
SOC Mod 7 4b	Locations of gas drainage well pads and access tracks will be surveyed in conjunction with aboriginal community stakeholders for Aboriginal artefacts prior to disturbance and: - Where additional significant Aboriginal artefact sites are identified the well pad or access track will be relocated to avoid impacting the Aboriginal site - Where impact to Aboriginal artefacts cannot be avoided these will either be salvaged or relocated in conjunction with Aboriginal community stakeholders in accordance with the conditions of an Aboriginal Heritage Impact Permit	Table 3
SOC Mod 7 4c, SOC Mod 9 1d, SOC Mod 10 4c	Site inductions will include identification of aboriginal heritage exclusion areas and actions to be undertaken where additional Aboriginal artefacts are identified, in accordance with ACOL's existing Aboriginal heritage management protocols.	Appendix B – Contractor Inductions
SOC Mod 9 1c and SOC Mod 10 4b	A perimeter barricade will be placed around known objects located in proximity to the proposed works to avoid unintentional impacts during construction and operation.	Table 3

Table 5: Approval Conditions (general)

Condition Number	Condition requirement (DA 309-11-2001 MOD 6)	Addressed in HMP
Schedule 5, Condition 13	Access to Information 13. The Applicant must: (a) make copies of the following publicly available on its website: • the documents listed in condition 2(a) • the current statutory approvals for the development • approved strategies, plans and programs required under the conditions of this consent; • a comprehensive summary of the monitoring results of the development, including model performance results which have been reported in accordance with the various plans and programs approved under the conditions of this consent; • a complaints register, which is to be updated on a monthly basis; • minutes of CCC meetings; • the annual reviews over the life of the development; • any independent environmental audit, and the Applicant's response to the recommendations in any audit; • any other matter required by the Secretary; and • keep this information up to date by ensuring that all management plans, monitoring results and reports are available on the Applicant's website within 30 days of their completion.	Section 6.2
Schedule 5, Condition 6	Revisions of Strategies, Plans and Procedures Within 3 months of: a) submission of an incident report under condition 8 below; b) submission of an annual review under condition 10 below; c) submission of an audit under condition 11 below; and d) any modification to the conditions of this consent (with the exception of MOD 5); The Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent to the satisfaction of the Secretary. The Applicant shall publish on its website any revised document resulting from these reviews within 30 days of the Secretary's approval of the document. Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the development.	Section 6.3

APPENDIX B - MANAGEMENT MEASURES & PROTOCOLS

The management measures have been developed in consultation with the Aboriginal stakeholders to address their concerns and to meet the archaeological requirements to conserve and/or salvage archaeological values in the area (refer to **Table 1** for specific performance measures). These methodologies have been committed to by ACOL as outlined in **Table 3**, and detailed below. All of these management measures will be undertaken in accordance with an appropriate HMP and AHIP (refer to **Appendix F** and **G**).

Important Note: These management measures have been prepared based on the assumption that cultural heritage management works planned in advance of mining within the ULLD seam have been completed. As indicated within **Table 2**, grader scrapes, salvage excavation and surface collections have been undertaken, or were planned to be undertaken in accordance with the HMP prior to construction of the Bowmans Creek Diversion and mining within the ULD seam. No additional management measures have been recommended in the table above for those sites where surface collection and/or salvage works have been already carried out or were planned to be carried out in accordance with the relevant AHIP. If not conducted prior to impacts associated with secondary extraction in the ULLD seam, these sites will continue be managed in accordance with the following protocol and relevant AHIP (**Appendix F-G**).

SALVAGE OF ABORIGINAL OBJECTS

Stage 1 – Surface Collection

Surface artefacts within the subsidence impact zone will be collected by Aboriginal stakeholders accompanied by an archaeologist if predicted to be impacted by subsidence impacts or any required remediation works. The surface collection of known objects will be undertaken as follows:

1. Known objects identified in the relevant AHIP are to be relocated and collected in accordance with the conditions of the relevant AHIP.
2. GPS logging of object location.
3. Inspection of surrounding area for additional objects recently exposed and collection and recording of same.
4. Recording of site context / condition at time of collection (see analysis section below).
5. Artefacts to be handled, stored and recorded as outlined in the relevant AHIP (see storage of artefacts section below).

In accordance within the AHIP (23 December 2011) the Registered Aboriginal Parties will be given the opportunity to collect Aboriginal objects within eastern panels in accordance within the above methodology prior to any excavation or impact to the sites.

Stage 2 – Assessment of Subsurface Potential

1. Each collected location to be assessed for subsurface potential.
2. Subsurface potential includes any area of potential deposits, including areas of undisturbed A1 and A2 soil horizons with a depth of 200mm or more.
3. Where no subsurface deposit is identified go on to grader scrapes.
4. Where subsurface potential identified go to investigative salvage excavation.

Stage 3 – Investigative Salvage Excavation

Excavations will be conducted by an archaeologist and Aboriginal stakeholders as follows:

1. Investigative salvage excavation in one square metre test probes. On square metre probes in areas that have been subject to ploughing and other lateral disturbance.
2. Investigative salvage excavation in one square meter probes in 50cm units in areas that have not been subject to lateral disturbance / or / have been identified as having greater stratigraphic potential i.e. the area of potential Pleistocene surface.
3. Test probes to be extended over the sample area at appropriate spacings being no more than 15 metres between initial probe locations.
4. Deposit sieved through 5mm sieves at test stage.

Stage 4 – Salvage Excavation

Excavations will be conducted by an archaeologist and Aboriginal stakeholders as follows:

1. Salvage excavation to be carried out where investigative salvage excavation confirms artefact bearing deposits.
2. Salvage excavation to be carried out where ancient land surfaces are confirmed, with or without artefacts.
3. Test probes to be expanded until the full extent of artefact bearing deposit is identified and or sterile deposit is reached.
4. Spoil to be excavated in arbitrary 100mm spits until such time as a stratigraphic sequence or discrete archaeological feature becomes evident. Identifiable features or stratigraphic units to be excavated as discrete units.
5. Evidence or otherwise of bioturbation and taphonomic processes to be recorded in detail.
6. All spoil to be sieved in 3mm sieves. Wet sieving is preferential.
7. Salvage excavation in areas of stratified deposit to be undertaken by hand.
8. Salvage excavation of the Pleistocene deposit to be undertaken in units no greater than 50cm x 50cm or less in response to features.
9. Samples of charcoal and/or uncontaminated quartz in stratified deposits to be retained for dating purposes.

Stage 5 – Grader Scrapes

Grader scrapes may be carried out in the AHIP area where there will be ground disturbance from the proposed works, in order to identify the presence of previously unknown Aboriginal objects.

Grader scrapes to be conducted in areas either cleared of potential subsurface deposits at stage one (artefact collection) or on completion of stage 2 (investigative salvage excavations) where no further excavation warranted or stage 3 completion of open area excavation. Grader scrapes will not be carried out in potential Pleistocene Sediment (AHIMS Site 37-3-0496), or areas where potential impact is limited to subsidence i.e. no ground disturbance.

1. Grader scrapes to be conducted over identified areas with passes of 50-100mm dependent on grass cover etc.
2. Scrapes to be continued aiming at 50mm per pass where possible.
3. Lenses of objects (i.e. >5 per sqm) to be excavated in sq. m units.
4. Caches, hearths, uncommon knapping, special features, etc. to be excavated at finer detail in consultation with HNSW and the community.
5. Isolated finds and small disturbed scatters to be recorded, collected and their recorded by GPS.

Note: In accordance with the AHIPs, all required excavations must be completed in an area before any harm of Aboriginal objects (as authorised within the AHIP) can commence in the same area.

ANALYSIS

1. All excavated artefacts are to be bagged by location, date, probe and spit at a minimum. All surface artefact details are to be collated into a catalogue in hard and electronic format.
2. Artefact analysis is to be carried out by an appropriate specialist
3. Use wear and residual analysis to be conducted where appropriate
4. All artefacts retrieved from the AHIP areas are to be recorded, at a minimum of, location (GPS), raw material, and characteristics such as type, morphology and material. Morphology to include length, width, platform type, termination, negative scars on cores, retouch, usewear etc.
5. Artefacts to be individually bagged, or bagged in identifiable units, back referenced to the catalogue. All bags labelled outside and internally with archive quality recording media.
6. Implements, tools, knapping events and unusual items will be forwarded to an artefact analysis specialist for detailed analysis.

STORAGE OF ARTEFACTS

Western Panels

The Aboriginal stakeholders have been asked to consider the curation of the artefacts retrieved from the western panels. ACOL will assist stakeholders prepare a Care Agreement if necessary or lodge the artefacts with the NSW Australian Museum. ACOL must notify HNSW as soon as the long-term storage location has been determined, should consensus not be reached by stakeholders within 3 years of the commencement of the AHIP (dated 26 August 2011) the artefacts will be lodged with the Australian Museum, or as determined by HNSW.

In accordance with the AHIP (dated 26 August 2011), until a long-term storage location is determined, Aboriginal objects must only be taken to a temporary storage location, moved to a location within the same landform or moved to another location in consultation with a minimum of two Registered Aboriginal Parties. If Aboriginal objects are relocated, the new location must be recorded on a new AHIMS site card and lodged with AHIMS.

Eastern Panels

In accordance with the AHIP (dated 23 December 2011), any Aboriginal objects removed from the land by actions authorised in the AHIP must be moved as soon as possible to the temporary storage location below pending any agreement reached about the long-term management of the Aboriginal objects.

Location	The offices of Ashton Coal Operations Pty Ltd.
Address	73 Glennies Creek Road CANBERWELL NSW
Storage Particulars	Following analysis, the objects must be securely and appropriately stored until long term management is negotiated in consultation with the Registered Aboriginal Parties.

In the event that Aboriginal objects collected or salvaged under the AHIP are to be reburied at a different location:

- a) The reburial of Aboriginal objects must occur as soon as practical after completion of collection and salvage activities;
- b) Reburial activities must be undertaken by the AHIP holder and the land owner in consultation with representatives of the Registered Aboriginal Parties;
- c) Pursuant to Section 89A of the Act, the location of each reburial area must be notified in writing to HNSW office within 3 month after reburial occurs and a new AHIMS site card submitted to the AHIMS Registrar; and
- d) The AHIP holder and the landowner must ensure that procedures are put in place to ensure that Aboriginal objects at each reburial location are not disturbed, damaged, destroyed or defaced.

The storage of artefacts must comply with Requirement 26 "Stone artefact deposition and storage" in the *Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (24 September 2010)*.

FENCING AND CONSERVATION

Sites selected for in-situ conservation will be:

- Fenced to prevent stock or vehicular access, and provide a boundary between the contractors and the outer perimeter of the site.
- A work method statement (WMS) prepared, outlining the responsibilities of contractors to ensure that all site to be conserved are not impacted. The WMS will also outline any repercussions or fines administered by HNSW if WMS not adhered to.
- Monitored for erosion and disturbance and where required rectify in consultation with stakeholders if particular sites may be impacted.
- Monitored for possible damage from subsidence

Where impacts are anticipated or observed, mitigation will follow priority:

1. Minimise disturbance from repair works.
2. Relocate artefacts within the area to avoid repair works.
3. If damage appears unavoidable, undertake salvage (to be defined, e.g. surface collection, grader scrapes or salvage excavations).

ACCESS ROUTES

In accordance with the AHIPs, where practical existing access routes across the AHIP area must be used.

Where use of the existing access routes is not practical new access route may be located so as not to impact on any known Aboriginal sites or objects. Any new access route proposal will be discussed with representatives of the Registered Aboriginal Parties prior to construction.

STAKEHOLDER ACCESS AND INFORMATION

Aboriginal stakeholders will be invited to comment on relevant draft documentation regarding the management of Aboriginal cultural heritage within the ACP and will be provided with a final copy of the approved management plans. Stakeholders will also be notified of any major changes to the HMP and may apply to ACOL for site access. In accordance within the site HMP (Part 2), access to grinding grooves will be controlled and visited only with a guide.

CONTRACTOR INDUCTIONS

Personnel involved in earthworks or any type of disturbance on the ACP will be inducted prior to commencing works onsite. The induction will include a component on cultural awareness (i.e. how to recognise a site, the materials likely to be uncovered and the significance of area). Personnel will be instructed to notify the Environment and Community Relations Superintendent in the event they identify any object which they believe to be of archaeological or cultural origin.

SUPPLEMENTARY FIELDWORK

Additional Aboriginal fieldwork may be undertaken on a progressive basis as part of future Extraction Plans to inform the design of management measures, monitor the effects of subsidence and validate subsidence predictions.

NEW SITES AND DISCOVERY OF SKELETAL REMAINS

Non-Indigenous Heritage

In the event that any sites or items are discovered during construction or operation, all work in the immediate area will halt and ACOL will consult with the NSW Heritage Division).

Unrecorded Aboriginal Heritage Sites

Any previously unrecorded significant Aboriginal heritage sites identified by contractors or during fieldwork (monitoring, supplementary fieldwork or follow up inspections etc.) will be left undisturbed and reported ACOL Environment and Community Relations Superintendent.

All new sites will be recorded by an archaeologist on standard AHIMS site cards and submitted to HNSW for registration on the AHIMS database. New sites will also be subject to an archaeological and cultural significance assessment, in consultation with Aboriginal stakeholders.

Sites within the relevant AHIP area will be salvaged in accordance with the management measures outlined above and in consultation with Aboriginal stakeholders and archaeologist. Any additional sites found during works and identified as being of high archaeological or cultural significance may require a more detailed impact assessment and management details will be developed in consultation with registered Aboriginal stakeholders and HNSW. Surface works within the immediate area of the site will not recommence until authorised in writing by the Director of HNSW.

Note: In accordance with the AHIP, a significant site/object includes:

- a) Scarred or carved trees, fish traps, ground-edged tools, culturally modified wooden or bone objects, hearth, objects constituting a manufacturing site or knapping event, bora rings, grinding grooves/petroglyphs; or
- b) Other culturally significant objects as determined by archaeologist, in consultation with at least two Registered Aboriginal Parties.

Discovery of Skeletal Remains

In the event that construction activity reveals possible human skeletal material (remains) within the development area, the following procedure is to be followed:

1. As soon as remains are exposed, all work is to halt at that location immediately and the ACOL Environment and Community Relations Superintendent is to be immediately notified.
2. Environment and Community Relations Superintendent on site to notify Operations Manager.

3. Contact police by ringing **000**.
4. Contact the Environment line on **131 555** and the Heritage Division on **(02) 9873 8500**.

A physical or forensic anthropologist will inspect the remains in situ (organised by the police unless otherwise directed by the police), and make a determination of ancestry (Aboriginal or non-Aboriginal) and antiquity (pre-contact, historical or forensic):

- A. If the remains are identified as forensic the area is deemed as crime scene;
- B. If the remains are identified as Aboriginal, the site is to be secured and DPIE, HNSW and all Aboriginal stakeholders are to be notified in writing;
- C. If the remains are identified as non-Aboriginal (historical) remains, the site is to be secured and the Heritage Division is to be contacted.

The above process functions only to appropriately identify the remains and secure the site. The management of the area and remains is to be determined as follows:

1. If the remains are identified as a forensic matter - liaise with the police.
2. If the remains are identified as Aboriginal - liaise with the DPIE, the HNSW and Aboriginal stakeholders.
3. If the remains are identified as non-Aboriginal (historical) liaise with the DPIE and the Heritage Division.
4. If the remains are identified as not being human, then work can recommence once the appropriate clearances have been given.

APPENDIX C - MONITORING MEASURES

MONITORING

Visual inspection of remaining artefacts in subsided/ to be subsided areas will be undertaken by a qualified archaeologist prior to and at the completion of each longwall. Pre and post mining inspection will record the current condition of each archaeological site and will consist of a visual inspection, and preparation of a brief description (with supporting photographs).

Site personnel will inspect each site on a monthly basis during undermining. The inspections will aim to observe the relation of cracking (if any) to archaeological sites, any erosion potentially threatening the site and whether intervention and remediation works are required. Based on observations of current subsidence impacts at the site, in most instances, cracking will close naturally and no works will be required.

All Registered Aboriginal Parties will also be provided with the opportunity to monitor mine related impacts on Aboriginal sites within LW101 - 108, prior to, during and at completion of each longwall panel.

SUBSIDENCE REMEDIATION

Monitoring of each site as the longwall passes will aim to identify any subsidence impacts (cracking, ponding, erosion) in the vicinity which is likely to require remediation.

Cracking

Surface artefacts within the subsidence impact zone will be collected if predicted to be impacted by cracking or likely to be impacted by any remediation works. These sites will be subject to surface collection and salvage excavation (if required) as detailed in **Appendix B**.

Ponding

Earthworks to ensure ponded areas can permanently drain will be minimised in extent and avoid known archaeological sites where possible. If impacts are necessary, the same procedures discussed above for remediation of cracking will be implemented.

Erosion

Where known sub-surface deposits will be impacted by erosion, they will be excavated over the footprint of remediation work, artefacts salvaged and/or returned to the site following remediation. All AHIMS site cards will be updated to reflect the activities that have occurred.

APPENDIX D – CORRESPONDENCE

APPENDIX E - MANAGEMENT OF CONSERVATION AREA

Annexure C of the Conservation Agreement provides principles and activities for the management of the conservation area, and these are outlined below.

ITEM 1:

The landholders shall not undertake, consent to or permit the following activities unless they are undertaken in the manner specified as follows:

Weed control

- a) Carrying out weed control using the appropriate control methods to ensure that they do not compromise the integrity of the conservation values identified. Control and monitoring of weed growth will be as determined by the Ashton Coal Land Management Plan subject to the conditions of this Agreement, and the guidelines below.
- Ensure methods of weed control do not damage cultural heritage values.
 - Glyphosate based herbicide may be used by direct application to cut surfaces (cut and paint or scrape and paint methods).
 - Spraying of a glyphosate based herbicide can be used. This will be limited to according to the directions on the label and ensuring that there is no off-target damage.
 - Weeds can be removed by hand, ensuring that all plant parts that can reproduce are removed and that soils do not become prone to erosion.
 - Other weed control methods may be used with prior written permission of the Director-General.
 - Ensure control programs are commenced when timing and extent of weed removal will minimise adverse effects on wildlife (weeds may provide protection or habitat for native fauna). Removal of African boxthorn will not be undertaken during nesting periods for small birds which may nest in the plants.
 - Continue to check for weed invasion and regrowth and treat any outbreaks.
 - Check adjacent areas for invasive plant species and remove, or control their spread.

Feral animals

- b) Monitoring impacts to the conservation area by feral animals and undertaking of on-going control programs for feral animals is appropriate.
- Methods for control can include shooting, trapping and use of poisonous baits with advice from OEH and the Livestock Health and Pest Authority.
 - Participate in community feral animal control programs, and encourage neighbours to implement pest animal control programs. Contact your local National Parks office to find out if community control programs are occurring in your area.

Native Fauna

- c) Kangaroo culling when part of a population control program for the Land and only with approval by way of a Section 121 licence issued under the *National Parks and Wildlife Act 1974*. Planning for this operation will be done in consultation with the OEH.

Domestic animals and livestock

- d) Mustering of livestock with the use of working dogs and horses.
- e) Controlled grazing may be used as a hazard reduction tool to reduce fuel loads in the conservation area as deemed necessary, and with the following guidelines.
 - Grazing will be initially excluded from the conservation area to encourage the natural regeneration of indigenous plants and to encourage the growth of a shrub layer.
 - Grazing must be excluded from areas of revegetation.
 - Grazing may be desirable to reduce seeding of particular weed species.
 - Where native grasses and ground covers are present, rotational grazing will be used. Graze with high numbers for short periods and allow long rest periods to ensure flowering and reseeding to occur of native ground layer species.
 - Stock should be removed during peak flowering times, that is in Spring or early Summer, being September through to the end of January.
 - Groundcover should be maintained above 80%.
 - Should stock be identified as introducing weeds into the conservation area, stock will be put in a holding yard or weed free paddock for 2 full days (48 hours) prior to entering conservation area. This will reduce the spread of weeds from dung.
 - Stock to be removed from Conservation Area if unacceptable levels of erosion or damage are apparent.
 - Guidelines to be outlined in the Ashton Coal Conservation Area Plan of Management based on the recommendations coming from the Flora and Fauna Management Plan and associated regular Flora and Fauna monitoring.

Fire

- f) Suppression where practicable of all wildfires occurring in the conservation area as quickly as possible with the aim of keeping fires to a small area.
- g) Undertaking of fire hazard reduction to protect the natural assets of the conservation area, in appropriate locations, with any required approvals and/or permits using:
 - raking and hand clearing
 - pile burning
 - fuel reduction burns
 - controlled grazing.
- h) Using fire hazard reduction burns and controlled burning which take into account the following fire interval guidelines for broad vegetation types and any guidelines given in the Ashton Coal Bushfire Management Plan:
 - In Sclerophyll Grassy Woodland vegetation, fire will not occur within five years of a previous fire, and will be burnt within forty years of any previous fire.

Vehicle access

- i) Vehicle access to formed trails for access to private property, management purposes as outlined, approved by OEH, firefighting and/or any emergency requirements.

Threatened species

- j) Implementing any reasonable measures included in recovery plans or other management guidelines for any threatened species or communities which or may be found in the conservation area. At the time of signing this agreement, there is no recovery plan in place for the Grey-crowned Babbler.
- k) Implementing any reasonable measures to mitigate any alteration of habitat following subsidence due to longwall mining to minimise negative effects on the conservation area and in accordance with the Ashton Coal Subsidence Environmental Management Plan and the development consent issued by the Minister for Planning for Development Application No. 309-l1-2001-i on the 11 October 2002.

Restoration of indigenous vegetation

- l) Restoration of native vegetation using natural regeneration as the preferred method.
- m) Revegetation to establish indigenous plants, using species produced from material sourced locally and without fertilisers, where
 - the ability to regenerate naturally within a reasonable time frame has been lost, or
 - to prevent soil erosion;
 - to aid in the establishment of species diversity and height diversity in areas dominated by single species and with depleted natural seed resources.

Revegetation must not compromise cultural heritage and the soil surface. Prior to any proposed revegetation an archaeological assessment must be carried out. The Owner should be aware that any works which impact on cultural heritage will require a Section 90 consent under the *National Parks and Wildlife Act 1974*.

Seed collection

- n) Collection of seed collection in keeping with *Guidelines/or Collection of Seed, and other Plant Propagation material* (available from OEH), and the following limitations and permissions:
 - Collect seed in the conservation area only if seed of the particular species and genotype is not available elsewhere, or if the seed collected is intended for seedlings that will be planted within the conservation area or adjacent to the conservation area.
 - Licences are required for collection of material of protected plants listed under Section 131 (Schedule 13) of the National Parks and Wildlife Act 1974.
 - Where seed collection involves species listed on Schedule 1 or 2 of the Threatened Species Conservation Act 1995, the relevant licence or prior written permission from the Director-General will be obtained.

Thinning of indigenous vegetation

- o) Thinning of regenerating indigenous species, which are altering the structure of the vegetation and/or reducing conservation values. The benefits to conservation should be greater than the disturbance associated with thinning.

Provision of habitat

- p) Installation of habitat boxes for native fauna in strategic locations where suitable hollows for native fauna are limited or absent. Locations and number to be determined as per the Ashton Coal Flora and Fauna Management Plan and recommendations made in regular Fauna monitoring programs in consultation with OEH.

Cultural heritage

- q) Recording and management of any newly identified Aboriginal objects, as per the Ashton Coal Archaeology and Cultural Heritage Plan.

Visitation and research

- r) Visitation, research and community use at a level that does not adversely impact on the conservation or Aboriginal heritage values of the area. Research projects will be discussed with OEH.
- s) Visitation, research and community use by the Aboriginal Community as outlined in the Ashton Coal Archaeology and Cultural Heritage Plan.

Developments

- t) Carrying out developments as described in Clause 2.3 of the Agreement, and maintaining developments (including existing management and access roads) with the following conditions:
 - As a priority, the developments should not impact on cultural heritage. The Owner should be aware that any developments which impact on cultural heritage will require a Section 90 consent under the *National Parks and Wildlife Act 1974*.
 - The width of roads and trails will be a maximum of 4 metres wide roadway with 2 metres width for vegetation clearance on each side.
 - Clear a corridor not greater than 3 metres wide during construction or for maintenance for the installation of fences or other agreed rural structures.
 - Construct and maintain fences where required to ensure they are stock proof but will not impede the movement of, or be a danger to, native fauna.
 - Construct replacement access roads using recommendations for construction and maintenance to be determined by the Owner in consultation with the OEH.
 - Remove fallen timber and any other obstructions to maintain access.
 - Where clearing is necessary, undertake all works in a manner that minimises disturbance to soil and hydrological characteristics and is in accordance with any recommendations made in the Ashton Coal Archaeology and Cultural Heritage Plan or any other relevant Ashton Coal Environmental Management Plan as listed in 1 E.
 - Remove old internal fences and close unwanted tracks within the conservation area and facilitate restoration of native vegetation by allowing natural regeneration.

Monitoring

- u) Annexure B contains dated aerial photographs/maps showing the location of the conservation area, the conservation values and photo-points. Photographs have been taken at these photo points at the time of entering the agreement. This provides baseline information and data for ongoing monitoring and adaptive management of the conservation area.
- v) Photographs at the identified photo-points will be taken from time to time for the purposes of ongoing monitoring of the conservation values. This will be carried out in consultation with OEH. The process can include the specific monitoring as described in the Ashton Coal Flora and Fauna Management Plan (White Mining Limited 2003a).
- w) The Owner will as part of the approval issued by the NSW Department of Planning for Development Application No. 309-11-2001-i on the 11 October 2002 conduct regular environmental monitoring and complete Annual

Environmental Monitoring Reports for the mine site. Monitoring of the cultural heritage and biodiversity values of the conservation area will be included in but not limited to these reports. This will form the basis for decisions about ongoing management actions. A copy of relevant monitoring reports will be forwarded to OEH.

ITEM 2:

The landholders shall not undertake, consent to or permit (unless specified in Item 1 of Annexure C or with prior written consent of the Director-General)

- a) the sowing or planting of trees, grasses or other plants in the conservation area;
- b) the introduction of any non-indigenous plants or non-indigenous fauna into the conservation area;
- c) the entry of domestic animals including pets and domestic livestock in the conservation area;
- d) the use or application of fertiliser or pesticides in the conservation area;
- e) the use of trail bikes, four-wheel drive vehicles or any other vehicle in the conservation area off any formed road;
- f) any works in the conservation area, especially any revegetation work and developments, which have the potential to impact on any cultural features;
- g) the removal of any biological or inorganic component of the conservation area; and
- h) any works which will adversely affect the natural flows and bodies of water apart from those works outlined in Item 1 clause 2.3.5 or approved mining operations.

APPENDIX F – AHIP #1131017 LW 1-4 AREA EASTERN PANELS

APPENDIX G – AHIP #1130976 LW 5-8 AREA - WESTERN PANELS