



Longwalls 205 to 208 Heritage Management Plan Addendum

October 2020



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1 INTRODUCTION AND SCOPE

This Addendum references the relevant sections of the currently approved Heritage Management Plan (HMP) to ensure the requirements of the Extraction Plan are satisfied. Due to the mine layout a standalone document has not been prepared as the impacts associated with the Extraction Plan are addressed in the existing site wide management plans.

2 PREDICTED IMPACTS

This Heritage Management Plan - Addendum addresses potential subsidence impacts to Aboriginal and Non-Aboriginal heritage from underground mining (secondary extraction) of LW 205 to 208 in the ULLD Seam only.

2.1 PREDICTED SUBSIDENCE

Section 4 of the Extraction Plan Main Text provides a detailed description of predicted subsidence impacts. In summary, SCT (2020) predicts that:

- incremental subsidence will range from 2.2 metres (m) to 2.8 m;
- cumulative subsidence will range from 3.1 m to 5.8 m;
- incremental tilts will range from 33 millimetres per metre (mm/m) to 56 mm/m and from 73 mm/m to 106 mm/m on stacked edges;
- cumulative tilts are predicted to range from 44 mm/m to 94 mm/m, and from 103 mm/m to 219 mm/m on stacked edges;
- incremental strains are predicted to range from 21 mm/m to 30 mm/m and from 37 mm/m to 53 mm/m on stacked edges; and
- cumulative strains are predicted to range from 22 mm/m to 47 mm/m and from 52 mm/m to 110 mm/m on stacked edges.

The maximum values of cumulative vertical subsidence forecast for the Longwalls 205 to 208 Extraction Plan are consistent with forecasts in previous assessments for approval modification or for extraction plans (SCT, 2020). The values of tilt and strain forecast for Longwalls 205 to 208 are consistent with those forecast for two and three seams of mining in DA 309-11-2001i (MOD6) for the *Bowmans Creek Diversion Modification Environmental Assessment* (EA) (Evans and Peck, 2009).

SCT (2020) concluded that, in general, the subsidence impacts from the forecast subsidence effects are expected to be similar in nature and magnitude to those forecast for the mining of Longwalls 105 to 107 in the Upper Liddell Seam. Similar management strategies to those used for Longwalls 105 to 107 and Longwalls 201 to 204 are expected to be effective to mitigate and remediate subsidence impacts and environmental consequences from the planned mining of Longwalls 205 to 208 (SCT, 2020).

2.2 PREDICTED IMPACTS TO ABORIGINAL HERITAGE

The majority of Aboriginal archaeological sites located within the Longwalls 205 to 208 subsidence area have been subject to management measures resulting from longwall mining of the previous two seams; Pikes Gully and Upper Liddell (LW105 and LW106A) and associated activities (Insite Heritage, 2020). Insite Heritage (2020) lists the known archaeological sites which are likely to require salvage works prior to implementation of subsidence remediation measures as a result of mining Longwalls 205 to 208. Of the 25 sites identified:

- Seven have been salvaged previously.
- One was predicted to have a medium impact from subsidence (subsidence will be experienced but only a moderate chance that impacts requiring remediation will occur).
- Five were predicted to have a medium-high impact from subsidence (subsidence will be experienced and there is a moderate to high chance that impacts requiring remediation will occur).
- Ten were predicted to have a high impact from subsidence (definite potential for cracking, ponding or surface erosion to occur that will require remediation).

The remaining two sites are identified as having particular high scientific and cultural significance in proximity to the LW 205-208 project area:

1. Waterhole Site (37-3-0500).
2. Oxbow Site (37-3-501, 37-3-502, 37-3-503, 37-3-0511 & 37-3-0006).

The Waterhole Site is to be retained with no disturbance from underground mining activities. The Oxbow Site is largely contained within the footprint of Longwall 4, and is located outside the Longwalls 205 to 208 subsidence area.

Additionally, in 2011, two areas of subsurface archaeological deposits containing a high concentration of artefacts associated with the Bowman's Creek Terrace (37-3-0496) site were identified during the course of archaeological salvage works undertaken for the Bowman's Creek Diversion project (Insite Heritage, 2016a and 2016b). Due to the concentration of artefacts recovered from these locations, the proposed impacts, a temporary Haul Road, was diverted around these locations to allow for site conservation. Both locations lie outside of the predicted area of subsidence cracking and ponding for LW207A and LW208 as presented in SCT Operations (2020).

Should predicted impacts at these locations change during the course of mining activities, archaeological salvage works will be required to be undertaken in accordance with the conditions of AHIP#1130976 and the HMP.

2.3 PREDICTED IMPACTS TO ARCHAEOLOGICAL HERITAGE

Two sites of historic occupation have been identified within the Ashton Coal Project that are within the Longwalls 205-208 subsidence area. These sites include Former Dairy Sheds relating to earlier agricultural history and the Shepherd's Hut and Archaeological Site.

The dairy shed structure is a timber frame weatherboard clad shed on a concrete slab with a corrugated iron gable roof and adjacent corrugated iron water tanks. 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 (2010) concluded that these items have nil to low significance and no research potential. The site is to be secured and managed as per the Public Safety Management Plan and Built Features Management Plan to prevent injury during/following subsidence. A photographic recording of the structures was undertaken by Insite Heritage in 2012.

The Shepherd's Hut 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 NSW Heritage Division to allow for subsurface testing of the site in order to determine an accurate site boundary for future management. These investigations are required to be undertaken prior to further subsidence under the structures. There is no date of expiration of the permit, however the Heritage Division will be contacted prior to commencement of test investigation works to ascertain the validity of the Section 139 permit. The test investigation works will identify if further excavation works are required to be made under a Section 140 permit in order to allow for the salvage of any identified archaeological features in accordance with the *Heritage Act 1977* (as amended). Any additional archaeological salvage works will also need to be undertaken prior to the commencement of mining works in Longwall 208.

3 HERITAGE MANAGEMENT GAP ANALYSIS

The following gap analysis demonstrates where the requirements of the Extraction Plan Guidelines are covered within the existing approved HMP.

Table 1 has been completed rather than repeating information in a separate Management Plan document.

Table 1 Heritage Management Plan – Gap Analysis

Aspect	Section/Comment
Overview of all landscape features, heritage sites, environmental values, built features or other values to be managed under the component plan;	ACOL HMP Section 4. Insite Heritage Aboriginal Heritage Assessment Section 2.
Setting out all performance measures included in the development consent relevant to the features or values to be managed under the component plan;	ACOL HMP Section 3.2.
Setting out clear objectives to ensure the delivery of the performance measures and all other relevant statutory requirements (including relevant safety legislation);	ACOL HMP Section 3.1.
Proposing performance indicators to establish compliance with these performance measures and statutory requirements;	ACOL HMP Section 3.2.
Describing the landscape features, heritage sites and environmental values to be managed under the component plan, and their significance. It should be noted that a full description of such features, sites and values would commonly have been provided and considered in a recent environmental impact assessment. Consequently, this section can be relatively brief, and focus on the presentation of appropriate figures and/or graphical plans;	ACOL HMP Section 4. Insite Heritage Aboriginal Heritage Assessment Section 2.
Fully describing all currently-predicted subsidence impacts and environmental consequences relevant to the features, sites and values to be managed under the component plan;	This document Section 2. Insite Heritage Aboriginal Heritage Assessment Section 3.
Fully describing all measures planned to remediate these impacts and/or consequences, including any measures proposed to ensure that impacts and/or consequences comply with performance measures and/or the Applicant's commitments;	ACOL HMP Section 6.
Describing the existing baseline monitoring network and the current baseline monitoring results, including pre-subsidence photographic surveys of key landscape features and key heritage sites which may be subject to significant subsidence impacts (such as significant watercourses, swamps and Aboriginal heritage sites);	ACOL HMP Section 4. Insite Heritage Aboriginal Heritage Assessment Section 2.0.
Fully describing the proposed monitoring of subsidence impacts and environmental consequences;	ACOL HMP Section 5 and Appendix C.

Aspect	Section/Comment
Describing the proposed monitoring of the success of remediation measures following implementation;	ACOL HMP Appendix C.
Fully describing adaptive management proposed to avoid repetition of unpredicted subsidence impacts and/or environmental consequences;	ACOL HMP Section 6.1.
Fully describing contingency plans proposed to prevent, mitigate or remediate subsidence impacts and/or environmental consequences which Substantially exceed predictions or which exceed performance measures;	ACOL HMP Section 6.1.
Listing responsibilities for implementation of the plan; and	ACOL HMP Table 3.
An attached Trigger, Action, Response Plan (effectively a tabular summary of most of the above).	ACOL HMP Figure 2 and Table 3.

4 REFERENCES

HLA Envirosiences (2001) *Environmental Impact Statement – Ashton Coal Project*. Project reference U842.

Insite Heritage Pty Ltd (2016a) *Ashton Coal Operations Ltd Aboriginal Heritage Subsidence Impact Monitoring Program Report*.

Insite Heritage Pty Ltd (2016b) *Aboriginal Cultural Heritage Assessment Longwalls 201-204 Extraction Plan*. Unpublished report to Ashton Coal Operations Ltd.

Insite Heritage (2020) *Archaeological Assessment Longwalls 205-208 Extraction Plan Ashton Coal Project Camberwell NSW*.

Strata Control Technology (2020) *Subsidence Assessment for the Extraction Plan for Longwalls 205 – 208 in the Upper Lower Liddell Seam*, Report Number ASH4927.

Umwelt Environmental Consultants Pty Ltd (2010) *Ravensworth Operations Project, Historical Heritage Assessment*. Unpublished report prepared for Xstrata.