



APPIN AREA 7
LONGWALL 706 END OF
PANEL REPORT

ATTACHMENT F –
CULTURAL HERITAGE
REPORT



16 February 2016

Attention: Mr Gary Brassington
Manager Approvals
Energy and Engineering – South32 Illawarra Coal

South32 Illawarra Coal
Lvl 3 Enterprise, 1 Innovation Campus Squires Way
NORTH WOLLONGONG NSW 2500

Via email: kim.vaux@south32.net

Dear Gary

Re: ABORIGINAL AND EUROPEAN HERITAGE ASSESSMENT FOR APPIN COLLIERY - LONGWALL 706 END OF PANEL REPORT

As requested, Niche Environment and Heritage (Niche) has undertaken a review of the predicted and observed impacts resulting from the extraction of Longwall 706 at Appin Colliery on Aboriginal and European Heritage values.

This assessment has been completed as a desktop assessment due to the nature of the archaeological site types present within the limit of subsidence of Longwall 706. Niche has relied on information supplied by Illawarra Coal and/ or its specialist consultants reports for the same or earlier projects.

Please do not hesitate to contact me should you require any further information.

Yours sincerely



Renée Regal

Archaeologist

Background and introduction

Niche was commissioned by South 32 Illawarra Coal (IC) to conduct an End of Panel (EoP) assessment of the European and Aboriginal cultural heritage and archaeological sites within the limit of subsidence of Longwall 706 at Appin Colliery.

Archaeological surveys were initially conducted by Biosis Research in 2008; as part of the *Archaeological and Cultural Heritage Impact Assessment of Proposed Longwalls 705 to 710, West Appin, NSW*.

Nineteen registered Aboriginal archaeological sites are located within the Longwalls 705 to 710 Subsidence Management Plan (SMP) area. Seven of these sites are located in proximity to Longwall 706.

The remaining twelve Aboriginal archaeological sites within the SMP area were assessed as having negligible potential to be impacted by subsidence caused by the extraction of Longwall 706.

Those sites within close proximity to Longwall 706 are identified in Table 1 and have been considered further in this assessment (Figure 1).

No historical sites are located above Longwall 706. The Mountbatten group of historical sites is located to the southwest of Longwall 706 within the SMP area. The MSEC predication for this group was for negligible subsidence to occur and therefore they are not referred to further.

Table 1: Registered Aboriginal archaeological sites within the subsidence zone of Longwall 706

AHIMS site number	Site name	Site description
52-2-3845	Morton Park Rd 5	Open Camp Site
52-2-2096	Nepean River 7	Scarred Tree
52-2-3842	Morton Park Rd 2	Open Camp Site
52-2-1214	Unit D ground axe Paddock; Didicoolum	Open Camp Site
52-2-3844	Morton Park Rd 4	Isolated Artefact
52-2-3846	Mountbatten 2	Isolated Artefact
52-2-3674	Mountbatten 1	Isolated Artefact

Subsidence Monitoring Results Summary (MSEC)

The End of Panel Subsidence Report for Longwall 706, prepared by MSEC (MSEC808), reports recorded subsidence parameters resulting from the extraction of Longwall 706.

Subsidence has the potential to impact cultural heritage values and Table 2 outlines the observed impacts of mining in areas that may contain items of cultural heritage significance. Overall, the recorded impacts on natural features resulting from the extraction of Longwall 706 were similar to or less than the MSEC assessments (MSEC808: 33). Specifically in relation to matters that may affect Aboriginal or European heritage values the following conclusion can be drawn from the MSEC report:

- In relation to the Nepean River, measured subsidence parameters (incremental and total subsidence movements; incremental and total upsidence and closure) are similar to or less than the predicted maximum.

Table 2: Observed impacts from Longwall 706 on landscape features due to subsidence and their correlation to potential cultural heritage impacts

Subsidence monitoring areas with potential to impact heritage values	Correlation to cultural heritage values	Heritage impacts due to Longwall 706
Cliff instabilities	Cultural heritage values including sites such as overhangs containing art or deposit are located within the cliff line landscape feature. There are no such site types that occur within the limit of subsidence for Longwall 706.	No observed impacts.
Slope slippage	There were no archaeological sites located within steep slope landforms.	No observed impacts.
Fracturing	Minor fracturing could occur in the bed of the Nepean River. There are no registered archaeological sites located within the Nepean River bed that also fall within limit of subsidence for Longwall 706.	No fracturing observed, however, the flooded valley and sediment profile limits observations of the river bed.

Environmental monitoring

The monitoring program for Longwall 706 undertaken by the IC Environmental Field Team is detailed in Table 3 below.

Table 3: Environmental monitoring

SMP Commitments	Monitoring to date	Future monitoring
Monthly observational monitoring of riparian vegetation, cliffs and water quality monitoring	<p>The monitoring program for Longwall 706 undertaken by the IC Environmental Field Team involved monthly visual inspections that was increased to weekly inspections of the Nepean River valley during critical periods, including (South 32 2016):</p> <ul style="list-style-type: none"> • Observations • Water level measurements • Impact monitoring (ie. Strata gas and iron staining) • Cliff line and steep slope measurements • Water quality monitoring. 	Ongoing monitoring by the IC Environmental Field Team will occur.
EoP Cultural heritage assessment	No detailed archaeological field survey was required due to longwall mining subsidence movements at	No future monitoring is required at these sites.

heritage sites being predicted as negligible.

The IC Environmental Field Team assessment has reported minor impacts from the ongoing monitoring of environmental values within the limit of influence of Longwall 706. All observed impacts were within predicted and approved levels. Observations made by the IC Environmental Field Team (South 32 2016) and relevant to heritage sites include:

- No cliff falls or slope instability was observed.
- No soil cracking has occurred within close proximity to any of the registered Aboriginal sites.

Assessment of impacts

There are three Open Camp Sites (52-2-3845, 52-2-3842 and 52-2-1214), three Isolated Artefact sites (52-2-3844, 52-2-3846 and 52-2-3674) and one Scarred Tree (52-2-2096) and no European heritage sites located within close proximity to Longwall 706.

Impacts associated with Longwall 706 have been within predictions of the initial impact assessment (Biosis Research 2008).

The Open Camp Sites, Isolated Artefacts and Scarred Tree do not require further inspection as impacts from longwall mining on these types of sites were predicted to be negligible.

Conclusion

Detailed assessment of the afore mentioned Aboriginal sites was not required as the subsidence predictions for Open Camp Sites, Isolated Artefacts and Scarred trees considers a negligible impact on cultural heritage values. This assessment is based on the results of subsidence monitoring reported by MSEC (MSEC808) and results of monitoring carried out by the Illawarra Coal Environmental Field Team.

References

Biosis Research (2009a) *Appin Area 7: Longwalls 701-704: Cultural Heritage Management Plan and Monitoring Methodology*. A report to BHP Billiton Illawarra Coal.

Biosis Research (2008) *Appin Area 7 Longwall 701 End of Panel Report: Cultural Heritage*. A report prepared for BHP Billiton Illawarra Coal.

Biosis Research (2009b) *Appin Area 7 Longwall 702 End of Panel Report: Cultural Heritage*. A report prepared for BHP Billiton Illawarra Coal.

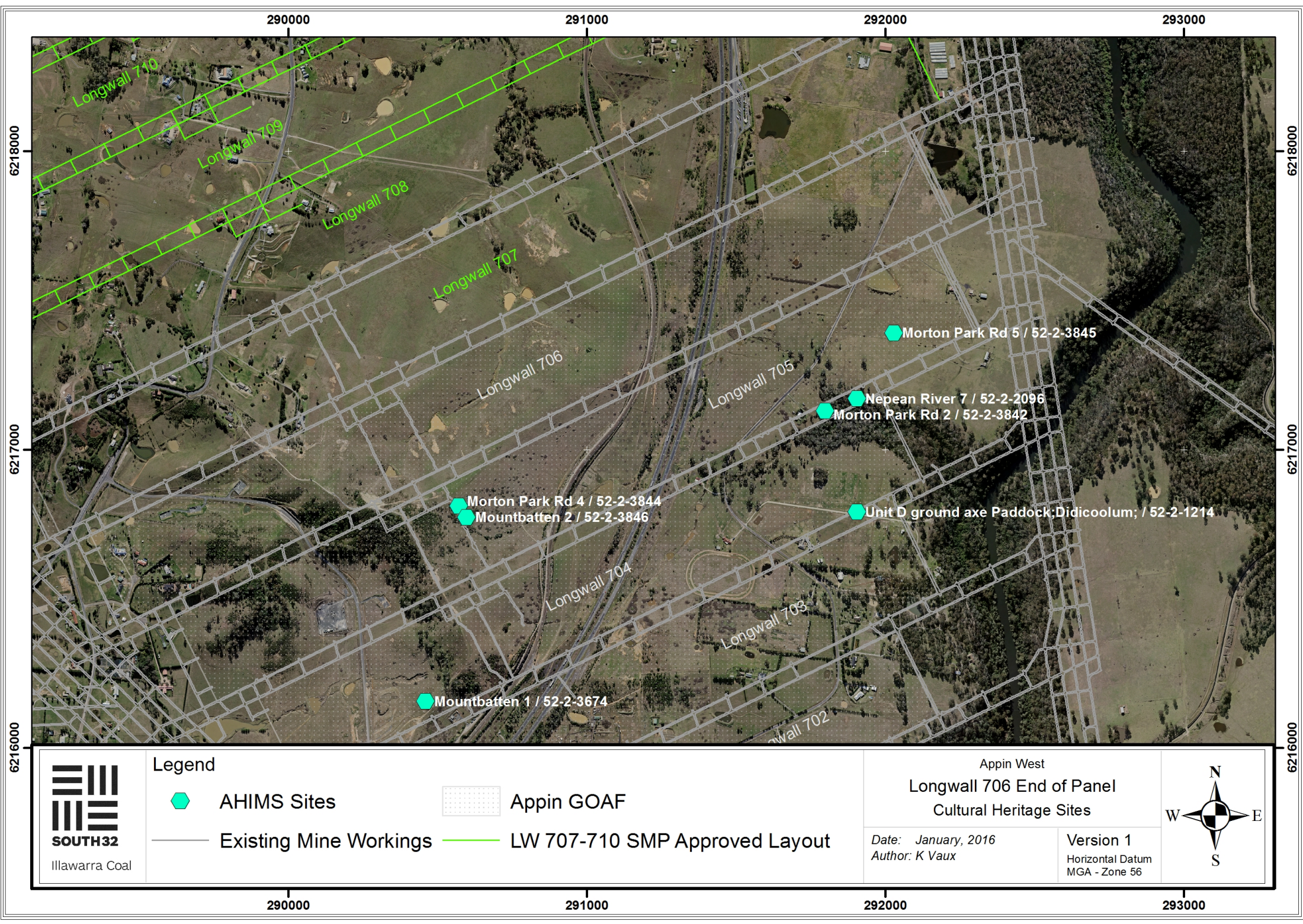
Biosis Research (2011) *Appin Area 7 Longwall 703 End of Panel Report: Cultural Heritage*. An unpublished report prepared for BHP Billiton Illawarra Coal.

MSEC (2016) South 32: Illawarra Coal Appin Colliery- Longwall 706 End of Panel subsidence monitoring report for Appin Longwall 706 REV1.

Niche (2012). *Appin Area 7 Longwall 704 European and Aboriginal Heritage Assessment End of Panel Report*. An unpublished report for BHP Billiton Illawarra Coal.

Niche (2014) *Appin Area 7 Longwall 705 European and Aboriginal Heritage Assessment End of Panel Report*. An unpublished report for BHP Billiton Illawarra Coal.

South 32 (2016) *Appin Area 7: Longwall 706 End of Panel Landscape Report*. An unpublished report for South 32 Illawarra Coal.



Illawarra Coal

Legend



AHIMS Sites



Appin GOAF



Existing Mine Workings

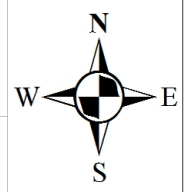


LW 707-710 SMP Approved Layout

Appin West
 Longwall 706 End of Panel
 Cultural Heritage Sites

Date: January, 2016
 Author: K Vaux

Version 1
 Horizontal Datum
 MGA - Zone 56



290000

291000

292000

293000

6218000

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