

Aboriginal Heritage

A number of Aboriginal heritage sites have been identified within 600 metres (m) of Longwalls 20-22 and Longwalls 23-27 secondary extraction and are shown on Figure 1.

The first round of monitoring (Round 1) for Longwalls 20-22 was conducted in January and March 2012 and included all Aboriginal heritage sites located within the 35 degree (°) Angle of Draw for Longwall 20. The Round 1 monitoring found evidence of two sites, site FRC 281 and FRC 284, as having changes due to mining induced subsidence from Longwall 20.

The second round of monitoring (Round 2) was conducted in July/August 2013 and included all Aboriginal heritage sites located within the 35° Angle of Draw for Longwalls 20 and 21. The Round 2 monitoring found evidence of two sites, FRC 15 and FRC 284, as having changes due to mine subsidence from Longwall 21. No change in the shelter condition was observed at site FRC 281 since Round 1 monitoring. A previously unrecorded site, a shelter with art (5.5 m x 4 m x 2 m), was also identified during the Round 2 monitoring survey (MET 4) (Figure 1).

The third round of monitoring (Round 3) was conducted in November 2014 and included all Aboriginal heritage sites located within the 35° Angle of Draw for Longwalls 21 and 22 and sites at which Round 2 monitoring indicated change due to mining induced subsidence (Table 1). Three Aboriginal heritage sites were observed during the Round 3 survey to have changes attributable to mine subsidence: sites FRC 283, MET 1 and FRC 15 (Figure 1 and Table 1).

Specific details that are recorded during the monitoring program include:

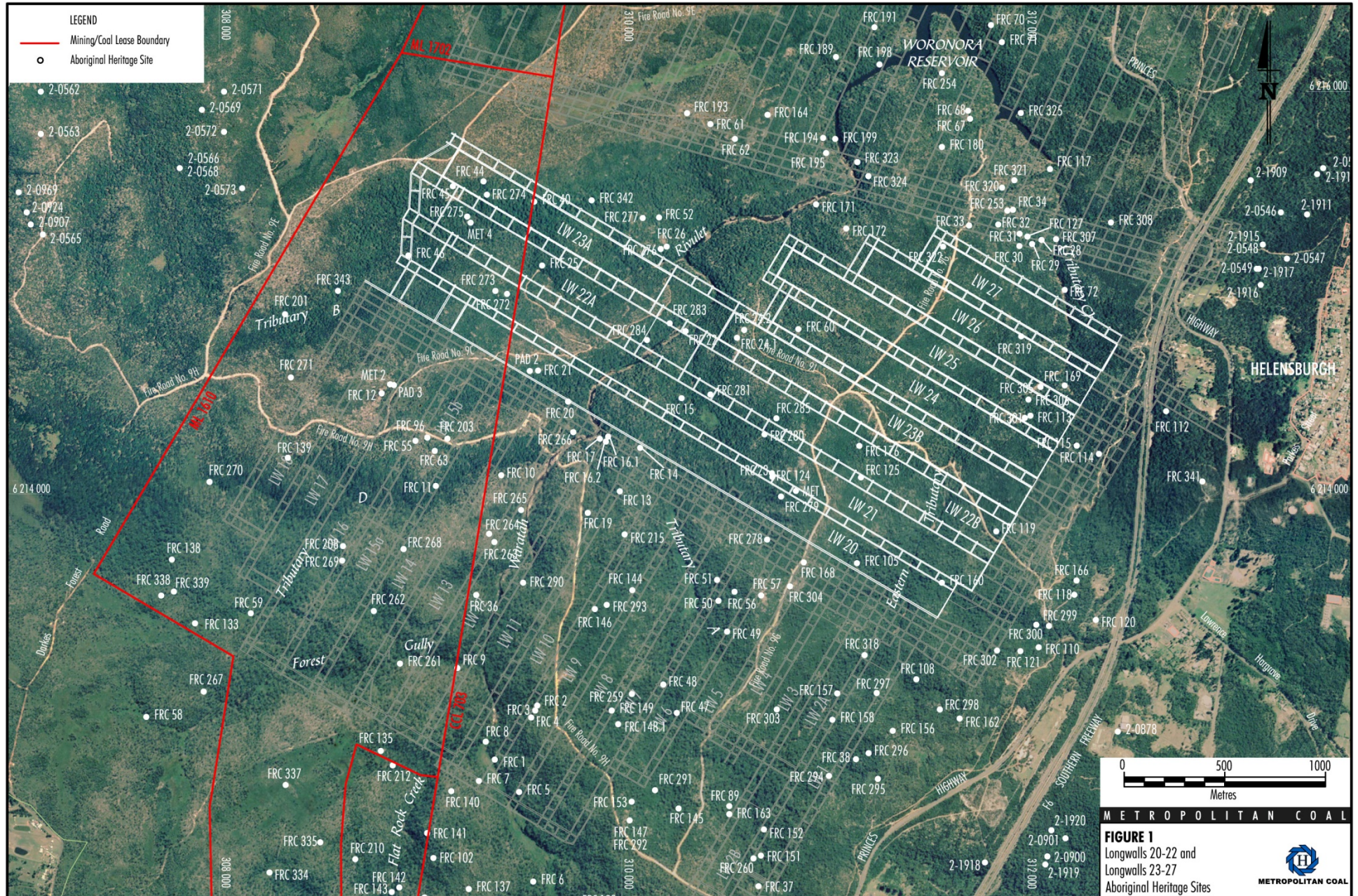
- the date of monitoring;
- the location of longwall extraction (i.e. the longwall chainage) at the time of monitoring;
- comparison of the physical characteristics of the site at the time of monitoring against the previous monitoring and the baseline record (detail/quantify any changes observed);
- inspections of rock surfaces for cracking and/or exfoliation and/or blockfall since the previous monitoring and against the baseline record;
- inspection of art motifs for damage or deterioration since the previous monitoring and against the baseline record;

- identification of any natural deterioration processes (e.g. fire, vegetation growth and water seepage);
- detailed description and quantification of any changes noted during the completion of the above tasks;
- a photographic record of any changes noted during monitoring (taken at the same position and distance as baseline record to allow comparison over time);
- whether any follow-up actions are required to be considered (e.g. implementation of management or initiation of the Contingency Plan, etc.); and
- any other relevant information.

Table 1
Aboriginal Heritage Site Monitoring – Round 3

Aboriginal Heritage Site			
FRC 14	FRC 160	PAD 2	FRC 24.1
FRC 15	FRC 168	FRC 22	FRC 24.2
FRC 16.1	FRC 273	FRC 25	FRC 26
FRC 16.2	FRC 272	FRC 45	FRC 40
FRC 17	FRC 278	FRC 46	FRC 44
FRC 20	FRC 279	FRC 119	FRC 60
FRC 21	FRC 280	FRC 176	FRC 276
FRC 105	FRC 281	FRC 274	MET 4
FRC 23	FRC 284	FRC 275	
FRC 124	FRC 285	FRC 283	
FRC 125	MET 1	FRC 302	

METROPOLITAN COAL - ENVIRONMENTAL MONITORING SUMMARY



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To date, five sites have been observed to have changes attributable to mine subsidence, namely sites FRC 15, FRC 284, FRC 281, FRC 283 and MET 1:

- At site FRC 15 (an overhang with artefacts and deposit), the vertical crack noted on the back wall during Round 1 monitoring was observed to have increased in width and shifted laterally during Round 2 monitoring. During the Round 3 survey, the previously identified fine cracking along the margins of the larger fissure were observed to have increased and at the southern end of the shelter there was an increased number of fine cracks.
- At site FRC 284 (an overhang with artefacts and deposit), displacement of a small section of exfoliated shelter surface associated with a fractured corner of the shelter was observed during the Round 2 monitoring. This change is consistent with the types and scale of subsidence effects (cracking, displacement and slumping/falling of exfoliated pieces) noted during Round 1 monitoring. No change in the shelter condition at site FRC 284 was identified during Round 3 monitoring, suggesting the site has stabilised.
- At site FRC 281 (an overhang with art, artefacts and deposit), the changes due to mine subsidence recorded during Round 1 monitoring (multiple cracks ranging from large, medium and small recorded in the shelter wall either running through or next to the motifs) were observed at the site during the Round 2 and Round 3 surveys. However, there had been no change in the shelter condition since Round 1 monitoring, suggesting the site has stabilised.
- Site FRC 283 (an overhang with art) was noted as having some increase in joint movement along the back wall bedding planes of the shelter in the Round 3 survey. As a result of natural processes, water seepage through the sandstone has formed a mineral accretion (silica) over the art panel.
- Site MET 1 (an overhang with art, artefacts and deposit) was also identified as having vertical cracking along the back wall of the shelter as well as some small cracking in the shelter in the Round 3 survey.

During the Round 3 survey site MET 4 was subject to archaeological and cultural significance assessment in consultation with the Aboriginal representatives. Site MET 4 was determined to be of low significance however, all archaeological sites are considered to have high cultural value to Aboriginal people.

The monitoring results were used to assess the Project against the Aboriginal heritage subsidence impact performance measure:

Less than 10% of Aboriginal heritage sites within the mining area are affected by subsidence impacts.

The Aboriginal heritage subsidence impact performance measure was not exceeded during the reporting period.

The first round of monitoring for Longwalls 23-27 (Round 1) will include all Aboriginal heritage sites located within the 35° Angle of Draw for Longwalls 22 and 23 (i.e. Longwalls 23A and 23B) and any sites at which the Metropolitan Coal Longwalls 20-22 Heritage Management Plan monitoring program indicates continued change due to mining induced subsidence. Round 1 will be undertaken between three to six months following the completion of Longwall 23B.

