



Mount Thorley Warkworth Aboriginal Heritage Management Plan 2019 Compliance Audit Inspection

Report prepared for
Yancoal Australia, Mount Thorley Warkworth



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Joel Deacon

ARROW
HERITAGE SOLUTIONS



Introduction

Yancoal Australia (Yancoal) manage the Mount Thorley Warkworth (MTW) mining complex located in the Hunter Valley, approximately 8km south-west of Singleton. Approval for the continuation & expansion of the mine was granted on 26th November 2015 under two separate project approvals: the Warkworth Continuation Project Approval (SSD-6464) & the Mount Thorley Operations Project Approval (SSD-6465).

Pursuant to Condition 43 of the Warkworth Continuation Project Approval, & Condition 28 of the Mount Thorley Operations Project Approval, Yancoal developed a MTW Aboriginal Heritage Management Plan (AHMP) to cover both mining operations, which was originally approved by the Department of Planning & Environment on 29th May 2017. This AHMP sets out the principles, processes & measures through which Aboriginal cultural heritage will be managed within the AHMP Area. This includes a commitment (Provision 24) to conduct annual AHMP compliance inspections with members of the Aboriginal community, through the auspices of the MTW Aboriginal Cultural Heritage Working Group (CHWG), throughout the life of operations. The purpose of the compliance inspections is to afford the Aboriginal stakeholders & MTW:

- the opportunity to visit mine operations and mine areas to inspect the operational compliance with AHMP provisions & Ground Disturbance Permit procedures;
- to inspect and monitor the condition and management of various sites over time; and
- to review the effectiveness and performance of AHMP provisions in the management of cultural heritage at the mine.

These compliance inspections are conducted at least annually. Due to the number of Aboriginal cultural heritage sites within the AHMP area & the time foreseen to inspect all sites, it is not feasible to inspect every site during the same field trip. Therefore, a regular, rolling program of compliance inspections has been implemented that will visit all sites at each location periodically. A record will be kept of each compliance inspection against each Aboriginal cultural heritage site, so that it can be ensured that each site is inspected regularly.

Proposed Activity and Project Brief

The compliance inspections involved the following elements:

- A number of Aboriginal cultural heritage (ACH) sites were visited and AHMP compliance inspection proformas were completed for each noting the outcomes of the inspections including evidence of compliance and non-compliance with AHMP provisions, recommendations on modifications and improvements to management provisions, recommendations on corrective actions, and other comments associated with AHMP provisions;
- A photographic record of the inspected ACH sites; and
- Specific inspection of a recent new find to see an example of the implementation of AHMP procedures.



Timing & Personnel

The 2019 MTW AHMP compliance inspection program was conducted on Monday 2nd and Tuesday 3rd March 2020. The personnel involved in these inspections were:

Name	Position/Organisation
Joel Deacon	Archaeologist, Arrow Heritage Solutions
Wade Covey	Environment and Community Coordinator, MTW
Maree Waugh	CHWG representative
Katrina Cavanagh	CHWG representative

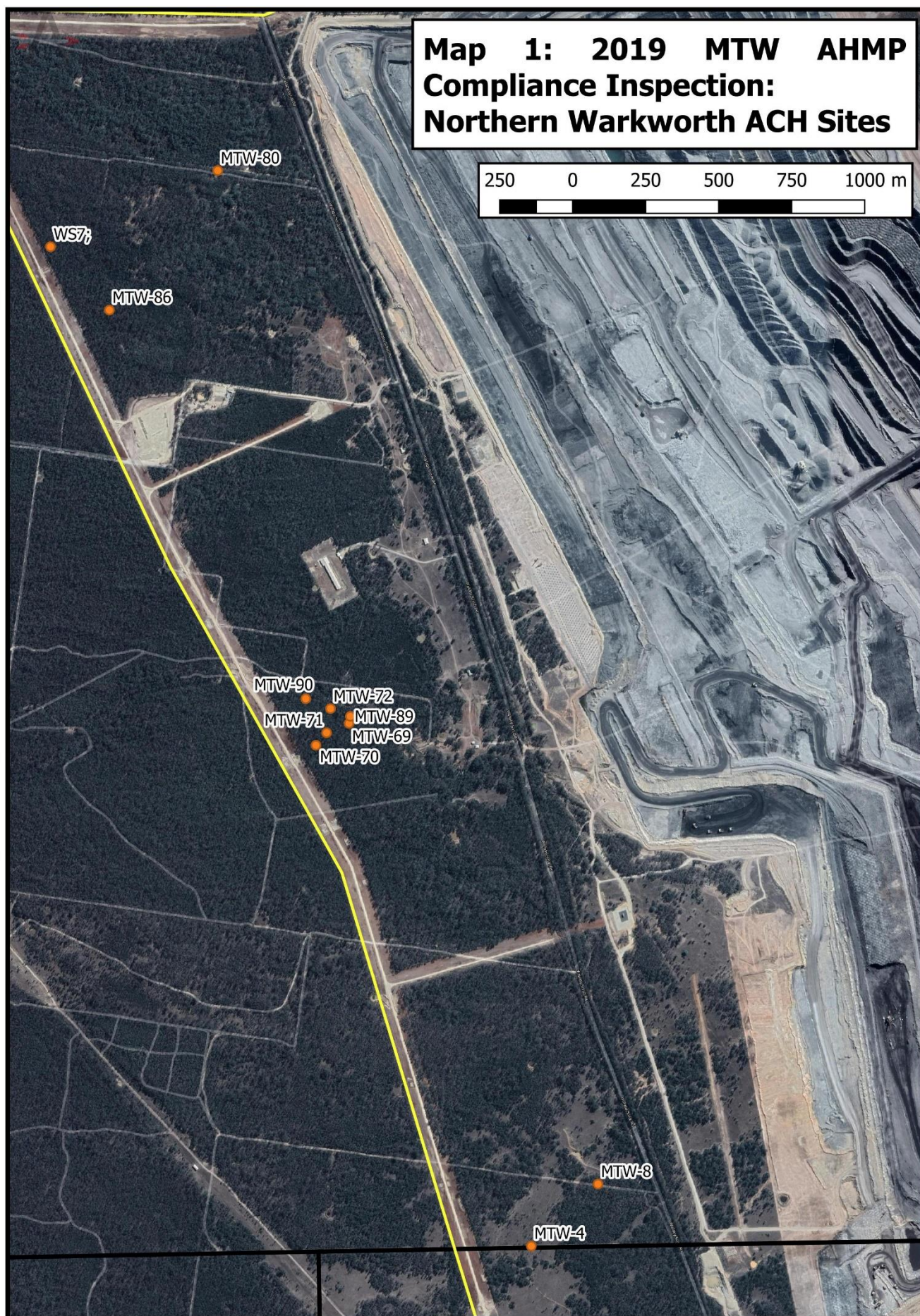
Arrow Heritage Solutions were engaged as independent heritage consultants to conduct the AHMP compliance inspections, and Joel Deacon acted as technical advisor and author of this report. MTW's Environment and Communities Co-ordinator Wade Covey arranged the compliance inspection programs and escorted the field team. Representatives of the Wattaka Cultural Consultants and Wallangan participated in the field work program.

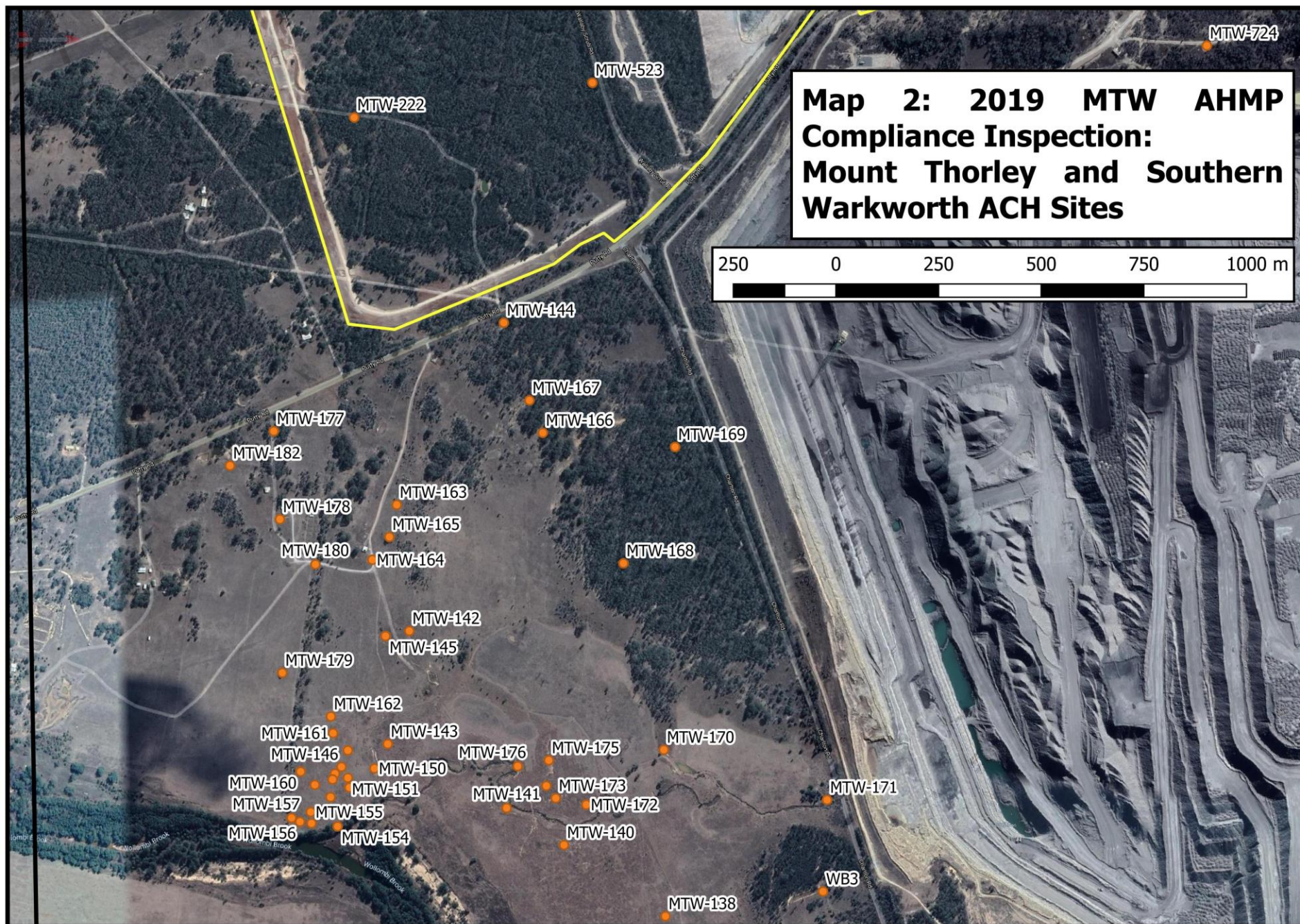
MTW AHMP Compliance Inspection

A total of 58 Aboriginal heritage sites were inspected across both the Warkworth and the Mount Thorley mining sites (see Maps 1 and 2). The area at Warkworth was selected for inspection as this is adjacent to current development areas and is being frequently accessed for a variety of activities. The sites inspected at Mount Thorley are located within an environmental offset area south of Putty Rd and west of Charlton Rd and, although generally protected from any possible ground disturbing activities, do have the potential to be affected by erosion and other environmental factors

Results

Table 1 summarises the results of the 2019 MTW compliance inspection and summarises the information recorded on the individual proforma inspection sheets. Using a mobile mapper pre-loaded with the GIS co-ordinates for each Aboriginal heritage site, the field team travelled to each location and attempted to re-locate each site. Sometimes this was not possible due to poor ground surface visibility, a result which in itself was not overly significant as long as it was determined that the vicinity had not been inadvertently disturbed. The presence and condition of barricading or fencing was noted, as well as the presence and nature of various potential site disturbing factors (e.g. erosion, animal, human). General observations of each site were made if necessary, and, based on information provided for all the above factors, management recommendations were discussed and agreed by the field team for each site.







Site Name	Date	Mine	Site re-identified?	Site intact?	Site fenced/barricaded?	Fencing/barricading intact?	Natural erosion	Livestock damage	Human disturbance	Animal disturbance	Pests & weeds	General observations	Management recommendations
MTW-138	3/3/20	MTO	Yes	Yes	Yes	No	No	No	No	No	No	-	Rebarricade and add signage
MTW-140	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-141	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-142	2/3/20	MTO	Yes	Yes	Yes	No	Yes	No	No	No	No	Artefacts noted 10m south of current barricading	Rebarricade and extend extent by 10m south, add signage
MTW-143	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-144	2/3/20	MTO	Yes	Yes	Yes	No	No	No	No	No	No	-	Install new signage
MTW-145	2/3/20	MTO	Yes	Yes	Yes	No	Yes	No	No	No	No	Artefacts noted 10m south of current barricading	Rebarricade and extend extent by 10m south, add signage
MTW-146	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-147	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-148	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-149	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-150	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-151	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-152	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-153	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-154	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-155	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-156	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.



Site Name	Date	Mine	Site re-identified?	Site intact?	Site fenced/barricaded?	Fencing/barricading intact?	Natural erosion	Livestock damage	Human disturbance	Animal disturbance	Pests & weeds	General observations	Management recommendations
MTW-157	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-158	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-159	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-160	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-161	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-162	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-163	2/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	-	Add signage
MTW-164	2/3/20	MTO	Yes	Yes	Yes	No	No	No	No	No	No	-	Rebarricade and extend 5m to north, add signage
MTW-165	2/3/20	MTO	Yes	Yes	Yes	No	No	No	No	No	No	-	Rebarricade and add signage
MTW-166	2/3/20	MTO	No	Yes	Yes	Yes	No	No	No	No	No	-	Nil
MTW-167	2/3/20	MTO	No	Yes	Yes	No	No	No	No	No	Ants nest	-	Rebarricade and add signage
MTW-168	2/3/20	MTO	Yes	Yes	Yes	No	No	No	No	No	No	-	Add new sign
MTW-169	3/3/20	MTO	Yes	Yes	Yes	No	No	No	No	No	No	-	Rebarricade and add signage
MTW-170	3/3/20	MTO	Yes	Yes	Yes	No	Some erosion	No	No	No	No	-	Rebarricade and add signage
MTW-171	3/3/20	MTO	No	Yes	Yes	No	On creek bank	No	No	No	No	-	Rebarricade
MTW-172	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-173	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-174	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-175	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.
MTW-176	3/3/20	MTO	No	Yes	Yes	No	No	No	No	No	No	In cluster of sites that was formerly barricaded. Star pickets remain, barricading deteriorated. Within environmental offset.	Consider rebarricading if ground disturbance activities are planned in this area in the future.



Site Name	Date	Mine	Site re-identified?	Site intact?	Site fenced/barricaded?	Fencing/barricading intact?	Natural erosion	Livestock damage	Human disturbance	Animal disturbance	Pests & weeds	General observations	Management recommendations
MTW-177	2/3/20	MTO	No	Yes	Yes	No	No	No	On old track	No	No	-	Rebarricade and add signage
MTW-178	2/3/20	MTO	No	Yes	Yes	No	No	No	Rubbish ditch	No	No	-	Add signage
MTW-179	2/3/20	MTO	Yes	Yes	Yes	No	No	No	No	No	No	-	Rebarricade
MTW-180	2/3/20	MTO	No	Yes	Yes	Yes	No	No	Near track	No	No	-	Add signage
MTW-182	3/3/20	MTO	No	Yes	Yes	Yes	No	No	No	No	No	-	Nil
MTW-222	2/3/20	WML	Yes	Yes	Yes	Yes	No	No	No	No	No	-	Salvage in medium term
MTW-4	2/3/20	WML	No	Yes	Yes	No	No	No	No	No	No	Very low visibility, barricading deteriorated	Re-barricade and add sign in short term; salvage in medium term
MTW-523	2/3/20	WML	Yes	Yes	Yes	Yes	No	No	No	No	No	Fallen scarred tree in very deteriorated state	Relocation to be attempted in consultation with CHWG
MTW-69	2/3/20	WML	No	Yes	No	-	No	No	No	No	No	-	Install barricading and signage in short term; salvage in medium term
MTW-70	2/3/20	WML	Yes	Yes	Yes	Yes	No	No	No	No	No	-	Add signage to barricading, have arborist assess for removal options
MTW-71	2/3/20	WML	Yes	Yes	Yes	Yes	No	No	No	No	No	-	Add signage to barricading in short term; salvage in medium term
MTW-72	2/3/20	WML	Yes	Yes	Yes	No	No	No	Yes – on old track	No	No	-	Install barricading and signage in short term; salvage in medium term
MTW-724	2/3/20	MTO	Yes	Yes	Yes	Yes	No	No	No	No	No	RAPs pleased with operation of AHMP Chance Finds procedure	Enclose barricading in short term; salvage in medium term
MTW-8	2/3/20	WML	Yes	Yes	Yes	Yes	No	No	No	No	No	Scarred tree in very deteriorated state	Rebarricade; Relocation to be attempted in consultation with CHWG
MTW-80	2/3/20	WML	Yes	Yes	Yes	Yes	No	No	No	No	No	Scarred tree	Relocate in consultation with CHWG
MTW-86	2/3/20	WML	No	Yes	Yes	No	No	No	No	No	No	-	Re-barricade and add sign in short term; salvage in medium term
MTW-89	2/3/20	WML	Yes	Yes	No	-	No	No	Yes – on old track	No	No	-	Install barricading and signage in short term; salvage in medium term
MTW-90	2/3/20	WML	No	Yes	No	-	No	No	Yes – on old track	No	No	-	Install barricading and signage in short term; salvage in medium term
WB3	3/3/20	MTO	Yes	Yes	No	-	No	No	No	No	No	Artefact located at 317593e 6385352n	Move site point to co-ordinates
WS7	2/3/20	WML	No	Yes	Yes	Yes	No	No	No	No	No	-	Remove barricading from branches in short term; salvage in medium term

Table 1: Results of 2019 MTW AHMP Compliance Inspection





Aboriginal Site Management Recommendations

Management recommendations were provided for the majority of the Aboriginal heritage sites visited during the 2019 compliance inspection. At some sites, more than one management action was recommended. The nature of these recommendations are described below.

Install or reinstall/repair barricade, wire and/or signage

Sites: MTW-4; 8; 69; 71; 72; 86; 89; 90; 138; 142; 144; 145; 163-5; 167-71; 177-80; WS7

The majority of ACH sites inspected had barricading installed that had deteriorated and required mending or reinstalling. It is recommended that barricading, fencing and signage at these sites be re-installed/repared to prevent inadvertent disturbance.



Example of dilapidated barricading

Consider rebarricading if activity increases in the area

Sites: MTW-140; 141; 143; 146-62; 172-6

There are several sites located south of Putty Rd within an environmental offset area with limited access or activity. These sites had previously been barricaded as two large complexes but this barricading has since deteriorated, although the star pickets remain in place. As these areas are already afforded a high degree of protection by virtue of them being inside the offset area, rebarricading is not necessary at this point in time. However, it is recommended that the star pickets remain in place so that barricading could be reinstalled if activities increase in the area in the future.



Salvage in consultation with CHWG

Sites: MTW-4; 69; 71; 72; 86; 89; 90; 222; 724; WS7

There are a number of sites that are located within future planned disturbance areas, or are already in close proximity to work areas. These sites should be salvaged prior to works in the area to prevent inadvertent disturbance. There were no objections raised to this recommendation by the RAPs in the field, and further planning and salvage should be done in conjunction with the CHWG.

Remove and relocate scarred trees

Sites: MTW-8; 70; 80; 523

Four scarred trees are located within the approved future mining area at MTW. With the exception of MTW-70, these trees have been visited by an arborist to assess the best method of removal and relocation, and general plans developed. MTW-70 should also be assessed for removal and relocation. These scarred trees have been visited by RAPs during this compliance inspection and during other inspections and assessments. Their removal and the arborist's plans should be discussed with the CHWG, as well as the location to where they will be relocated – the Wollombi Brook ACH Conservation Area has been suggested.

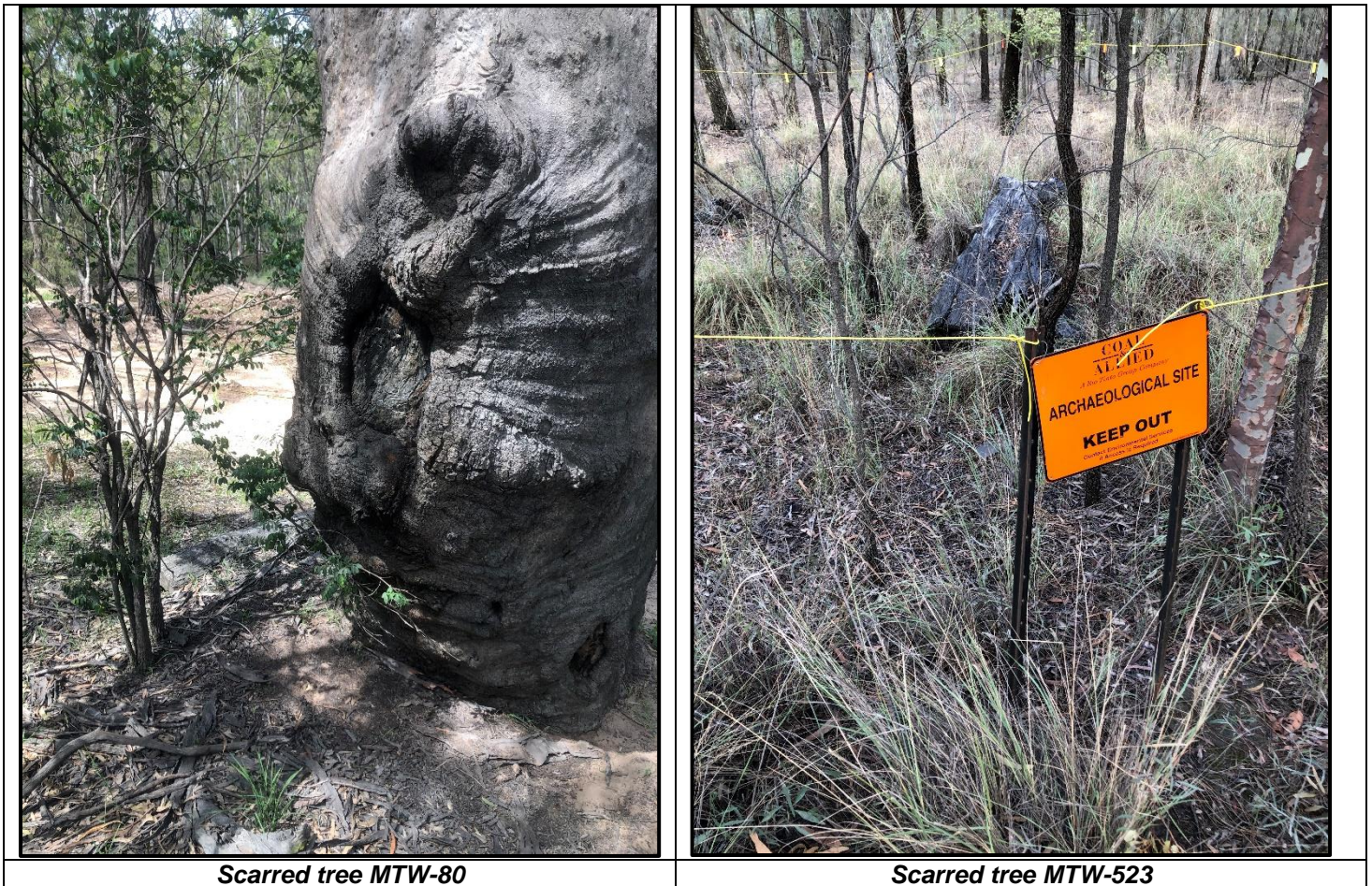


Scarred tree MTW-8



Scarred tree MTW-70





Update site co-ordinates

Sites: WB3

Limited information is on file regarding ACH site WB3, which was recorded off Charlton Rd several decades ago when GIS/GPS equipment was less advanced and accurate than today. Previous inspections have failed to relocate the site, however, during the current compliance inspection a silcrete flaked piece was identified near to the registered co-ordinates (317593e 6385352n). It is recommended that the site record be relocated to these co-ordinates within the MTW GIS system.



Silcrete flaked piece from WB3

Charlton Ridge New Find – MTW-724

During the compliance inspection, the field team visited the location of a newly identified site on Charlton Ridge. In October 2019, during a routine inspection for a ground disturbance permit, a member of the MTW Environment and Community team discovered a potential Aboriginal stone artefact in an undisturbed area adjacent the sites meteorological station on Charlton Ridge. There were no Aboriginal heritage sites recorded in the area.

In accordance with Provision 37 of the MTW AHMP – ‘Discovery of New Finds’, the find was reported internally and an archaeologist was engaged to assess the find. A follow up inspection confirmed the presence of two mudstone flakes at the location. These artefacts were subsequently barricaded and the site registered with AHIMS and on the MTW GIS system.

The RAPs participating in the compliance inspection were pleased with MTW’s response to the chance find and the application of the measures implemented in accordance with the approved AHMP. Particular mention was made regarding the benefit of education amongst mine-site personnel to assist with identify Aboriginal stone artefacts, with this example serving to avoid harm to unknown ACH material. The RAP’s recommended that the barricading at this site be extended to further protect the extent of the site until it could be salvaged. It was also recommended that the find be communicated to the CHWG during the next meeting.

Conclusions and Recommendations

The 2019 AHMP compliance inspection has been conducted as per the procedures outlined in the AHMP. No unauthorised site disturbances or AHMP non-compliances were observed during the inspection, and no issues were raised by the CHWG representatives present. A number of recommendations have been made to enhance or assist with the management of ACH at MTW:

1. **Install or reinstall/repair barricade, wire and/or signage at sites MTW-4; 8; 69; 71; 72; 86; 89; 90; 138; 142; 144; 145; 163-5; 167-71; 177-80; and WS7;**
2. **Consider rebarricading if activity increases in the area sites MTW-140; 141; 143; 146-62; and 172-6 if activity increases in their vicinity;**
3. **Discuss and plan the salvage with CHWG of sites: MTW-4; 69; 71; 72; 86; 89; 90; 222; 724; and WS7;**
4. **In consultation with the CHWG and an arborist, remove and relocate scarred trees MTW-8; 70; 80; and 523, considering the Wollombi Brook ACH Conservation Area as a relocation destination; and**
5. **Update the site co-ordinates within the MTW ACH GIS of site WB3 to those noted in the report.**
6. **Increase the extent of the barricade around the new find at Charlton Ridge (MTW-724).**